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Mesopotamian chronology (2340-539 BCE) through astronomically dated synchronisms and comparison with carbon-14 dating¹

Gérard Gertoux

Abstract: The 614 Assyrian eponyms between the first year of Šamšî-Adad I and the first year of Tiglath-pileser I (1115-1076) allow us to date the reign of Šamšî-Adad I (1728-1695) approximately. As the Assyrian years were lunar before the reign of Ninurta-apil-Ekur (1192-1179), this makes it possible to slightly correct the reign of Šamšî-Adad I (1712-1680), yet as this Amorite king died in the 17th/18th year of King Hammurabi², so this synchronism fixes the dating of this Babylonian king (1697-1654). This dating does not correspond to the Middle Chronology but, on the other hand, exactly satisfies the astronomical dating of the Ammisaduqa tablet on Venus, according to the Ultra-Low Chronology. In addition, one tablet of astronomical omens (Enuma Anu Enlil 20) mentions a lunar eclipse dated 14 Simanu at the end of the reign of Šulgi (14/III/48, 27 June 1954 BCE), and another (Enuma Anu Enlil 21) mentions a lunar eclipse dated 14 Addaru at the end of the third dynasty Ur, which ended with the reign of Ibbi-Sin (14/XII/24, 6 March 1911 BCE). These two total lunar eclipses are separated by 42 years of reign (= 9 years of Amar-Sin + 9 years of Šu-Sîn + 24 years of Ibbi-Sin) and 9 months (=XII - III). During the period 2200-1850 BCE, there was only one couple of lunar eclipses spaced 42 years and 9 months apart, and visible at Ur, corresponding to the description of the astronomical omens. These two total lunar eclipses confirm the absolute dating of the reign of Hammurabi (1697-1654) and allow to anchor the reign of Sargon of Akkad (2243-2187). Secondly, as there is a synchronism (+/- 10 years) between Neferhotep I (1701-1690)³ and Ibni-Addu (1700-1680), the king of Hazor, and another synchronism between Ibni-Addu and Hammurabi (1697-1654), the king of Babylon, this reign could be determined indirectly by carbon-14 (IntCal20) and is again in perfect agreement with the “Ultra-Low chronology”. Finally, the best confirmation of the accuracy of this absolute chronology is the complete reconstitution from 2040 to 1050 BCE, year by year, of the main Mesopotamian chronologies: Uruk IV, Mari, Gutium, Assyria, Elam, Uruk V, Ur III, Larsa, Isin I, Babylon, Hana, Kassite and Sealand, with their synchronisms as well as their dates anchored on astronomical phenomena such as the total eclipses of the moon (NABU 2021-3, note 73).

The Mesopotamian chronology of the 1st millennium before the Christian era (BCE) is well established. By contrast, that of the 2nd millennium remains highly controversial⁴, until today, even though the “Middle Chronology”, anchored on the reign of Hammurabi (1793-1750), is favoured by most scholars. In 1998, H. Gasche, J.A. Armstrong and S. W. Cole proposed to anchor the reign of Hammurabi (1697-1654) on two lunar eclipses during the reigns of Dynasty Ur III as well as the Ammisaduqa tablet on Venus. This new Mesopotamian chronology, called “Ultra-Low”, has been strongly contested by scholars (Joannès: 2001, XI, 184-188) who have argued that it is based primarily on the evidence of Babylonian pottery (which is false) and that it should instead be based on statisticians and physicists specializing in carbon-14 dating (Sallaberger, Schrakamp: 2015, 5-11). Paradoxically, these specialists who are highly qualified in their field of expertise (statistics and carbon-14 dating) are significantly less expert in the analysis of historical or astronomical data. For example, every historian knows that a father must be born before his son, that a king reigns during his lifetime, not after his death (some contracts can be dated after the death of a king if his successor has not been announced), that partial solar eclipses (with a magnitude of less than 95%) go unnoticed and cannot therefore be considered as bad omens, and that an astronomical phenomenon can be observed a few days later than the day theoretically calculated, but not a few days in advance (unless the observer has made a prediction). These common-sense remarks (for historians) are not always respected by statisticians or radiocarbonists. It should be noted that the reign of Puzur-Aššur III is currently impossible to calculate: 1587-1563 according to the Middle Chronology, 1491-1467 according to the Assyrian King List (Pruzsinszky: 2009, 42) and 1521-1498 according to some archaeologists (Düring: 2020, XV-XVI).

¹ An abstract of this paper was presented in San Diego, California, at a conference on 21 November 2019 (Session 3B Archaeology and Biblical Studies I), under the supervision of Professor Jonathan Rosenbaum (Gratz College). A short report has been published (<http://www.asor.org/wp-content/uploads/2019/12/2019-ASOR-Program-and-Abstract-Book.pdf> pages 26, 98). A poster of this paper was exhibited at the Collège de France, Paris, during the 65th International Meeting of Assyriology on 8-12 July 2019 at the request of Professor Dominique Charpin (<https://rai2019.digitorient.com/en/posters/>).

² Šamšî-Adad I died at the end of his 33rd year of reign, during the eponymy of ʿAb-silli-Aššur (No. 199), in the 11th month of Hammurabi's 17th year of reign (see Table 31).

³ The reign of Neferhotep I is determined by the durations from the Turin King List combined with the carbon-14 dating of several Egyptian kings. As the Turin King List durations are incomplete and the calibration curve (IntCal20) for the carbon-14 measurements has been revised several times (McAnaney, Baillie: 2019, 99–112), the dating of Neferhotep I's reign has evolved from: 1742-1731 (Ryholt: 1997, 197), 1721-1710 (Hornung, Krauss, Warburton: 2006, 492), to 1705-1693 (Maderna-Sieben: 2018, 94-95).

⁴ Hammurabi is considered as the greatest Babylonian king and the chronology of his reign is well known. However, in 1863, Jules Oppert had Hammurabi's reign begin in 2394 BCE, François Thureau-Dangin, in 1927, lowered this date to 2003 BCE, which was, in 1950, lowered by consensus in 1793 BCE (“Middle Chronology”), between 1849 BCE (“High Chronology”) and 1729 BCE (“Low Chronology”). Finally, Hermann Gasche proposed, in 1998, to lower it again to 1697 BCE (“Ultra-Low Chronology”). Hammurabi has therefore rejuvenated by about 700 years during the 20th century!

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PRELIMINARY NOTICE

Chronological studies involve several specialities, each with its own limitations in terms of dating, which prevents agreement and the artificial retention of the Middle Chronology (Höflmayer: 2022b, 1-46). The knowledge required for this study is only at first university level. Scientific reasoning demands that the absolute dates used to anchor historical chronologies should be the same for all specialities.

- Carbon-14 dating is not absolute for the following reason: with the ¹⁴C dating calibration curve (IntCal), the calendar age estimate is approximately unimodal (i.e. it has a single large peak). For example, with a confidence interval of 68.2% (1- σ) the date of 3350 \pm 10 BP (Before Present), or 1641 BCE with IntCal13 (2013), extends from 1658 to 1624 calBC (= 1641 BCE \pm 17). However, with IntCal20 (2020), the same ¹⁴C date, the peak is centred around 1625 calBC (1626 BCE \pm 19).
- Statistical dates, which are only average values, are not absolute. These statistical dates only make sense if the chronological data used for the calculations have a confidence interval of at least 95% (2- σ) and if the calculated dates are earlier than the observed dates (otherwise they are prophetic dates!).
- Archaeological dates, obtained from stratigraphy and the style of pottery, are not absolute. For example, the reign of Puzur-Aššur III is currently dated to 1521-1498 BCE (2020) by some archaeologists (but 1579-1555 BCE according to the “Low Middle” Chronology), which contradicts the date of 1491-1467 BCE obtained from the Assyrian King List (AKL) based on the sum of reign lengths.
- **Astronomical dates, based on astronomical phenomena such as eclipses, are absolute**, but only if the following condition is met: eclipses mentioned in Chronicles or Annals as signs of bad omens are always total eclipses. The darkening of the sun (metaphorical eclipse) mentioned in the eponym Puzur-Ištar (N°126), the year just after the birth of Šamši-Adad I, has been interpreted by some Assyriologists as a solar eclipse dated 24/03/-1837* by the astronomer Teije de Jong, but this partial solar eclipse (max mag. 94%) was not visible for a naked-eye observer (< mag. 95%).

Peter J. Huber, a seasoned statistician has noticed that the deviation in days between the calculated and observed value for the rising of Venus in Year 1 of Ammisaduqa is the following for the four chronologies: Ultra-Low (13 days), Low (-5 days), Middle (-6 days) and High (-3 days). He logically concludes that the worst agreement (13 days) is with the Ultra-Low Chronology (Huber: 2000, 159-176). This conclusion is rigorously correct, but the Ultra-Low Chronology is the only one to have a date observed after the calculated date ([1]3 days) while the reverse is true for the other three chronologies (the date was observed before the calculated date!). Similarly, Huber calculates a large number of lunar eclipses in order to verify that they were the ones that best matched the two dated 14 Simanu at the end of the reign of Shulgi (14/III/48) and 14 Addaru at the end of the reign of Ibbi-Sin (14/XII/24), without taking into account two essential data that imposed a unique choice, in perfect agreement with the Ultra-Low chronology: 1) these two lunar eclipses are separated exactly by 42 years and 9 months, according to the Babylonian King lists. Furthermore, as they were bad omens signifying the death of the king, and not a usual astronomical observation, these two lunar eclipses had to be total (partial lunar eclipses are frequent and generally have no particular significance). Similarly, physicists specialising in ¹⁴C dating (naively) write: *The revised tree-ring-sequenced ¹⁴C time-series for Kültepe and Acemhöyük is compatible only with the so-called Middle Chronology and not with the rival High, Low or New Chronologies. This finding provides a robust resolution to a century of uncertainty in Mesopotamian chronology and scholarship, and a secure basis for construction of a coherent timeframe and history across the Near East and East Mediterranean in the earlier second millennium BCE* (Manning, Griggs, Lorentzen, Barjamovic, Bronk Ramsey, Kromer, Wild: 2016, 1-27).

This leads to several difficulties. Firstly, contrary to what the authors of the article assert, the dating of the Middle Chronology depends on several hypothetical and approximate synchronisms. Worse, the defence of the Middle Chronology, which would be the most “robust according to carbon-14 measurements”, is contradicted by their own dating. It reads: *Although this previous date favored the Middle Chronology, it was problematic (sic) as it left the construction of the Sarikaya Palace at Acemhöyük (then given as 1774 +4/-7 BCE) occurring more or less when Šamši-Adad I died (REL 197 = 1776 BCE on the Middle Chronology), which makes no sense* (Šamši-Adad I would have died in the year the Palace was built). In fact, the Sarikaya Palace was constructed in 1774 BCE +4/-7 years and two repair timbers in the Palace were cut in 1767 and 1766. The bulk of the reported 1600 bullae in the Sarikaya Palace should have been deposited there after 1774 BCE and before its destruction by fire or some time after 1766 BCE (Newton, Kuniholm: 2004, 165-176). Consequently, the inscription in the name of Šamši-Adad I, who reigned from 1712 to 1680 BCE according to the Assyrian King List (AKL), was deposited at the beginning of his reign (1712 BCE), 54 years after the repair of the Sarikaya Palace. Secondly the reign of Neferhotep I was measured around 1710-1693 BCE by carbon-14 (Maderna-Sieben: 2018, 94-95), with a precision of +/- 10 years because in Egypt carbonaceous remains are abundant. As there is a synchronism between Neferhotep I (1701-1690) and Ibni-Addu (1700-1680), the king of Hazor, and another synchronism between Ibni-Addu and Hammurabi (1697-1654), the king of Babylon, this reign could be determined indirectly by carbon-14 (IntCal20) and is again in perfect agreement with the Ultra-Low chronology. Finally, contrary to what the authors of the article claim, the calibration of carbon-14 dates by dendrochronology is not yet well established⁵. The reign of Neferhotep I is determined by the durations from the Turin King List combined with the carbon-14 dating of several Egyptian kings. However, as the calibration curve for the ¹⁴C measurements (IntCal20 in 2020) has been revised several times the dating of Neferhotep I's reign has evolved from: 1742-1731 (Ryholt: 1997, 197), 1721-1710 (Hornung, Krauss, Warburton: 2006, 492), to 1705-1693 (Maderna-Sieben: 2018, 94-95).

This preamble is necessary to establish a scientific method to obtain an absolute Mesopotamian chronology that is historically correct. The first step is to establish a relative chronology of the 116 Assyrian kings and the 137 Babylonian and Kassite kings, considering the chronological data from the Assyrian King lists (giving the number of eponymous years) and the Babylonian King lists (giving the number of years of reign). From n°33 onwards the durations of all Assyrian reigns are known (except n°65 and n°66). Likewise, the durations of all Babylonian reigns are known (except n°10 to n°17 and n°63 to n°71 with Samsu-iluna as n°1). The second step is to check all the synchronisms between the Assyrian and Babylonian reigns, so that the exact value of a duration can be chosen in cases where there are variants among several King lists (only four cases). This second step is essential before anchoring this relative chronology on astronomical dates. Some astronomers who claim to distinguish between one of the four chronologies by dating eclipses fail to consider key historical data. For example, Emil Khalisi's article entitled “The Double Eclipse at the Downfall of Old Babylon (2020)” develops technical astronomical calculations without 1) giving the means to verify

⁵ It reads, for example: *The result is that indeed between ca. 3600 and 3500 calBP the calibration curve needs a shift of about 20 BP upwards in ¹⁴C age (...)* In such an instance, it is reasonable to report a single interval—here we obtain a 68.2% (1-σ) interval extending from 1658–1624 calBC (= 1641 BCE +/- 17). However, with IntCal20 the picture is much more complex as our ¹⁴C date of 3350 ± 10 BP hits the plateau in the curve (...) we note that the peak centered around 1625 calBC (1626 BCE +/- 19) carries the largest individual probability (McAneney, Baillie: 2019, 99–112).

them, 2) without linking them to any well-referenced historical event, 3) considering any of the 116 Assyrian reigns, 4) considering the 137 Babylonian and Kassite kings, and 5) proposing a complete chronological reconstruction of all these Mesopotamian reigns. Historians and Assyriologists should not be impressed by the technical aspect of such articles as they have no historical value. The fall of Babylon was a historical event of the first magnitude which occurred exactly in the 41st and last year of the Babylonian king Samsuditana. If this method of calculation is followed, the absolute Mesopotamian chronology is easy to obtain. As a matter of fact, the 614 Assyrian eponyms between the 1st year of the reign of Šamšî-Adad I (Assyrian king n°39) and the 1st year of the reign of Tiglath-pileser I (1115-1076) allow us to date the reign of Šamšî-Adad I (1728-1695) approximately (with 1 eponym = 1 solar year). We know that the temple of the god Aššur, called Ehursagkurkurra, was rebuilt several times. The lengths of time between the several reconstructions being known to be: 159, 434 and 580 years respectively (Pruzinszky: 2009, 140-143; Mahieu: 2021b, 67-85), it is possible to verify whether these durations in eponymous years are equivalent with the sum of the Assyrian reigns between two successive reconstructions:

TABLE I

n°	ASSYRIAN KING	BCE	Comments on eponyms from Chronicles	Σ eponyms	
33	Ērišu I	1872	Year 1, eponym Šu-Ištar son of Abila (N°1)	40	40
34	Ikunum	1834	Year 1, eponym Iddin-Suen brother of Šuli (N°41)	14	14
35-38				(112)	
39	Šamšî-Adad I	1680	Death of Šamšî-Adad I, eponym Ṭab-šilli-Aššur (N°199)	33	159
40	Išme-Dagan I	1679	(Year 1, eponym Ennam-Aššur N°200)	11	11
41-76				(411)	
77	Shalmaneser I	1259	Year 12 (eponym Ilî-qarrad? N°633)	12	434
		1258		18	18
78-111				(538)	
	Sennacherib	681	Year 24, eponym Nabû-aḥḥē-ēreš	24	580
112	Esarhaddon	680	Year 1, eponym Danânu (N°1213)	1	1
		679	Year 2, eponym Issi-Adad-anênu (N°1214)	11	11

We note that the first period from Iddin-Suen (eponym N°41) to Ṭab-šilli-Aššur (eponym N°199) includes 159 eponyms (= 199 – 41 + 1). The second period from Year 1 of Išme-Dagan I (eponym Ennam-Aššur N°200) to Year 12 of Shalmaneser I (king n°77) has 434 eponyms. The arrangement of the 30 eponyms of the reign of Shalmaneser I (Bloch: 2012, 406-408) makes it possible to fix the eponym of the 12th year of his reign in 1259 BCE. This first calculation shows that the eponymous chronicles are accurate and reliable and that there is a total of 614 eponyms⁶ between the 1st year of the reign of Šamšî-Adad I and the 1st year of the reign of Tiglath-pileser I. The duration of Assyrian reigns comes mainly from the Assyrian King List (AKL). According to the AKL, the reign of Ninurta-apil-Ekur (n°82) had 13 eponyms, while other lists indicate 3 eponyms (Pruzinszky: 2009, 51-52). There are variants in the reigns (n°82 and others) but the sum of these reigns is known, which implies the following equation:

$$63 = 580 - (\text{sum of the other eponyms without variants})$$

$$63 = 4/3 (\text{Aššur-nâdin-apli n°79}) + 13/3 (\text{Ninurta-apil-Ekur n°82}) + 46/36 (\text{Aššur-dân I n°83})$$

The fact that the sum of the three durations is known (63) imposes a unique set of values: 3, 13 and 46. Changing only one value changes the sum. Most studies on the Assyrian King Lists assume that the Assyrian calendar did not change over time and remained similar to the Babylonian calendar, but this assumption is false. Several researchers have indeed noticed that, before Aššur-dân I (1179-1133), the Assyrian inscriptions never mention intercalary months⁷, unlike the Babylonian calendar. Moreover, before this Assyrian king, the synchronisms between the Assyrian and Babylonian chronologies became approximate, because the number of eponyms sometimes exceeds the duration of the reign (Pruzinszky: 2009, 42-67). The choice to ignore this change has consequences on the Assyrian chronology as well as on synchronisms with the Babylonian chronology. For example, there are 614 eponyms between the first year of Šamšî-Adad I's reign and the first year of Tiglath-pileser I's reign (1115-1076), which makes it possible to date Šamšî-Adad I's reign (1728-1695) because he died in the 17th year of King Hammurabi. This makes it possible to establish the reign of this Babylonian king as 1712-1669* (or 1697-1654 with lunar years). This dating poses a problem because the reign of Hammurabi is linked to the reign of Ammisaduqa, which is anchored in an astronomical phenomenon (Venus tablet). Astronomy offers four possibilities over this period, but none of them corresponds to the reign calculated with the 614 solar years.

⁶ 614 eponyms = 33 eponyms (Šamšî-Adad I n°39) + 434 eponyms + 30 – 12 (Shalmaneser I n°77) + 37 (Tukultî-Ninurta I n°78) + 4 (Aššur-nâdin-apli n°79) + 6 (Aššur-nêrârî III n°80) + 5 (Enlil-kudurri-ušur n°81) + 13 (Ninurta-apil-Ekur n°82) + 46 (Aššur-dân I n°83) + 0 (n°84) + 0 (n°85) + 18 (Aššur-rêš-iši I n°86).

⁷ An Assyrian copy of a Babylonian scholarly text (VAT 8875) reads: "Intercalary Nisannu, 7th day, eponym Aššur-išmânni" (Jeffers: 2017, 151 n. 7) an eponym dated 1160 BCE during Aššur-dân I's reign (Bloch: 2010c, 43-44).

TABLE 2

Chronology (BCE):	Ultra-Low	Assyrian King List		Low	Middle	High
Fall of Ur	1912	lunar	luni-solar	1944	2008	2064
Reign of Hammurabi	1697-1654	1697-1654	1712-1669*	1729-1686	1793-1750	1849-1806
Reign of Ammisaduqa	1551-1530			1583-1562	1647-1626	1703-1682
Fall of Babylon	1499	(1499)	(1514)	1531	1595	1651

If the Assyrian years were lunar before the reign of Tiglath-pileser I (1115-1076), this makes it possible to slightly correct the reign of Šamšî-Adad I (1712-1680), yet as this Amorite king died in the 17/18th year of King Hammurabi, then this synchronism fixes the dating of this Babylonian king (1697-1654). This dating does not correspond to the “Middle Chronology” but, on the other hand, satisfies the astronomical dating of the Ammisaduqa tablet on Venus⁸, according to the “Ultra-Low Chronology”. In addition, two tablets of astronomical omens (*Enuma Anu Enlil* 20 & 21) mention a lunar eclipse dated 14 Simanu at the end of the reign of Šulgi (14/III/48, total eclipse dated 28 June 1954 BCE), and a lunar eclipse dated 14 Addaru at the end of the third dynasty of Ur, which ended with the reign of Ibbi-Sîn (14/XII/24, total eclipse dated 6 March 1911 BCE). These two total lunar eclipses are separated by 42 years of reign (= 9 years of Amar-Sîn + 9 years of Šu-Sîn + 24 years of Ibbi-Sîn) and 9 months (=XII - III). During the period 2200-1850 BCE, there was only one couple of lunar eclipses spaced 42 years and 9 months apart, and visible at Ur, corresponding to the description of the astronomical omens. These two eclipses confirm the absolute dating of the reign of Hammurabi (1697-1654) and allow one to anchor the reign of Sargon of Akkad (2243-2187). The purpose of this study is to examine how to transform the relative chronology of Mesopotamian reigns from the period 2040-1050 BCE into an absolute chronology (Pruzsinszky: 2009, 17–44). In order to obtain it in an unquestionable way, it is imperative that all dates obtained over the entire period be in agreement with: 1) all known durations of the Assyrian and Babylonian reigns, or at least with one of the variants, 2) all known synchronisms between the reigns: Assyrians, Babylonians, Kassites, Isinians and Elamites, 3) all clearly identified astronomical phenomena (with at least one date, region of observation, and at least partial description of the phenomenon) such as eclipses, star-rises and certain astronomical conjunctions. The establishing of the absolute Mesopotamian chronology will take place in seven successive steps:

- 1) The durations of the Babylonian reigns, from Eriša-Marduk (770-761) to Nabonidus (556-539), are all known. The chronology of these Babylonian kings is anchored on the dates set by the astronomy of five precisely described lunar eclipses. The durations of the Assyrian reigns, from Adad-nêrârî II (912-891) to Aššur-uballit II (612-609), are all known. The chronology of these Assyrian kings is anchored on six synchronisms with the Babylonian chronology and by a total solar eclipse, visible in Assyria, dated from the month of Simanu in the 10th year of Aššur-dân III (773-755), in 763 BCE. The synchronism between the Assyrian king Adad-nêrârî II (912-891) and the Babylonian king Šamaš-mudammiq (921-900) makes it possible to fix the Mesopotamian chronology in an absolute way in the period **912-539 BCE** and to note the following points: 1) the chronological data of the eponymous lists are rigorously accurate; 2) the first year of Babylonian reigns (counted by the number of luni-solar years) began in the 1st Nisan, as did Assyrian reigns (counted by the number of eponyms); 3) co-regencies were removed and integrated into the reigns of official kings in order not to modify the chronology.
- 2) The durations of the Babylonian reigns, from Ninurta-nâdin-šumi (1133-1127) to Ninurta-kudurri-ušur II (944-941), are all known. Similarly, the durations of the Assyrian reigns, from Aššur-rêš-iši I (1133-1115) to Adad-nêrârî II (912-891), are all known. The synchronism between Aššur-rêš-iši I (1133-1115) and Ninurta-nâdin-šumi (1133-1127) makes it possible to fix the Mesopotamian chronology in an absolute way in the period **1133-912 BCE** (Pruzsinszky: 2009, 43).
- 3) The durations of the Babylonian reigns, from Kadašman-Enlil I (**1375-1360**) to Ninurta-nâdin-šumi (1133-1127), are all known (Joannès: 2001, 164). Similarly, the durations of the Assyrian reigns, from Šalmaneser I (1271-1242) to Aššur-rêš-iši I (1133-1115), are all known. An Assyrian chronicle gives the durations between the different reconstructions of the temple of the god Aššur (called Ehursagkurkurra), that between Year 12 of Šalmaneser I and Year 1 of Esarhaddon (681-669) had 580 eponyms, which makes it possible to determine the three Assyrian durations which have variants since the total of these three durations is known (Pruzsinszky: 2009, 51-55,136): **63** = **4/3** (Aššur-nâdin-apli n°79) + **13/3** (Ninurta-apil-Ekur n°82) + **46/36** (Aššur-dân I n°83). Only durations in bold type (4, 13 and 46) satisfy this equation. There is a synchronism between Eriša-Adad I and Kadašman-Enlil I (1375-1360), however we note that there are 185 eponyms⁹ between Eriša-Adad I and Aššur-dân I (1179-1133) but only 180 years (= 1360 – 1179 – 1). The simplest way to explain this discrepancy between the number of

⁸ Statistical analysis of the Venus tablet shows that it was transmitted with many errors (De Jong: 2013b, 366-370).

⁹ 185 = 36 (Aššur-uballit I) + 10 (Enlil-nêrârî) + 12 (Arik-dên-ilî) + 32 (Adad-nêrârî I) + 30 (Šalmaneser I) + 37 (Tukultî-Ninurta I) + 4 (Aššur-nâdin-apli) + 6 (Aššur-nêrârî III) + 5 (Enlil-kudurri-ušur) + 13 (Ninurta-apil-Ekur).

Babylonian (luni-solar) years and the number of eponymous years is to assume that the Assyrian years were lunar (and therefore without intercalary months) before Aššur-dân I (1179-1133). As 33 lunisolar years ($33 \times 365.24219 = 12053$ days) are approximately equivalent to 34 lunar years ($34 \times 12 \times 29.530588 = 12048$ days), the 180 lunisolar years correspond to 185 eponyms ($= 180 \times 34/33$).

- 4) According to the Assyrian chronicle that gives the durations between the different reconstructions of the temple of the god Aššur (Ehursagkurkurra), there were 434 eponyms between Year 33 of Šamšî-Adad I and Year 12 of Šalmaneser I (1271–1242), in 1259 BCE, which makes it possible to determine the reign of Šamšî-Adad I (**1712–1680**), because $1680 = (434 \times 33)/34 + 1259$. As this Assyrian king died in Year 17 (month 11) of Hammurabi (**1697–1654**) this synchronism allows us to calculate the reign of the Babylonian king, because $1697 - 17 = 1680$ and $1712 = (1680 + 33 - 33/34)$.
- 5) The durations of the 11 Babylonian reigns before the fall of Babylon, from Sumu-abum to Samsuditana, are all known (Pruzsinszky: 2009, 92). Since the chronology of these reigns is anchored on the reign of Hammurabi (1697-1654), it allows us to calculate the reign of Sumu-abum (**1799–1785**), Ammišaduqa (1551–1530) and Samsuditana (1530–1499). The durations of the 15 Isinian reigns before Hammurabi are all known. The chronology of these kings is anchored on six synchronisms with the Babylonian chronology, which make possible to fix the reign of the first king of Isin: Išbi-Erra (**1923–1890**). The durations of the 5 Sumerian reigns before Išbi-Erra are all known, which make possible to fix the reign of the first king of Ur III: Ur-Namma (**2020–2002**) as well as the last one Ibbi-Sîn (**1936–1912**).
- 6) Current academic studies use astronomical phenomena to anchor Mesopotamian chronology on absolute dates, such as the Ur III eclipses (EAE 20 and 21) at the end of the reigns of Šulgi (2002-1954) and Ibbi-Sîn (1936-1912), as well as the cycle of Venus (EAE 63) during the reign of Ammišaduqa (1551-1530), but these studies do not consider the relative chronology deduced from the Assyrian and Babylonian King lists (Pruzsinszky: 2009, 69-82). However, three astronomical phenomena make it possible to anchor on absolute dates the relative chronology obtained from the Assyrian King List. The informative data recorded for the two lunar eclipses of EAE 20 and 21 can be reduced to six main parameters: 1) the entering and 2) exit positions of the darkening of the lunar disk; 3) the watch-times of the beginning and 4) the end of the eclipse; 5) the day of the eclipses: EAE 20 is dated to 14 Simanu and 6) EAE 21 to 14 Addaru (Gurzadyan: 2000, 175-184). Two additional data make it possible to restrict the dating of these two lunar eclipses¹⁰ to a unique choice: **28 June 1954 BCE & 6 March 1911 BCE**, over the period 2200-1850 BCE because these two lunar eclipses are separated by 42 years of reign ($= 9$ years of Amar-Sîn + 9 years of Šu-Sîn + 24 years of Ibbi-Sîn) and 9 months ($= XII - III$). Moreover, lunar eclipses were always interpreted as a bad omen, usually the death of a king¹¹, when they were total (partial eclipses were too frequent to receive such an interpretation). If one looks for two separate total lunar eclipses of 42 years and 9 months over the period 2200-1850 BCE, there is only one solution, the same as previously. The lunar eclipse dated: *Year 38 that Babylon was resettled (...) Month of Abu (V), Day 10*¹², mentioned in the economic texts from Tell Muhammad (Gasche, Armstrong, Cole: 1998, 86) confirms definitively the Ultra-Low Chronology, because if the fall of Babylon was Year 1 of the “resettlement”, Year 38 was in 1462 BCE, and there was indeed a total lunar eclipse on 14/V/38 (19 July 1462). There is no lunar eclipse on 14/V/38 with the other chronologies, including the Middle Chronology.
- 7) Some absolute dates over the period 2000-1000 BCE have been compared with ¹⁴C dates. For example, the reign of Neferhotep I (1721-1710) has been measured at +/- 20 years by ¹⁴C. As there is a synchronism between Neferhotep I and Ibni-Addu (1700-1680), and another synchronism between Ibni-Addu and Hammurabi (1697-1654), this reign could be determined indirectly by ¹⁴C and is again in perfect agreement with the Ultra-Low chronology. As radiocarbonists claim that ¹⁴C dating is in favour of the Middle Chronology, a detailed part of this article has been devoted to these dates.

CHRONOLOGY OF MESOPOTAMIAN REIGNS OVER THE PERIOD 912–539 BCE

The chronological reliability of the Babylonian King lists can sometimes be misleading, despite their anchoring on astronomical phenomena precisely dated. The Assyrian King lists have the same problem, but they are even more difficult to verify for the following reasons:

- The duration of the Assyrian reigns is not counted in number of years but in number of eponyms (knowing, however, that there is a new eponym each year), which prevents dating an event of the reign,

¹⁰ The first lunar eclipse is dated 14 Simanu at the end of the reign of Šulgi (14/III/48) and the second eclipse is dated 14 Addaru at the end of the third dynasty Ur III, which ended with the reign of Ibbi-Sîn (14/XII/24).

¹¹ The astronomical tablet BM 32234 specifies that King Xerxes died on 14/V/21 (24 August 475 BCE) just after the total lunar eclipse dated 14/III/21 (26 June 475 BCE). Similarly, the astronomical tablet BM 36761 specifies that King Darius III was defeated by Alexander the Great on 24/VI/5 (1 October 331 BCE) just after the total lunar eclipse dated 13/VI/5 (20 September BCE).

¹² The lunar eclipse was total since it is an economic text. Day 10 is a mistake because eclipses occur on the 14th-15th of the month.

unless the eponym of this year is known (in about 1% of cases).

- The Assyrian annals are fragmentary and contain many lacunae.
- The lists of eponymous names are also fragmentary and, therefore, difficult to reconstruct.
- Assyrian inscriptions and records regularly date the reigns according to their military campaigns, knowing that there was one campaign per year (usually between early spring and late autumn). However, there was generally no campaign in the year of accession, and a difficult campaign could be completed the following year.
- If an eponym died during the year of his eponymy, he was replaced by a new eponym who became a canonical eponym, but in this case, there were two eponyms in the same year.

Despite all these limitations, Assyrian chronology may be reconstructed over the period 912–609 BCE using eponyms and can be anchored on the solar eclipse which occurred on [30] Simanu in the eponymy of Bur-Sagale (15 June 763 BCE). The Assyrian period 912–648 BCE is dated owing to its canonical eponyms (Parpola: 2007, 381–430) and the period 648–609 BCE by a prosopography of its eponyms (Parpola: 1998, XVIII–XX), but the ranking of eponyms over this period remains controversial¹³ (Novotny, Jeffers: 2018, 30–32). The chronological reconstruction of the Assyrian reigns based on eponyms is different from that given in the Assyrian King lists:

TABLE 3

BCE	n°	ASSYRIAN KING	According to years of reign (AKL)				BABYLONIAN KING
630	112	Aššurbanipal	(669–627)	39			18 Kandalanu
629				40			19
628				41			20
627				42	0		21
626	113	Aššur-etel-ilâni	(627–626)	1	0	0	22
625	114	Sin-šar-iškun	(626–612)	1			1 Nabopolassar
624				2			2

BCE	n°	ASSYRIAN KING	According to eponyms				BABYLONIAN KING
630	112	Aššurbanipal	<i>Salmu-šarri-iqbi?</i>	39	0		18 Kandalanu
629	113	Aššur-etel-ilâni	<i>Nabû-šarru-ušur?</i>	1	[40]		19
628			<i>Nur-salam-sarpi?</i>	2	[41]		20
627			<i>Marduk-šarru-ušur?</i>	3	[42]	0	21
626			<i>Iqbi-ilani? /Marduk-remanni?</i>	4	0	0	[1] Sin-šum-lišir
625	114	Sin-šar-iškun	<i>Sin-šarru-ušur?</i>	1			1 Nabopolassar
624			<i>Kanunai?</i>	2			2

The presence of co-regencies modifies the dating of some synchronisms. For example, in the Assyrian King List (AKL) there is a synchronism between Year 1 of the Assyrian king Aššur-etel-ilâni and Year 22 of the Babylonian king Kandalanu (meaning “Clubfoot”!) in 626 BCE, but in fact this synchronism occurs between Year 1 of Aššur-etel-ilâni and Year 19 of Kandalanu in 629 BCE. Therefore, King lists can be used to date synchronisms if the presence of co-regencies does not modify the chronology of the reigns. Coregencies modify the individual durations of the reigns but not their global duration. Moreover, the dates of several reigns can be anchored by means of eclipses dated by astronomy (Stephenson: 1997, 93–127).

Several parts of these King lists can also be verified by the: 1) lengths of reigns that are known (#); 2) position of eponyms, all known over the period 912–648 BCE; 3) synchronisms between the Assyrian and Babylonian reigns (highlighted in grey); 4) absolute dates calculated by astronomy (highlighted in sky blue). Some reign lengths are different from those indicated by the inscriptions (highlighted in orange).

TABLE 4

n°	ASSYRIAN KING	#	Reign	n°	BABYLONIAN KING	#	Reign
98	Aššur-dân II	23	935-912	58	Šamaš-mudammiq	21	921 -
99	Adad-nêrârî II	21	912-891				-900
100	Tukultî-Ninurta II	7	891-884	59	Nabû-šum-ukîn I	12	900-888
101	Aššurnaširpal II	25	884-859	60	Nabû-apla-iddina	33	888-855
102	Šalmaneser III	35	859-824	61	Marduk-zâkir-šumi I	36	855-819
103	Šamšî-Adad V	13	824 - -811	62	Marduk-balâssu-iqbi	6	819-813
				63	Bâba-ah-iddina	-	813-812
104	Adad-nêrârî III	28	811 -	-	no kings	-	812-801
					5 unknown kings (64-68)	-	801-800
				69	Ninurta-apla-[...]	-	800-790
			-783	70	Marduk-bêl-zêri	-	790-780

¹³ The chronological study of the eponyms over the period 648–609 BCE is still in progress (<http://oracc.org/rinap/rinap5/rinap52/>).

105	Shalmaneser IV	10	783-773	71	Marduk-apla-ušur	-	780-770	
106	Aššur-dân III	18	773-755	72	Erîba-Marduk	9	770-761	
107	Aššur-nêrârî V	10	755-745	73	Nabû-šuma-iškun	13	761-748	
108	Tiglath-pileser III	18	745 -	74	Nabû-našir	14	748-734	
				75	Nabû-nâdin-zêri	2	734-732	
				76	Nabû-šum-ukîn II	0	732-732	
				77	Nabû-mukîn-zêri	3	732-729	BM 35789
			-727	78	Pûlu (Tiglath-pileser III)	2	729-727	
109	Shalmaneser V	5	727-722	79	Ulûlaiu (Shalmaneser V)	5	727-722	
110	Sargon II	17	722 -	80	Merodachbaladan II	12	722-710	Almagest IV:6
			-705	81	Sargon II	5	710-705	
111	Sennacherib	24	705 -	82	Sennacherib	2	705-703	
				83	Marduk-zâkir-šumi II	0	703-703	
				84	Bêl-ibni	3	703-700	
				85	Aššur-nâdin-šumi	6	700-694	
				86	Nergal-ušeziš	1	694-693	
				87	Mušeziš-Marduk	4	693-689	
			-681	88	Sennacherib	8	689-681	
112	Esarhaddon	12	681-669	89	Esarhaddon	12	681-669	
113	Aššurbanipal	42	669-627	90	Šamaš-šuma-ukîn	20	668-648	BM 45640
114	Aššur-etel-ilâni	1	627-626	91	Kandalanu	22	648-626	
115	Sin-šar-iškun	14	626-612	92	Nabopolassar	21	626 -	Almagest V:14
116	Aššur-uballiš II	3	612-609				-605	
				93	Nebuchadnezzar II	43	605-562	VAT 4956
				94	Amel-Marduk	2	562-560	
				95	Neriglissar	4	560-556	
				96	Nabonidus	17	556-539	
					Cyrus II	9	539-530	
					Cambyses II	8	530-522	BM 33066

The Assyrian and Babylonian King lists can be reconstructed chronologically over the period 2020-900 BCE in the same way as those over the period 912-609 BCE but with two (2) additional difficulties: 1) the Assyrian calendar for counting eponyms was different before Tiglath-pileser I (1115-1076); and, 2) the durations of the Babylonian reigns, from Agum II (n°9) to Kurigalzu (n°17), after the first fall of Babylon as well as the durations of the Assyrian reigns during the same period of time of Aššur-rabi I (n°65) and Aššur-nâdin-aḥḥe I (n°66), are not known. The following inscriptions of Tiglath-pileser I with several double dates can be used to synchronize the ancient Assyrian calendar:

I crossed the Euphrates 28 times, 2 times in one year, in pursuit of the Arameans aḥlamû (...) I captured the palaces of Babylon which belonged to Marduk-nadîn-ahhê king of Karduniash (1101-1083), and I burned them. In the eponymy of Aššur-šumu-ereš (and) in the eponymy of Ninuaya, 2 times, I drove a battle of chariots online against Marduk-nadîn-aḥḥê king of Karduniash, and I defeated him (...) Month of Ḥibur, equivalent of the (Babylonian) month of Kislev, 18th day, [eponymy] of Taklak-ana-Aššur; I crossed the Euphrates [26] times, 2 times in one year, in pursuit of the Arameans aḥlamû (...) Month of Kuzallu, 13th day, eponymy of Ninuaya son of Aššur-aplu-lišir (Grayson 1991: 3-45).

Assyrian kings performed a traditional military campaign each year¹⁴. Tiglath-Pileser I (1115-1076) reigned for 28 years and has 28 eponyms, Taklāk-ana-Aššur being the eponym of the 25th regnal year (Nahm: 2022, 238-240). The mention of 28 crossings of the Euphrates, including two in one year (eponymy of Ninuaya?), implies dating this inscription at the end of year 1088 BCE (= 1115 - 27) or shortly after. Thus, at that time, the twelfth months of the Assyrian calendar (Ḥubur) matched the 9th month of the Babylonian calendar (Kislev), which confirms their desynchronization. Consequently, the Babylonian year began on 1st Nisan, or 12 April in 1088 BCE, while the Assyrian year began on 1st Šippu or 13 January¹⁵. The presence of these double dates in the reign of Tiglath-pileser I shows that the new Babylonian calendar adopted by the Assyrian scribes was not yet familiar to them. The main difference between the old Assyrian calendar and the Babylonian calendar adopted by Tiglath-pileser I concerns the length of the year, which was lunisolar in the Babylonian calendar (i.e., an average solar year) but strictly lunar in the old Assyrian calendar (which, therefore, did not have an intercalary year used for the synchronization with the solar cycle)¹⁶.

¹⁴ For reasons of stewardship, the army on campaign had to be fed. In addition, the movements should be done on practicable grounds. Military campaigns took place outside the rainy season between the spring and autumn equinoxes (April-October).

¹⁵ Given that the spring equinox occurred on 31 March in 1090 BCE, the 1st Nisan (1st lunar crescent after spring equinox) has to be dated on 4 April in 1090 BCE, but on 22 April in 1089 BCE, consequently, there was a month Addâru2 in year 25 of Tiglath-pileser.

¹⁶ Since the lunar year lasts 354.36706 days (= 29.530588x12), 10.875 days less than the solar year of 365.24219 days, the two calendars are in phase every 32 solar years, corresponding to 33 lunar years (with an accuracy of 6 days).

The two calendars (Assyrian and Babylonian) used by Tiglath-pileser raise the problem of calendar changes. The presence of several double dates in Tiglath-pileser's reign shows that the new Babylonian calendar (highlighted in grey) adopted by the Assyrians was not yet familiar to them.

TABLE 5

BCE	Babylonian month			Assyrian month	(C)	(Y)	Eponym (King Tiglath-pileser I n°87)	
1092	1	X	Tebētu	<i>xii</i>	Ḫubur		<i>Adad-apla-iddina</i>	
	2	XI	Šabātu	<i>i</i>	Šippu	24		
	3	XII	Addāru	<i>ii</i>	Qarrātu			
	4	I	Nisannu	<i>iii</i>	Kalmartu	***		[23] <i>Aššur-šuma-êriš</i>
	5	II	Ayyaru	<i>iv</i>	^d Sin			(MAR V 43)
	6	III	Simanu	<i>v</i>	Kuzallu			
	7	IV	Du'uzu	<i>vi</i>	Allanātu			
	8	V	Abu	<i>vii</i>	Belêt-ekalli			
	9	VI	Ulûlû	<i>viii</i>	Ša sarrâte			
	10	VII	Tašrîtu	<i>ix</i>	Ša kênâte			
	11	VIII	Araḥsamna	<i>x</i>	Muḥḥur ilâni			
	12	IX	Kisilimu	<i>xi</i>	Abû šarrâni			
1091	1	X	Tebētu	<i>xii</i>	Ḫubur		25th campaign	
	2	XI	Šabātu	<i>i</i>	Šippu	25		
	3	XII	Addāru	<i>ii</i>	Qarrātu			
		XIIa	Addāru2	<i>iii</i>	Kalmartu			
	4	I	Nisannu	<i>iv</i>	^d Sin	***		[24] <i>Ninuaya son of Aššur-aplu-lišir</i>
	5	II	Ayyaru	<i>v</i>	Kuzallu			(RIMA 2, A.0.87.3)
	6	III	Simanu	<i>vi</i>	Allanātu			
	7	IV	Du'uzu	<i>vii</i>	Belêt-ekalli			
	8	V	Abu	<i>viii</i>	Ša sarrâte			
	9	VI	Ulûlû	<i>ix</i>	Ša kênâte			
	10	VII	Tašrîtu	<i>x</i>	Muḥḥur ilâni			
	11	VIII	Araḥsamna	<i>xi</i>	Abû šarrâni			
12	IX	Kisilimu	<i>xii</i>	Ḫubur				
1090	1	X	Tebētu	<i>i</i>	Šippu	26	26th campaign	
	2	XI	Šabātu	<i>ii</i>	Qarrātu			
	3	XII	Addāru	<i>iii</i>	Kalmartu			
	4	I	Nisannu	<i>iv</i>	^d Sin	***		[25] <i>Taklāk -ana-Aššur</i>
	5	II	Ayyaru	<i>v</i>	Kuzallu			
	6	III	Simanu	<i>vi</i>	Allanātu			
	7	IV	Du'uzu	<i>vii</i>	Belêt-ekalli			
	8	V	Abu	<i>viii</i>	Ša sarrâte			
	9	VI	Ulûlû	<i>ix</i>	Ša kênâte			
	10	VII	Tašrîtu	<i>x</i>	Muḥḥur ilâni			
	11	VIII	Araḥsamna	<i>xi</i>	Abû šarrâni			
	12	IX	Kisilimu	<i>xii</i>	Ḫubur			
1089	1	X	Tebētu	<i>i</i>	Šippu	27	27th campaign	
	2	XI	Šabātu	<i>ii</i>	Qarrātu			
	3	XII	Addāru	<i>iii</i>	Kalmartu			
		XIIa	Addāru2	<i>iv</i>	^d Sin			

A study of Tiglath-pileser I's reign (Bloch: 2012, 67-69,342-350,398-413) has confirmed two points: the change of calendar (year beginning on 1st Nisan instead of 1st Šippu) occurred shortly before the reign of Tiglath-pileser I, as it was already in use in his first year of reign —in the month of Ḫibur (which is) the month Abu (V), day 20, the eponymy of Tiglath-pileser, the king of Assyria. Two other studies showed that a non-intercalated calendar was used in Assyria under Tukultî-Ninurta I's reign (Gauthier: 2016, 725-739) and before Aššur-dân I's reign (Jeffers: 2017, 151-191). The eponym marking each new Assyrian year was, therefore, chosen from the month of Nisan and not from the month of Šippu. For practical reasons: military campaigns took place outside the rainy season, between the spring equinox (Babylonian month I) and the autumnal equinox (Babylonian month VII) with the new equivalence: 1 year = 1 eponym (E) = 1 campaign (C). This system of equivalence was approximate because the 26th campaign (C) does not correspond exactly to the 25th reign year (Y) dated from the eponym Taklāk-ana-Aššur (in 1090 BCE).

The beginning of regnal years was different depending on dating systems¹⁷. Although during the period 1500-1150 BCE there is no explicit notation or other inscriptional evidence for intercalary lunar months,

¹⁷ For example, in 1088 BCE, 1st Nisan was 12 April for Babylonians and Judeans (years with accession). 1st Šippu was 13 January for Assyrians (years with accession). 1st Thot was 22 May for Egyptians (years without accession). 1st Tishri was 5 October for Israelites (years without accession). The accession year is the duration between the accession and the 1st year of reign. "year with accession" means that the accession year is reckoned as "year 0" and "year without accession" means that the accession year is reckoned as "year 1". Thus, according to the Assyrian calendar of this period, year 1 of Tiglath-pileser I, based on eponyms, not 1st Šippu, began on 1st Nisan (10 April 1114 BCE) and accession year began after April 1115 BCE.

some scholars postulate a kind of “invisible intercalation” (*sic*): the additional month being indicated through the repetition of a standard month name without any indication (Cancik-Kirschbaum, Johnson: 2011-2012, 125). All the double-dated inscriptions make it possible to reconstruct the Assyrian calendar:

TABLE 6

Text of the inscription	regnal year	Text reference
In the month of Ḫibur (which is) the month Abu, day 20, the eponym year of Tiglath-pileser, the king of Assyria	[1]	MARV I 73
The month of Ša-kênâte (which is) the month Nisannu, day 6, the eponym year of Ḫiyašânu	[5]	MARV I 62
The month of Abû-šarrâni (which is) the month Simânu, day 24, the eponym year of Ḫiyašânu	[5]	MARV V 42
The month of Abû-šarrâni (which is) the month Du'ûzu*, day 28, the eponym year of Ḫiyašânu	[5]	MARV IX 16
The month of Abû-šarrâni which is the month Simânu, the eponym year of Ina-ilîya-allak	[6]	MARV III 84
The month of Kuzallu which is the month Kissilîmu, the eponym year of Šadânâyu	[7]	MARV V 6
The month of Kamaru (which is) the month Nisannu, day 18, the eponym year of Aššur-šuma-êriš	[23]	MARV V 43
Month of Kuzallu, day 13, the eponym year of Ninuaya son of Aššur-aplu-lišir	[24]	RIMA 2, A.0.87.3
The month of Ḫibur, which is during the month Kissilîmu, day 18, the eponym year of Taklāk-ana-Aššur	[25]	RIMA 2, A.0.87.4

Given that the spring equinox occurred on 1 April in 1114 BCE, the 1st Nisan (1st lunar crescent after spring equinox) has to be dated on 29 April and 1st Abu on 25 August. In 1114 BCE one notices that 1st Abu equals 1st Ḫibur. The intercalary Babylonian month (Addarû2) is highlighted in brown and Assyrian month Šippu is highlighted in blue (Mahieu: 2018, 86-91):

TABLE 7

BCE	Babylonian month			Assyrian month		(C)	(Y)	Eponym (King Tiglath-pileser I)
1115	10	VII	Tašrîtu	<i>i</i>	Šippu	1	[0]	<i>Ninurta-nâdin-apli</i>
	11	VIII	Arašsamna	<i>ii</i>	Qarrātu			
	12	IX	Kisilimu	<i>iii</i>	Kalmartu			
1114	1	X	Tebêtu	<i>iv</i>	^d Sin	2	[1]	<i>Tiglath-pileser</i>
	2	XI	Šabātu	<i>v</i>	Kuzallu			
	3	XII	Addâru	<i>vi</i>	Allanātu			
		XIIa	Addârû2	<i>vii</i>	Belêt-ekalli			
	4	I	Nisannu	<i>viii</i>	Ša sarrâte			
	5	II	Ayyaru	<i>ix</i>	Ša kênâte			
	6	III	Simanu	<i>x</i>	Muḫḫur ilâni			
	7	IV	Du'ûzu	<i>xi</i>	Abû šarrâni			
	8	V	Abu	<i>xii</i>	Ḫibur			
	VI	Ulûlû	<i>i</i>	Šippu				
1113	10	VII	Tašrîtu	<i>ii</i>	Qarrātu	3	[2]	<i>Ištu-Aššur-ašamšu son of Aššur-aḫa-iddina</i>
	11	VIII	Arašsamna	<i>iii</i>	Kalmartu			
	12	IX	Kisilimu	<i>iv</i>	^d Sin			
	1	X	Tebêtu	<i>v</i>	Kuzallu			
	2	XI	Šabātu	<i>vi</i>	Allanātu			
	3	XII	Addâru	<i>vii</i>	Belêt-ekalli			
	4	I	Nisannu	<i>viii</i>	Ša sarrâte			
	5	II	Ayyaru	<i>ix</i>	Ša kênâte			
	6	III	Simanu	<i>x</i>	Muḫḫur ilâni			
	7	IV	Du'ûzu	<i>xi</i>	Abû šarrâni			
	8	V	Abu	<i>xii</i>	Ḫibur			
		VI	Ulûlû	<i>i</i>	Šippu			
1112	10	VII	Tašrîtu	<i>ii</i>	Qarrātu	3	[3]	<i>Aššur-šallimšunu</i>
	11	VIII	Arašsamna	<i>iii</i>	Kalmartu			
	12	IX	Kisilimu	<i>iv</i>	^d Sin			
	1	X	Tebêtu	<i>v</i>	Kuzallu			
	2	XI	Šabātu	<i>vi</i>	Allanātu			
	3	XII	Addâru	<i>vii</i>	Belêt-ekalli			
	4	I	Nisannu	<i>viii</i>	Ša sarrâte			
	5	II	Ayyaru	<i>ix</i>	Ša kênâte			
6	III	Simanu	<i>x</i>	Muḫḫur ilâni				
7	IV	Du'ûzu	<i>xi</i>	Abû šarrâni				
8	V	Abu	<i>xii</i>	Ḫibur				

	9	VI	Ulûlû	<i>i</i>	Šippu	4	
	10	VII	Tašrîtu	<i>ii</i>	Qarrātu		
	11	VIII	Araḥsamna	<i>iii</i>	Kalmartu		
	12	IX	Kisilimu	<i>iv</i>	^d Sin		
1111	1	X	Tebētu	<i>v</i>	Kuzallu		
	2	XI	Šabātu	<i>vi</i>	Allanātu		
	3	XII	Addâru	<i>vii</i>	Belêt-ekalli		
	4	I	Nisannu	<i>viii</i>	Ša sarrâte	[4]	<i>Šamaš-apla-êriš son of Aššur-šeziḫanni</i>
	5	II	Ayyaru	<i>ix</i>	Ša kênâte		
	6	III	Simanu	<i>x</i>	Muḥḥur ilâni		
	7	IV	Du'ûzu	<i>xi</i>	Abû šarrâni		
	8	V	Abu	<i>xii</i>	Ḥubur		
	9	VI	Ulûlû	<i>i</i>	Šippu	5	
	10	VII	Tašrîtu	<i>ii</i>	Qarrātu		
	11	VIII	Araḥsamna	<i>iii</i>	Kalmartu		
	12	IX	Kisilimu	<i>iv</i>	^d Sin		
1110	1	X	Tebētu	<i>v</i>	Kuzallu		
	2	XI	Šabātu	<i>vi</i>	Allanātu		
	3	XII	Addâru	<i>vii</i>	Belêt-ekalli		
		XIIa	Addâru2	<i>viii</i>	Ša sarrâte		
	4	I	Nisannu	<i>ix</i>	Ša kênâte	[5]	<i>Ḥiyašânu</i>
	5	II	Ayyaru	<i>x</i>	Muḥḥur ilâni		
	6	III	Simanu	<i>xi</i>	Abû šarrâni		
	7	IV	Du'ûzu*	<i>xii</i>	Ḥubur		
	8	V	Abu	<i>i</i>	Šippu	6	
	9	VI	Ulûlû	<i>ii</i>	Qarrātu		
	10	VII	Tašrîtu	<i>iii</i>	Kalmartu		
	11	VIII	Araḥsamna	<i>iv</i>	^d Sin		
	12	IX	Kisilimu	<i>v</i>	Kuzallu		
1109	1	X	Tebētu	<i>vi</i>	Allanātu		
	2	XI	Šabātu	<i>vii</i>	Belêt-ekalli		
	3	XII	Addâru	<i>viii</i>	Ša sarrâte		
	4	I	Nisannu	<i>ix</i>	Ša kênâte	[6]	<i>Ina-ilîya-allak (rab šaqe)</i>
	5	II	Ayyaru	<i>x</i>	Muḥḥur ilâni		
	6	III	Simanu	<i>xi</i>	Abû šarrâni		
	7	IV	Du'ûzu	<i>xii</i>	Ḥubur		
	8	V	Abu	<i>i</i>	Šippu	7	
	9	VI	Ulûlû	<i>ii</i>	Qarrātu		
	10	VII	Tašrîtu	<i>iii</i>	Kalmartu		
	11	VIII	Araḥsamna	<i>iv</i>	^d Sin		
	12	IX	Kisilimu	<i>v</i>	Kuzallu		
1108	1	X	Tebētu	<i>vi</i>	Allanātu		
	2	XI	Šabātu	<i>vii</i>	Belêt-ekalli		
	3	XII	Addâru	<i>viii</i>	Ša sarrâte		
	4	I	Nisannu	<i>ix</i>	Ša kênâte	[7]	<i>Šadânâyu</i>
	5	II	Ayyaru	<i>x</i>	Muḥḥur ilâni		
	6	III	Simanu	<i>xi</i>	Abû šarrâni		
	7	IV	Du'ûzu	<i>xii</i>	Ḥubur		
	8	V	Abu	<i>i</i>	Šippu	8	
	9	VI	Ulûlû	<i>ii</i>	Qarrātu		
	10	VII	Tašrîtu	<i>iii</i>	Kalmartu		
	11	VIII	Araḥsamna	<i>iv</i>	^d Sin		
	12	IX	Kisilimu	<i>v</i>	Kuzallu		
1107	1	X	Tebētu	<i>vi</i>	Allanātu		
	2	XI	Šabātu	<i>vii</i>	Belêt-ekalli		
	3	XII	Addâru	<i>viii</i>	Ša sarrâte		
		XIIa	Addâru2	<i>ix</i>	Ša kênâte		
	4	I	Nisannu	<i>x</i>	Muḥḥur ilâni	[8]	?
	5	II	Ayyaru	<i>xi</i>	Abû šarrâni		
	6	III	Simanu	<i>xii</i>	Ḥubur		
	7	IV	Du'ûzu	<i>i</i>	Šippu	9	
	8	V	Abu	<i>ii</i>	Qarrātu		
	9	VI	Ulûlû	<i>iii</i>	Kalmartu		
	10	VII	Tašrîtu	<i>iv</i>	^d Sin		
	11	VIII	Araḥsamna	<i>v</i>	Kuzallu		
	12	IX	Kisilimu	<i>vi</i>	Allanātu		

The concordance of months is excellent between the Babylonian year, which was lunisolar and the Assyrian year, which was lunar. The only discrepancy appears in regnal year 5: *The month of Abû-šarrâni (which is) the month Simânu (instead of Du'ûzu*), day 28, the eponym year of Ḥiyašânu.* The shift of one month is probably due to a miscalculation in the number of campaigns. Complete reconstruction of the first

28 years of the reign of Tiglath-Pileser I, but only the order of the eponyms of years 1 to 7 and 23 to 28 (highlighted in light grey) is confirmed (Mahieu: 2018, 77-82; Nahm: 2022, 238-240):

TABLE 8

BCE	Eponym	son of:	(C)	(Y)	1st Nisan (Babylonian)	Intercalary month	month (Assyrian)
1115	Ninurta-nādin-apli		18th	[0]	10 April	Addar2	Belêt-ekalli
1114	Tiglath-pileser (I)		1st	[1]	29 April		Ša sarrâte
1113	Ištu-Aššur-ašamšu	Aššur-aḫa-iddina	2nd	[2]	17 April		Ša sarrâte
1112	Aššur-šallimšunu		3rd	[3]	6 April		Ša sarrâte
1111	Šamaš-apla-ēriš	Aššur-šeziḫanni	4th	[4]	27 March	Addar2	Ša sarrâte
1110	Ḫiyašānu		5th	[5]	15 April		Ša kênâte
1109	Ina-ilīya-allak (rab šaqe)		6th	[6]	3 April		Ša kênâte
1108	Šadānāyu		7th	[7]	24 March	Addar2	Ša kênâte
1107	?		8th	[8]	12 April		Muḫḫur ilāni
1106	Aššur-mudammeq		9th	[9]	1 April	Addar2	Muḫḫur ilāni
1105	İbri-šarre		10th	[10]	19 April		Abû šarrāni
1104	Aššur-kētti-šēšši		11th	[11]	8 April	Addar2	Abû šarrāni
1103	Mutakkil-Aššur		12th	[12]	27 April		Ḫubur
1102	Mušeziḫ-Aššur		13th	[13]	16 April		Ḫubur
1101	Ippitte		14th	[14]	4 April	Addar2	Ḫubur
1100	Mudammeq-Bēl		15th	[15]	23 April		Šippu
1099	Aššur-apla-iqīša		16th	[16]	13 April		Šippu
1098	Šahhutu		17th	[17]	3 April	Addar2	Šippu
1097	Bēl-libūr		18th	[18]	21 April		Qarrātu
1096	Nusku-ālik-pānī		19th	[19]	10 April		Qarrātu
1095	Aplaya		20th	[20]	30 March	Addar2	Qarrātu
1094	Ninurta-aha-iddina		21th	[21]	18 April		Kalmartu
			22th				
1093	Adad-apla-iddina		23th	[22]	6 April		Kalmartu
1092	Aššur-šuma-ēriš		24th	[23]	26 March	Addar2	Kalmartu
1091	Ninuaya	Aššur-aplu-lišir	25th	[24]	14 April		^d Sin
1090	Taklāk-ana-Aššur		26th	[25]	4 April	Addar2	^d Sin
1089	Aššur-rā'im-nišēšu		27th	[26]	22 April		Kuzallu
1088	Ilī-iddina		28th	[27]	12 April		Kuzallu
1087	Bunānu		29th	[28]	1 April	Addar2	Kuzallu

Babylonian year (Y) and Assyrian year are an excellent match based on campaigns (C), but there is a shift of one year for the regnal years 25 to 27 (instead of 24 to 26) because the 27th campaign (with a campaign each Assyrian lunar year) corresponds to the 26th Babylonian luni-solar year. Two Assyrian campaigns (based on the lunar year beginning on 1st Šippu) overlapped the 22nd year of reign (based on the lunisolar year linked to eponyms beginning on 1st Nisan). The Assyrian campaigns took place every lunar year, but as there is no eponym for the 22nd campaign in 1093 BCE (because 34 lunar years = 33 lunisolar years), the eponyms were therefore named on the 1st Nisannu, the beginning of the Babylonian year. The eponyms were already named in the 1st Nisannu under Aššur-dān I, because Aššur-išmānī" was an eponym (Jeffers: 2017, 151 n. 7) who is dated in 1160 BCE (Bloch: 2010c, 43-44), a year that should have had two eponyms if they were named in the 1st Šippu (because 1160 BCE = 1092 BCE + 2 x 34 lunar years).

TABLE 9

BCE	ASSYRIAN KING	(C)	(Y)	Month:	Intercalary	Assyrian
1116	Aššur-reš-iši I	17	17		-	Belêt-ekalli
1115		18	18/0		Addar2	Belêt-ekalli
1114	Tiglath-pileser I	1st	1		-	Ša sarrâte
1113		2nd	2		-	Ša sarrâte

The previous system of dating was still used during the reign of Aššur-dān I (1179-1133) because his 46th year began on the eponym Pišqīya son of Kaššu (April 1133 BCE), the same as Ninurta-tukultī-Aššur who reigned from the months Ša kênâte to Abu šarrāni (from February to April 1132 BCE). Afterwards, Mutakkil-Nusku reigned briefly (a few days)¹⁸, followed by Aššur-reš-iši I (1133-1115) whose year 1 began

¹⁸ Mutakkil-Nusku's victory over his brother was short-lived. According to one tablet: "(he) held the throne for tuppišu (his tablet), then died," showing that his year of accession was followed by only a small portion of his first year (a few days).

with the eponym *Sîn-šēya*. There is a gap (Bloch: 2010, 1-87; 2012: 307-310,411) between the eponyms that start on 1st Nisan and the Assyrian year beginning on 1st Šippu (June 16 in 1132 BCE). Consequently, during the reign of Aššur-dân I (1179-1133) eponyms still began on 1st Nisan, instead of 1 Šippu, and those Assyrian lunar years without intercalation remain the norm. However, as the Babylonian year began on the 1st Nisan (shortly after the spring equinox) Assyrian years (based on eponyms) thus coincide with Babylonian luni-solar years (with intercalation).

TABLE 10

BCE			Assyrian month	(Y)	ASSYRIAN KING	Eponym	BABYLONIAN KING					
1134	5	II	<i>xii</i>	45	Aššur-dân I n°83	<i>Marduk-aḫa-ēriš</i>	7 Itti-Marduk-balaṭu					
	6	III	<i>i</i>									
	7	IV	<i>ii</i>									
	8	V	<i>iii</i>									
	9	VI	<i>iv</i>					^d Sin				
	10	VII	<i>v</i>					Kuzallu				
	11	VIII	<i>vi</i>					Allanātu				
	12	IX	<i>vii</i>					Belêt-ekalli				
	1133	1	X					<i>viii</i>	46		<i>Pišqīya s. of Kaššu</i>	8
		2	XI					<i>ix</i>				
		3	XII					<i>x</i>				
		4	I					<i>xi</i>				
5		II	<i>xii</i>	Hubur								
6		III	<i>i</i>	Šippu								
7		IV	<i>ii</i>	Qarrātu								
8		V	<i>iii</i>	Kalmartu								
9		VI	<i>iv</i>	^d Sin								
10		VII	<i>v</i>	Kuzallu								
11		VIII	<i>vi</i>	Allanātu								
12		IX	<i>vii</i>	Belêt-ekalli								
1132	1	X	<i>viii</i>	0	Ninurta-tukultî-Aššur n°84	<i>Aššur-šezibanni son of Pa'uzu</i>	0					
	2	XI	<i>ix</i>									
	3	XII	<i>x</i>									
	4	I	<i>xi</i>									
	5	II	<i>xii</i>					Hubur				
	6	III	<i>i</i>					Šippu				
	7	IV	<i>ii</i>					Qarrātu				
	8	V	<i>iii</i>					Kalmartu				
	9	VI	<i>iv</i>					^d Sin				
	10	VII	<i>v</i>					Kuzallu				
	11	VIII	<i>vi</i>					Allanātu				
	12	IX	<i>vii</i>					Belêt-ekalli				
1131	1	X	<i>viii</i>	1	Aššur-reš-iši I n°86	<i>Sîn-šēya son of Urad-ilāne</i>	Ninurta-nâdin-šumi					
	2	XI	<i>ix</i>									
	3	XII	<i>x</i>									
	4	I	<i>xi</i>									
	5	II	<i>xii</i>					Hubur				
	6	III	<i>i</i>					Šippu				
	7	IV	<i>ii</i>					Qarrātu				
	8	V	<i>iii</i>					Kalmartu				
	9	VI	<i>iv</i>					^d Sin				
	10	VII	<i>v</i>					Kuzallu				
	11	VIII	<i>vi</i>					Allanātu				
	12	IX	<i>vii</i>					Belêt-ekalli				
1130	1	X	<i>viii</i>	2		<i>Aššur-reš-iši</i>	2					
	2	XI	<i>ix</i>									
	3	XII	<i>x</i>									
	4	I	<i>xi</i>									
	5	II	<i>xii</i>					Hubur				
	6	III	<i>i</i>					Šippu				
	7	IV	<i>ii</i>					Qarrātu				
	8	V	<i>iii</i>					Kalmartu				
	9	VI	<i>iv</i>					^d Sin				
	10	VII	<i>v</i>					Kuzallu				
	11	VIII	<i>vi</i>					Allanātu				
	12	IX	<i>vii</i>					Belêt-ekalli				

Whereas the eponyms began on the 1st Nisan during the reign of Aššur-dân I (1179-1133), before this king the synchronisms between Assyrian king Tukultî-Ninurta I and Babylonian kings show that Assyrian eponyms started on 1st Šippu, not on 1st Nisan. Actually, the capture of Babylon and the replacement of its king, Kaštiliašu IV, are dated to (Ina)-Aššur-šuma-ašbat (Cancik-Kirschbaum: 1996, 9-18), the 19th eponym of Tukultî-Ninurta I (Freydank: 2005, 45-56), which corresponds to Year 8 of Kaštiliašu IV (1233-1225) dated 1225 BCE. The order of eponyms from the capture of Babylon is uncertain (Bloch: 2010b, 1-35), but the sequence of eponyms in this period is as follows: Ina-Aššur-šuma-ašbat (N°18), Ninu'aju (N°19), Bêr-nâdin-apli (N°20), Abi-ili son of Katiri (N°21), Šalmanu-šuma-ušur (N°22). Counting reigns by Babylonian scribes seems incorrect since Tukultî-Ninurta I regimented Babylonia (not reigned) through three successive Viceroys for 7 years (the first two of whom were killed by the King of Elam), reckoned as 1.5 years, 1.5 years and 6 years giving a total of 9 years (Munn-Rankin: 2000, 287-291). In fact, the system used is the cause of these differences. The 7 years of Tukultî-Ninurta I match the 7 eponyms and the 3 years (= 1.5 + 1.5) of the vassal kings match the 3 eponyms or 2 years reign, because 1.5 years (partial years) has no sense

in the Babylonian system (the Assyrian year started on 1st Šippu or 27 March in 1225 BCE)¹⁹. Consequently, the reign of Tukultî-Ninurta I, which has 37 eponyms, must be dated 1242-1206, because each eponym is equivalent to a lunar year, and not 1243-1206, if each eponym had been equivalent to a solar year.

TABLE 11

BCE	Eponym	son of	(C)	(Y)	BABYLONIAN KING	Year
1242	Ubru		30th	[29]/[0]	Šagarakti-šuriaš	4
1241	Tukultî-Ninurta (I)		1st	[1]		5
1240	Qibi-Aššur	Ibašši-ili	2nd	[2]		6
1239	Mušallim-Adad	Šalmanu-qarrâd	3rd	[3]		7
1238	Adad-bêl-gabbe	King	4th	[4]		8
1237	Šunu-qardû		5th	[5]		9
1236	Libur-zanin-Aššur		6th	[6]		10
1235	Aššur-nâdin-apli	King	7th	[7]		11
1234	Urad-ilani		8th	[8]		12
1233	Adad-uma''i		9th	[9]	Kaštiliašu IV	13/0
1232	Abattu	Adad-šamši	10th	[10]		1
1231	Abattu	Adad-šumu-lêšir	11th	[11]		2
1230	Aššur-da''an		12th	[12]		3
1229	Etel-pî-Aššur	Kurbânu	13th	[13]		4
1228	Ušur-namkûr-šarri		14th	[14]		5
1227	Aššur-bêl-ilâni		15th	[15]		6
1226	Aššur-zera-iddina		16th	[16]		7
1225	Enlil-nâdin-apli (?)		17th	[17]	Enlil-nâdin-šumi	8/0
1224	Ina-Aššur-šuma-ašbat	Aššur-nâdin-šume	18th	[18]/1	Kadašman-Harbe II	1.5/0
1223	Ninu'aju	Aššur-iddin	19th	[19]/2	Adad-šuma-iddina	1.5/0
	Abi-ili		20th	3		
1222	Šalmanu-šuma-ušur	Katiri	21th	[20]/4		1
1221	Bêr-nâdin-apli		22th	[21]/5		2
1220	Adad-šamšî	Mariannu (?)	23th	[22]/6		3
1219	Kaštiliašu (?)		24th	[23]/7		4
1218	Bêr-išmanni (?)		25th	[24]/8		5
1217	Ilî-padâ (?)	Aššur-iddin	26th	[25]/9	Adad-šuma-ušur	6/0
1216	Qarrad-Aššur (?)	Aššur-iddin	27th	[26]		1
1215	Sarniqu (?)		28th	[27]		2
1214	Ninurta-nâdin-apli (?)	Bukruni	29th	[28]		3
1213	Urad-Kube (?)	Aššur-bel-ilani	30th	[29]		4
1212	Mudammiq-Nusku (?)	Ibašši-ili	31th	[30]		5
1211	Kidin-Aššur (?)		32th	[31]		6
1210	Sin-uballiṭ (?)		33th	[32]		7
1209	Nabu-bela-ušur (?)		34th	[33]		8
1208	Riš-Aššur (?)		35th	[34]		9
1207	Aššur-nirari (?)	Šarri	36th	[35]		10
1206	Urad-Kube		37th	[36]/[0]		11
1205	Aššur-nâdin-apli		1st	[1]		12
1204	Erîb-Sîn		2nd	[2]		13

The position of the first 16 eponyms have been confirmed (Llop, 2013, 549-559), but the 17th eponym in year 7 of Kaštiliašu IV could be Enlil-nâdin-apli and Bêr-nâdin-apli the 22th (Nahm, 2020, 43-45). Tukultî-Ninurta I ruled over Babylonia for 7 years (1224-1217) from the 18th to the 26th eponym. Enlil-nâdin-šumi (1225-1225) and Kadašman-Harbe II (1225-1224) each ruled Babylonia for 1.5 years from the 18th to the 20th eponym. The third pro-Assyrian vassal king, Adad-šuma-iddina (1224-1217), was subsequently overthrown by Babylonian officers in the 26th eponym. The Assyrians would have liked to impose their candidate Enlil-kudur-ušur (?), but the Babylonians settled upon Adad-šuma-ušur (1217-1187), freeing themselves from the Assyrian suzerainty. The reckoning of the years of reign, therefore, changed from Aššur-dân I (1179-1133) because, from that king (the eponyms being linked to 1st Nisan, as in the Babylonian year), the total number of eponyms during the reign of an Assyrian king corresponded to a number of luni-solar years, whereas previously the years had a lunar duration. When the number of eponyms does not match the total duration of the reign, it has been underlined:

¹⁹ $N = 1225, (N - 1088) \times 365,24219 = (141) \times 12 \times 29,530588 + 72 \Rightarrow 72 + 13 = 85$ th day of the year = 27 March.

n°	ASSYRIAN KING	#	Reign	n°	BABYLONIAN KING	#	Reign
78	Tukultî-Ninurta I	37	1242-1206	27	Šagarakti-šuriaš	13	1246-1233
79	Aššur-nâdin-apli	4	1206-1203	32	Adad-šuma-ušur	30	1217 -
80	Aššur-nêrârî III	6	1203-1197				
81	Enlil-kudurri-ušur	5	1197-1192				-1187

TABLE 12

BCE	Month	Assyrian	[A]	[B]	King / eponym			
1225	1	X <i>x</i>	Muḥḥur ilâni	17	7	[A] Tukultî-Ninurta I Assyrian		
	2	XI <i>xi</i>	Abû šarrâni			[B] Kaštiliašu IV Babylonian		
	3	XII <i>xii</i>	Ḫubur					
	4	I <i>i</i>	Šippu	18	8	<i>Ina-Aššur-šuma-ašbat</i>		
	5	II <i>ii</i>	Qarrātu					
	6	III <i>iii</i>	Kalmartu					
	7	IV <i>iv</i>	^d Sin			0	(<i>Babylon taken</i>)	
	8	V <i>v</i>	Kuzallu			[B] Enlil-nâdin-šumi (Babylonian Viceroy)		
	9	VI <i>vi</i>	Allanātu					
	10	VII <i>vii</i>	Belêt-ekalli					
	11	VIII <i>viii</i>	Ša sarrâte					
	12	IX <i>ix</i>	Ša kênâte					
1224	1	X <i>x</i>	Muḥḥur ilâni			19	1	<i>Ninu'aju son of Aššur-iddin</i>
	2	XI <i>xi</i>	Abû šarrâni					
	3	XII <i>xii</i>	Ḫubur					
	4	I <i>i</i>	Šippu					
	5	II <i>ii</i>	Qarrātu					
	6	III <i>iii</i>	Kalmartu					
	7	IV <i>iv</i>	^d Sin					
	8	V <i>v</i>	Kuzallu					
	9	VI <i>vi</i>	Allanātu					
	10	VII <i>vii</i>	Belêt-ekalli					
	11	VIII <i>viii</i>	Ša sarrâte					
	12	IX <i>ix</i>	Ša kênâte					
1223	1	X <i>x</i>	Muḥḥur ilâni	20	1	<i>Abi-ili (?)</i>		
	2	XI <i>xi</i>	Abû šarrâni				0	[B] Kadašman-Harbe II (Babylonian Viceroy)
	3	XII <i>xii</i>	Ḫubur					
	4	I <i>i</i>	Šippu					
	5	II <i>ii</i>	Qarrātu					

CHRONOLOGY OF MESOPOTAMIAN REIGNS OVER THE PERIOD 2020–912 BCE

The chronology of Assyrian reigns can, therefore, be fully reconstructed starting from Aššur-uballit II (612-609) up to Erišu I (n°33), since all the years of reign between these two kings are known, being aware that Assyrian years are solar up to Aššur-dân I (1179-1133) and lunar prior to this king. The durations of four reigns are missing (N° 65, 66, 37, and 38), but they can be calculated through synchronisms from Assyrian annals that indicate the exact length between the reconstruction of some famous temples (Gasche, Armstrong, Cole: 1998, 57-80):

- Shalmaneser I (n°77) states in his inscriptions that the temple of Assur (Ehursagkurkurra) was built by Ušpiya and rebuilt by Erišu I, then 159 years later by Šamšî-Adad I, and 580 years later by himself. Shalmaneser I does not specify the point used to determine these durations, but Esarhaddon gives a figure of 126 years for the duration between Erišu I and Šamšî-Adad I, proving that Shalmaneser I included the 33-year reign of Šamšî-Adad I in his calculation (159 = 126 + 33). The 159 years must, therefore, have started at the end of the reign of Erišu I to the end of the reign of Šamšî-Adad I and 580 years are completed at the beginning of the reign of Shalmaneser I (in 1271 BCE). There are, therefore, 421 lunar years (421 = 580 - 159) between the reigns of Šamšî-Adad I and Shalmaneser I, a duration of 409 solar years, which sets the end of the reign of Šamšî-Adad I in 1680 BCE (= 1271 + 409)
- Tiglath-pileser I (n°87) states in his annals of having rebuilt the temple called Anu-Adad at the beginning of his reign (in 1115 BCE); It was however built 641 years earlier by Šamšî-Adad I. These 641 years (= 68 solar + 573 lunar) correspond to 624 (= 68 + 556) solar years, which dates back the reign of Šamšî-Adad I in 1739 BCE (= 1115 + 624) instead of 1712 BCE. However, the scribe probably used a King list with a reign of 40 years instead of 11 for Išme-Dagan I, since Šamšî-Adad I died in the year 17 of Hammurabi and Išme-Dagan I died in the year 28 of this king (Gasche, Armstrong, Cole: 1998, 52). This data reduces the 641 years to 612 BCE (= 641 - 29), or a duration of 596 solar years, which fixes the beginning of the reign of Samsi-Adad I in 1711 BCE (= 1115 + 596), in good agreement with the previous date of 1712 BCE (= 1680 + 33 - 1).

- Esarhaddon (n°112) also claimed to have rebuilt the temple of Aššur. In an inscription (Assur A) dated eponym Issi-Adad-anīnu (in 679 BCE), at the beginning of his reign, he claimed that 129 years elapsed between the reconstruction of Erišu I and the one of Šamšī-Adad I. Shalmaneser I rebuilt the temple again 434 years later, then 580 years later Esarhaddon rebuilt the temple for the final time. The first term is correct, because it actually falls in the reign of Shalmaneser I (679 + 580 = 1259). With the duration between the beginning of the reign of Esarhaddon and the end of the reign of Šamšī-Adad I being 1014 years (= 580 solar + 434 lunar or 1001 solar years), the end of the reign of Šamšī-Adad I can be set at 1680 BCE (= 679 + 1001). The reign of this king can, therefore, be set from 1712 to 1680 BCE. His death in the year 17 of Hammurabi allows one to anchor it to the Babylonian chronology (Gasche, Armstrong, Cole, Gruzadyan: 1998, 1-4). After his death the documents dated in different calendars allow some synchronisms (Barreyra Fracaroli: 2011, 185-198).
- The paleo-Assyrian dynasty begins after the fall of Ur (Joannès 2001: 617-621,823) with king Puzur-Aššur I (n°30), which enables us to date the fall of this city around 1913 BCE (the average length of an Assyrian reign is 14 years over all the period).

This chronology obtained from Assyrian king lists is confirmed over the period 1873-1663 (Table 13) from King Erišu I (n°33) to King Aššur-dugul (n°40) owing to lists of 255 eponyms (Barjamovic, Hertel, Larsen: 2012, 3-161; Veenhof, Günbatti, Kryszat: 2008, 10-27, 103-132, 156-171, 195-219) and some comments associated with eponyms allowing one to fix several synchronisms, especially the start and the duration (in Assyrian years) of certain reigns:

TABLE 13

n°	ASSYRIAN KING	Years	Comments on eponyms from Chronicles	Σ eponyms	
33	Ērišu I	40	year 1, eponym Šu-Ištar son of Abila (N°1)	40	40
34	Ikunum	14	year 1, eponym Iddin-Suen brother of Šuli (N°41)	14	14
35	Sargon I	40	year 1, eponym Aššur-malik son of Agatum (N°55)	40	54
36	Puzur-Aššur II	8	year 1, eponym Aššur-nada son of Puzur-Ana (N°95)	8	62
37	Naram-Sîn	[-]4	year 1, eponym Šu-Su'en son of Pappilum (N°103)	54	116
38	Ērišu II	[-]	Šamšī-Adad I conquers Assyria, eponym Ibni-Ištar (N°157)	10	126
39	Šamšī-Adad I	33	Death of Šamšī-Adad I, eponym Ṭab-šilli-Aššur (N°199)	33	159
40	Išme-Dagan I	11	(year 1, eponym Ennam-Aššur N°200)	11	11

The set of two lists of eponyms, the Kültepe Eponym List (KEL) and the Mari Eponym Chronicle (MEC), made it possible to restore the complete list of 255 eponyms²⁰ beginning in Ērišu I's year 1. The MEC has been essential for the establishment of the correct Old Babylonian chronology (Nahm: 2018, 109-110). The deficiencies of the KEL (Glassner: 2004, 157-160) have been filled by the MEC. The only difficulty was to connect the five parts of the MEC (noted A, B, C, D, E) because there was no overlap between the end of the MEC D and the beginning of the MEC E (Charpin, Ziegler: 2003, 156-157). For example, the last eponym of the MEC C (N°195) must be Aḫiyaya son of Lā-qēpum because the total time-span from the beginning of the eponym year of Aššur-malik (N°194) to the end of the eponym year of Ṭab-šilla-Aššur (N°199) is 5 years (Bloch: 2014, 191-210). However, synchronisms with the Babylonian reigns allowed one to establish that the first two eponyms (illegible) of the MEC D corresponded to the years 16 and 17 of the reign of Sîn-muballit and the last eponym of this short list corresponded to the year 20, which was also the year Hammurabi's accession (year 0). Neither the accession nor the death of Ērišu II is detailed in the lists, but this reign can be framed by two dates: the first year of Naram-Sîn in 1773 BCE during the eponymy Šu-Suen (N°95) in the beginning of the list MEC A, and the death of Šamšī-Adad during the eponymy of Ṭab-šilli-Aššur in 1680 BCE, after 33 years of reign. Consequently, the death of Erišu II must go back to 1713 BCE (= 1680 + 33), end of the list C L2. The eponyms of the list KEL G being unreadable over about 16 lines (eponyms N°179 to N°194), they were supplemented by the list MEC E but two eponyms of the overlap are uncertain (Charpin, Ziegler: 2003, 72-73, 134-169). Since the accession of Naram-Sîn was in 1774 BCE and the death of Erišu II was in 1712 BCE, then the two kings ruled a total of 62 solar years (= 1774 - 1712), or 64 lunar years (or eponyms). The reign of Naram-Sîn was over 27 years since the list KEL A includes 27* eponyms after his accession. However, according to Assyrian king lists, his reign was [-]4 years, implying a duration of 54 years (Veenhof: 2002, 1-78). During the eponymy of Ibni-Ištar (N°157) it is stated that "Šamšī-Adad I conquered Assyria," which corresponds to the 1st year of Erišu II, his father Naram-Sîn having died the previous year. This would mean that the Amorite king Šamšī-Adad I conquered Assyria only gradually, starting with the city of Ekallatum at the end of the reign of Naram-Sîn. So, when Erišu II ascended the throne he reigned only over a small part of Assyria and at his death, after 10 years of reign, what was left of Assyria was absorbed by Šamšī-Adad I (who became an Assyrian king).

²⁰ http://cdli.ox.ac.uk/wiki/doku.php?id=list_of_old_assyrian_limmu_officials

TABLE 14

BCE	N°	eponym	son of	Comments in chronicles		
1873				accession of Erišu I (king n°33)	0	
1872	1	Šu-Ištar	Abila	year 1 (beginning of the list KEL A)	1	
1871	2	Šukkuttum	Išuhum		2	
	3	Iddin-ili	Kurub-Ištar		3	
1870	4	Šu-Anum	Isaliya		4	
1869	5	Anah-ilī	Kiki		5	
1868	6	Suetaya	Ir'ibum		6	
1867	7	Daya	Išuhum		7	
1866	8	Ilī-ellītī			8	
1865	9	Šamaš-ṭab			9	
1864	10	Agusa			10	
1863	11	Idnaya	Šudaya		11	
1862	12	Quqādum	Buzu		12	
1861	13	Puzur-Ištar	Bedaki		13	
1860	14	Lā-qēpum	Babidi		14	
1859	15	Šu-Laban	Kurub-Ištar		15	
1858	16	Šu-Bēlum	Išuhum		16	
1857	17	Nabi-Suen	Šu-Ištar		17	
1856	18	Hadaya	Elāli		18	
1855	19	Ennam-Aššur	Begaya		19	
1854	20	Ikūnum	Šudaya		20	
1853	21	Išmid-ilum	Idida		21	
1852	22	Buzutaya	Išuhum		22	
1851	23	Šu-Ištar	Ammaya		23	
1850	24	Iddin-Aššur	<i>i.e. kumrum</i>		24	
1849	25	Puzur-Aššur	I.NUN		25	
1848	26	Quqādum	Buzu		26	
1847	27	Ibni-Adad	Susaya		27	
1846	28	Erišum	Adad-rabi		28	
1845	29	Minānum	Begaya		29	
1844	30	Iddin-Suen	Šalim-ahum		30	
1843	31	Puzur-Aššur	Idnaya		31	
1842	32	Šûli	Uphakum		32	
1841	33	Lā-qēpum	Zukua		33	
1840	34	Puzur-Ištar	Erisua		34	
1839	35	Agua	Adad-rabi		35	
1838	36	Šu-Suen	Šilliya		36	
	37	Ennam-Aššur	Begaya		37	
1837	38	Enna-Suen	Puṣṣānum		38	
1836	39	Ennānum	Uphakum		39	
1835	40	Buzu	Adad-rabi	accession of Ikunum (king n°34)	0	40
1834	41	Iddin-Suen	<i>brother of Šuli</i>	Šuli son of Šalim-ahum, year 1	1	1
1833	42	Ikūnum	Šudaya		2	2
1832	43	Dan-Wēr	Ahuahi		3	3
1831	44	Šu-Anum	Nērabtim		4	4
1830	45	Ilī-massu	Aššur-ṭab		5	5
1829	46	Šu-Hubur	Šuli		6	6
1828	47	Idua	Šulilī		7	7
1827	48	Lā-qēpum	Puzur-Laba		8	8
1826	49	Šu-Anum	<i>of hapirum</i>		9	9
1825	50	Uku	Bela		10	10
1824	51	Aššur-malik	Panaka		11	11
1823	52	Dan-Aššur	Puzur-Wēr		12	12
1822	53	Šu-Kūbum	Ahuahi		13	13
1821	54	Erišum	Iddin-Aššur	accession of Sargon I (king n°35)	14	14
1820	55	Aššur-malik	Agatum	year 1	15	1
1819	56	Aššur-malik	Ennāniya		16	2
1818	57	Ibisua	Suen-nādā		17	3
1817	58	Baziya	Bal-Tutu		18	4
1816	59	Puzur-Ištar	Sabasiya		19	5
1815	60	Piṣaḥ-Ilī	Adin		20	6
1814	61	Asqūdum	Lā-qēpum		21	7

1813	62	Ilī-pilaḥ	Damqum ¹ _{SEP}		22	8	
1812	63	Qulali	[-]		23	9	
1811	64	Susaya ¹ _{SEP}	[-]		24	10	
1810	65	Amaya	<i>the Armourer</i>		25	11	
1809	66	Iḫurum	Ilī-ellat		26	12	
1808	67	Kudānum	Lā-qēpum		27	13	
1807	68	Ilī-bāni	Ikūnum		28	14	
1806	69	Šu-Kūbum	Susaya		29	15	
1805	70	Quḡidi	Amur-Aššur		30	16	
	71	Abiya	Nūr-Suen		31	17	
1804	72	Šu-Ištar	Šukkutum		32	18	
1803	73	Baziya	Šēp-Alim		33	19	
1802	74	Šu-Ištar	Ikūnum, <i>the Star</i>		34	20	
1801	75	Abiya	Šu-Dagan		35	21	
1800	76	Salliya	Šabakurā(num)	Babylonian king	36	22	
1799	77	Ibni-Adad	Baqqunum	<i>accession of Sumu-abum</i>	37	23	0
1798	78	Aham-arši	Malkum-išar		38	24	1
1797	79	Sukkaliya	Minanum		39	25	2
1796	80	Iddin-Aššur	Kubidi		40	26	3
1795	81	Šudaya	Ennānum		41	27	4
1794	82	Al-ṭāb	Pilaḥ-Aššur/haya		42	28	5
1793	83	Aššur-damiq	Abarsisum		43	29	6
1792	84	Puzur-Niraḥ	Puzur-Suen		44	30	7
1791	85	Amur-Aššur	Karriya		45	31	8
1790	86	Buzuzu	Ibbi-Suen		46	32	9
1789	87	Šu-Ḥubur	Elāli		47	33	10
1788	88	Ilšu-rabi	Baziya		48	34	11
1787	89	Ali-aḫum	Inaḥ-ilī		49	35	12
1786	90	Ṭāb-Aššur	Suḫarum		50	36	13
1785	91	Elāli	Ikūnum <i>the sangu</i>	<i>accession of Sumu-a-il</i>	51	37	14
1784	92	Iddin-abum	Narbitum		52	38	1
1783	93	Adad-bāni	Iddin-Aššur		53	39	2
1782	94	Aššur-iddin	Šuli	<i>accession of Puzur-Aššur II</i>	54	40	3
1781	95	Aššur-nādā	Puzur-Anna	year 1	55	1	4
1780	96	Kūbiya	Karriya		56	2	5
1779	97	Ilī-dan	Elāli		57	3	6
1778	98	Šilulu	Uku		58	4	7
1777	99	Aššur-nādā	Ilī-binanni		59	5	8
1776	100	Ikūn-pī-Ištar	Ikua		60	6	9
1775	101	Buzutaya	Šuli		61	7	10
1774	102	Innaya	Amuraya	<i>accession of Naram-Sîn</i>	62	8	11
1773	103	Šu-Suen	Pappilum	year 1 (beginning of the list MEC A)	63	1	12
1772	104	Aššur-malik	Ali-aḫum		64	2	13
	105	Aššur-imittī	Ilī-bāni		65	3	
1771	106	Enna-Suen	Šu-Aššur <i>the priest</i>		66	4	14
1770	107	Akutum	Ali-aḫum		67	5	15
1769	108	Mašī-Ilī	Erišum		68	6	16
1768	109	Iddin-aḫum	Kudānum		69	7	17
1767	110	Samaya	Šu-Bēlum	(beginning of the list KEL G)	70	8	18
1766	111	Ilī-ālum	Sukkaliya		71	9	19
1765	112	Ennam-Anum	Aššur-malik		72	10	20
1764	113	Ennum-Aššur	Dunni-Ea		73	11	21
1763	114	Enna-Suen	Šu-Ištar		74	12	22
1762	115	Hanna-Nārum	[-]		75	13	23
1761	116	Dādiya	[-]		76	14	24
1760	117	Kapatiya	[-]		77	15	25
1759	118	Išme-Aššur	Ea-dan		78	16	26
1758	119	Aššur-muttabbil	Azizum		79	17	27
1757	120	Šu-Nirah	Azuzaya		80	18	28
1756	121	Iddin-Abum	[-]		81	19	29
1755	122	Ilī-dan	Azua		82	20	30
1754	123	Aššur-imittī	Iddin-Ištar		83	21	31
1753	124	Bušiya	Abiya		84	22	32
1752	125	Dādiya	Šu-Ilabrat	<i>Birth of Šamšī-Adad I (Samsi-Addu)</i>	85	23	33

1751	126	Puzur-Ištar	Nūr-ilīšu	Darkening of the Sun	86	24	34
1750	127	Isaya	Dagan-malkum		87	25	35
1749	128	Abu-šalim	Ilī-ālum	accession of Sābium	88	26	36
1748	129	Aššur-rē'ī	Ilī-emūqī	(end of the list KEL A)	89	27	1
1747	130	Ṭāb-Aššur	Uzua		90	28	2
1746	131	Šu-Rama	Uzua		91	29	3
1745	132	Suen-išmeanni		(end of the list MEC A)	92	30	4
1744	133	Aššur-malik	Šu-Haniš	(beginning of the list MEC B)	93	31	5
1743	134	Dan-Ea	Abu-waqar		94	32	6
1742	135	Enna-Suen	Iddin-abum		95	33	7
1741	136	Aššur-balaṭi			96	34	8
1740	137	Enna-Suen			97	35	9
1739	138	Iṭūr-Aššur			98	36	10
	139	Šu-Bēlum			99	37	
1738	140	Šarrum-Adad	Buzazu		100	38	11
1737	141	Šu-Laban			101	39	12
1736	142	Aššur-imittī		(death of Ila-kabkabû, king of Ekallatum)	102	40	13
1735	143	Dadaya		accession of Apil-Sîn	103	41	14
1734	144	Dadaya			104	42	1
1733	145	Ah-šalim			105	43	2
1732	146	Ušur-ša-Ištar			106	44	3
1731	147	Kataya			107	45	4
1730	148	Šu-Suen			108	46	5
1729	149	Abu-šalim			109	47	6
1728	150	Šudaya			110	48	7
1727	151	Šu-Dādum			111	49	8
1726	152	Aššur-tugultī			112	50	9
1725	153	Puzur-Ištar			113	51	10
1724	154	Atanah		Šamšî-Adad I conquered Ekallatum	114	52	11
1723	155	Erišum		Ekallatum	115	53	12
1722	156	Aššur-ennam		Ekallatum (accession of Ērišu II)	116	54	13
1721	157	Ibni-Ištar	Sîn-išme'anni	Šamšî-Adad I conquered Aššur (year 1)	117	1	14
1720	158	Aššur-bēl-malkim	Iddin-abum		118	2	15
1719	159	Bēlānum			119	3	16
1718	160	Sukkallum		Ērišu II	120	4	17
1717	161	Amur-Aššur		Ērišu II accession of Sîn-muballit	121	5	18
1716	162	Aššur-nīšu		Ērišu II (end of the list MEC B)	122	6	1
1715	163	Manawwirum		(beginning of the list C L2)	123	7	2
1714	164	Idnaya	Aššur-imittī		124	8	3
1713	165	Dadaya	Šarrum-Adad?	(end of the list C L2)	125	9	4
1712	166	Puzur-Nirah			126	10	5
1711	167	Abiya		(Assyrian reign year 1 of Šamšî-Adad I)	127	1	6
1710	168	Edīnum	Bēlu-rabi		128	2	7
1709	169	Aššur-taklāku			129	3	8
1708	170	Išim-Suen			130	4	9
1707	171	Adad-bāni			131	5	10
1706	172	Abī-šagiš			132	6	11
	173	Ṭāb-šilla-Aššur			133	7	
1705	174	Iddin-Aššur	Abu-šalim?		134	8	12
1704	175	Namiya	Ipid-Adad		135	9	13
1703	176	Ahu-šarri	Ilī-ālum		136	10	14
1702	177	Dadaya			137	11	15
1701	178	Ennam-[Aššur?]		(beginning of the list MEC D)	138	12	16
1700	179	[?]-Aššur		(very uncertain reading)	139	13	17
1699	180	Atānum			140	14	18
1698	181	Aššur-taklāku	-		141	15	19
1697	182	Haya-malik	Dudānum	(end of the list MEC D) Hammurabi	142	16	20
1696	183	Šalim-Aššur	Šalim-Anum	(beginning of the list MEC E)	143	17	1
1695	184	Šalim-Aššur	Ušranum		144	18	2
1694	185	Ennam-Aššur			145	19	3
1693	186	Suen-muballiṭ	Aššur-iddinam		146	20	4
1692	187	Rēš-Šamaš	Anum-piša?		147	21	5
1691	188	Ibni-Adad	Aššur-tukulī		148	22	6
1690	189	Aššur-imittī			149	23	7

1689	190	Ilī-ellatī	Aššur-nišu		150	24	8
1688	191	Rigmānum			151	25	9
1687	192	Ikūn-pīya	Šalim-Aššur	(Yasmah-Addu becomes viceroy of Mari)	152	26	10
1686	193	Ašqūdum			153	27	11
1685	194	Aššur-malik		(conquest of Qabrā)	154	28	12
1684	195	Aḥiyaya	Lā-qēpum	(end of the list MEC E)	155	29	13
1683	196	Awīliya			156	30	14
1682	197	Nimar-Suen	Aššur-nišu		157	31	15
1681	198	Adad-bāni	Puzur-ilī		158	32	16
1680	199	Ṭab-šilli-Aššur		death of Šamšī-Adad I	159	33	17
1679	200	Ennam-Aššur	Aššur-taklāku?	(year 1 of Išme-Dagan I king n°40)	1	1	18
1678	201	Aššur-emūqī			2	2	19
1677	202	Abu-šalim			3	3	20
1676	203	Puṣṣānum	Adad-rabi		4	4	21
1675	204	Ikūn-pī-Ištar	Abu-šalim		5	5	22
1674	205	Ahiyaya	Takiki		6	6	23
1673	206	Bēliya	Enna-Suen		7	7	24
	207	Ilī-bāni			8	8	
1672	208	Aššur-taklāku			9	9	25
1671	208	Sassāpum	Aššur-malik		10	10	26
1670	209	Ahu-waḡar		(accession of Aššur-dugul king n°41)	11	11	27
1669	210	Kizurum			12	1	28
1668	211	Dādiya	Iddin-Suen?		13	2	29
1667	212	Yam-aha?			14	3	30
1666	213	Adad-bāni			15	4	31
1665	214	Ennam-Aššur	Aššur-taklāku		16	5	32
1664	215	Attaya	Šamaya	(accession of 6 consecutive Assyrian kings)	6	33	
1663	216	Ayā		(year 1 of Bēlu-bāni king n°48)	18	1	34

This list of eponyms (N°1 to N°216) used for reconstituting Assyrian reigns (n°33 to n°40) contains the following difficulties:

- The Assyrian king list compiled under Šamšī-Adad I states that the eponyms from Sulili (=Zariqum?) to Il-šumma, Kings n°27 to n°32, were lost, suggesting a beginning of Assyrian eponyms only from Sulili (1954-1940) and a compilation from Erišu I (1873-1835).
- After the accession of King Ikunum, some lists give Šuli as eponym before Iddin-Suen brother of Šuli (eponym N°41 in KEL A). A canonical eponym replacing a non-canonical eponym (died or removed during the year of his eponymy) is likely, because a comment on Buzu in KEL A states that he was the eponym during the accession of Ikunum. As a result, Šuli must be removed from the list of eponyms.
- The darkening of the sun mentioned during the Puzur-Ištar eponym (N°126), the year just after the birth of Šamšī-Adad I, has been interpreted by some as a solar eclipse (Michel, Rocher: 2000, 111-126), but there was no total solar eclipse visible in Assyria (between Ashur and Nineveh) over the period 1800-1700 BCE²¹. Moreover, the term used *na'duru* "darkened, obscured, eclipsed" means an eclipse in a metaphorical way and is different from the usual *antallū* "eclipse" used in Mari (Pruzsinszky: 2009, 75). In addition, for a real solar eclipse, the name of the month is indicated (Simanu for the 763 BCE eclipse), which is not the case for this darkening²². Consequently, for the Assyrian copyist of that time, the birth of Šamšī-Adad I marked the end, or the "eclipse", of the authentic Assyrian dynasty.
- The alliance with Qatna under the eponymy of Ikun-piya (N°192) coincides with the installation of Yasmah-Addu (1687-1680) as king of Mari, by Šamšī-Adad I (Charpin: 1997, 15-16).

The complete reconstruction of all the Assyrian reigns from Erišu I (king n°33), according to the number of eponyms, and of all the synchronisms with the Babylonian reigns, according to the number of luni-solar years, makes it possible to verify the rigorous accuracy of the Assyrian King List (AKL). The years highlighted in orange indicate a discrepancy between Assyrian lunar years (with an eponymous) and Babylonian lunar-solar years (34 lunar years = 33 solar years).

²¹ There were only two partial eclipses slightly visible on 10 October -1736* (mag 0.92) and that on 8 September -1790* (mag 0.92). The two authors of the article retained the hybrid eclipse of 19 November -1794* (mag. 1.01), but this eclipse was not visible in Assyria and by setting the Assyrian chronology on this eclipse the new reign of Šamšī-Adad I (1758-1725) contradicts that obtained by the Middle Chronology (1809-1776)!

²² As the sentence: "on the 26th day of the month Sivan, in the 7th year [of Simbar-šipak], the day turned to night," did not describe a solar eclipse, because a solar eclipse always coincides with the last day of the lunar month (29 or 30). Consequently, the two comments have been added later in the list of eponyms, because Šamšī-Adad I was initially an Amorite (Samsi-Addu) king of Ekallatum (in 1736 BCE) who became part of the Assyrian dynasty only at the end of his glorious reign.

TABLE 15

BCE	Eponym	son of	(C)	(Y)	BABYLONIAN KING	Year
1681	Adad-bāni	Puzur-ilī	32	158		16
1680	(death of Šamši-Adad I	Ṭab-šilli-Aššur)	33	159	Hammurabi	17
1679	Ennam-Aššur	Aššur-taklāku?	1	1		18
1678	Aššur-emūqī		2	2		19
1677	Abu-šalim		3	3		20
1676	Puṣṣānum	Adad-rabi	4	4		21
1675	Ikūn-pī-Ištar	Abu-šalim	5	5		22
1674	Ahiyaya	Takiki	6	6		23
1673	Bēliya	Enna-Suen	7	7		24
	Bēliya	Enna-Suen	8	8		
1672	Ilī-bāni		9	9		25
1671	Aššur-taklāku		10	10		26
1670	(death of Išme-Dagan I	Sassāpum)	11	11		27
1669	Kizurum		1	12		28
1668	Dādiya	Iddin-Suen?	2	13		29
1271	(death of Adad-nêrârî I)	(king n°76)	32	422	[0] Kadašman-Turgu	11
1270	Shalmaneser (I)	(king n°77)	1	423	[1]	12
1269	Mušabši'ū-Sebettu		2	424	[2]	13
1268	Šerrīya		3	425	[3]	14
1267	Aššur-kâšid		4	426	[4]	15
1266	Aššur-mušabši	Iddin-Mêr	5	427	[5]	16
1265	Aššur-mušabši	Anu-mušallim	6	428	[6]	17
1264	Qibi-Aššur	Šamaš-aḥa-iddina	7	429	[7] Kadašman-Enlil II	18/0
1263	Aššur-nâdin-šumê	Aššur-lê'i	8	430	[8]	1
1262	Abî-ilī	Aššur-šumu-lêšer	9	431	[9]	2
1261	Aššur-âlik-pâni		10	432	[10]	3
1260	Mušallim-Aššur	Aššur'-mušabši	11	433	[11]	4
1259	Ilī-qarrad (?)		12	434	[12]	5
1258	Qibi-Aššur	Šilli-Marduk	13	1	[13]	6
1257	Ina-pî-Aššur-lišlim	Bābu-aḥa-iddina	14	2	[14]	7
1256	Adad-šamši	Adad-šumu-lêšer	15	3	[15]	8
1255	Kidin-Sîn	Adad-têya	16	4	[16] Kudur-Enlil	9/0
1254	Bêr-šumu-lêšir		17	5	[17]	1
	Aššur-dammeq	Abî-ilī	18	6		
1253	Ištar-êriš	Salmanu-qarrād	19	7	[18]	2
1252	Bêr-bêl-lîte		20	8	[19]	3
1251	Lullāyu	Adad-šumu-iddina	21	9	[20]	4
1250	Aššur-da'issunu	Lullāyu	22	10	[21]	5
1249	Riš-Adad	Nabû-[-]?	23	11	[22]	6
1248	Aššur-kettî-îde	Abî-ilī	24	12	[23]	7
1247	Ekaltāyu	Abî-ilī	25	13	[24]	8
1246	Nabû-bêla-ušur		26	14	[25] Šagarakti-šuriaš	9/0
1245	Usât-Marduk		27	15	[26]	1
1244	Ellil-ašared		28	16	[27]	2
1243	Ittabši-dên-Aššur		29	17	[28]	3
1242	Ubru		30	18	[29]/[0]	4
1241	Tukultî-Ninurta (I)	(king n°78)	1	19	[1]	5
1240	Qibi-Aššur	Ibašši-ili	2	20	[2]	6

BCE	ASSYRIAN KING	Eponym	(C)	(Y)	BABYLONIAN KING	Year
682	Sennacherib (n°111)	Nabû-šarru-ušur	23	579	23 Sennacherib	7
681		Nabû-aḥḥē-ēreš	24	580	24	8
680	Esarhaddon (n°112)	Danānu	1	1	1 Esarhaddon	1
679		Issi-Adad-anênu	2	2	2	2
678		Nergal-šarru-ušur	3	3	3	3
677		Abî-rāmu	4	4	4	4
676		Banbâ	5	5	5	5
675		Nabû-aḥḥē-iddin	6	6	6	6
674		Šarru-nûrî	7	7	7	7
673		Atar-ilu	8	8	8	8

672		Nabû-bêlu-ušur	9	9	9		9
671		Kanûnâyu	10	10	10		10
670		Šulmu-bêli-lašme	11	11	11		11
669		Šamash-kâšid-ayâbi	12	12	12		12
668	Aššurbanipal (n°113)	Marlarim	1	13	1	Aššurbanipal	1

This reconstruction of the list of eponyms confirms the reliability of the Assyrian king lists²³ (Assyrian scribes could easily date a past event by virtue of “1 eponym = 1 Assyrian year”). The parallelization of all the synchronisms between the Assyrian and Babylonian reigns makes it possible to fix the unmentioned duration of some reigns. For example:

- *Duration of reigns with a null value.* The duration between the 41st Assyrian king, Aššur-dugul (1670-1664), and the 48th king, Bêlu-bâni (1664-1654), is only indicated by the expression *bâb tuppi-šu* which literally means “part of his tablet”, which is not clear. However, since the total duration of these six kings (1664-1664) was not considered in the sum of the eponyms, this implies that these kings reigned briefly during the 6th and last year of King Aššur-dugul and that this short duration was included in the last year of this king. This way of counting the years of Assyrian reigns is confirmed by the reigns of Ninurta-tukultî-Aššur (n°84) and Mutakkil-Nusku (n°85), because these two kings reigned respectively 2 months and 1 month at the end of the 46th and last year of Aššur-dân I (1179-1133). Therefore, the expression *bâb tuppi-šu* means that the king reigned but that there is no eponym associated with his reign (*bâb tuppi-šu* = 0 eponym).
- *Duration of reigns can be replaced by an average value.* The durations of the Assyrian reigns n°65 and n°66 are not known, but as the reign n°64 of Aššur-šadûni (1443-1443), just before, and the reign n°67 of Enlil-našir II (1424-1418), just after, are known, it is possible to deduce the total duration of 20 years (= 1443 - 1424 + 1) for these two reigns, which allows the duration of these two reigns to be replaced by an average value of 10 years (figures in italics). The absence of values for these two successive reigns (a unique case in the Assyrian King List) could explain an error in an inscription by Tiglath-pileser I (1115-1076) who claims to have rebuilt in his 6th year of reign, in 1109 BCE, the temple of the gods Anu and Adad that had been built by Šamšî-Adad I, 641 years earlier, but the chronological interpretation of this inscription is controversial (Pruzsinszky: 2009, 138-140). The 641 Assyrian years correspond to 641 eponyms between the first eponym of the reign of Šamšî-Adad I (1712-1680), in 1712 BCE, and the 6th eponym of the reign of Tiglath-pileser I (1115-1076), in 1109 BCE, which corresponds to a total of 623 solar years (= 640 x 33/34). According to this count, the reign of Šamšî-Adad I would have begun in 1732 BCE (= 1109 + 623), 20 years earlier than expected. This discrepancy could be explained by an error of the scribe which would have affected the 20 eponyms between kings n°64 and n°67 to each of kings n°65 and n°66, because the exact total of eponyms is 621 (= 641 - 20), not 641. The synchronism between the 3rd king of Ur III, Amar-Sîn (1954-1945), and the 27th Assyrian king, Sulili (= Zariqum), makes it possible to calculate the average value of Assyrian reigns before Erišu I (1873-1835), the 33rd Assyrian king. This average duration for the 6 Assyrian kings between Sulili and Erišu I is approximately 14 years = (1954 - 1873)/6.
- *Duration of reigns which is rounded out.* Several inscriptions that deal with the building activities of the Ištar temple derive from the time of Tukultî-Ninurta I (1242–1206), who stated that the Ištar temple was founded by Ilušuma (c.1886–1873) 720 years before he restored it at the beginning of his reign. This figure cannot be based on an eponymous list for two reasons: 1) the number of eponyms from the reign of Ilušuma has been lost and therefore could not be used; 2) the total duration of the 45 Assyrian kings between Ilušuma and Tukultî-Ninurta I is exactly 720 years which implies an average duration of exactly 16 years (= 720/45). This same 16-year average was used to date the total duration of 576 years (= 36 x 16) of the 36 Kassite reigns (Pruzsinszky: 2009, 145-147). As there are approximately 660 (= 60 x 11) eponyms between Ilušuma and Tukultî-Ninurta I, it is possible that this number has been replaced by 720 (= 60 x 12) for symbolic reasons (Mahieu: 2021b, 70).

The synchronisms between the Assyrian and Babylonian reigns over the period from the dynasty of Ur III to Kadašman-Enlil I can be established precisely because all the durations of the Babylonian reigns are known (Pruzsinszky: 2009, 194-199). The durations of the Babylonian reigns, from Kadašman-Enlil I (1375–1360) to Ninurta-nâdin-šumi (1133–1127), are all known (Joannès: 2001, 164).

²³ From Year 1 of Išme-Dagan I (1679–1670), in 1679 BCE, to year 12 of Shalmaneser I (1271–1242), in 1259 BCE, there are 421 solar years (= 1679 - 1259 + 1) or **153.767 days** (= 421 x 365.24219), there are also 434 eponyms, which correspond to 434 lunar years or **153.794 days** (= 12 x 29.530588 x 434). Between Year 12 of Shalmaneser I, in 1259 BCE, and year 1 of Esarhaddon (681–669), in 680 BCE, there are 578 solar years (= 1259 - 681) or **211.110 days** (= 578 x 365.24219), there are also 580 eponyms, which correspond to 71 lunar years, until year 1 of Ninurta-apil-Ekur (1192–1179), in 1191 BCE, then 509 solar years (= 580 - 71) to year 1 of Esarhaddon, or a total of **211.068 days** (= 71 x 12 x 29.530588 days + 509 x 365.24219 days).

CHRONOLOGY OF KASSITE, SEALAND I AND HITTITE REIGNS OVER THE PERIOD 1750–1350 BCE

Among the 36 Kassite kings (Grayson: 2000, 156-170), only the duration of 13 reigns, from n°5 to n°17, is missing (Brinkman: 1976, 128). According to the Babylonian King List A (BKL A), the 36 Kassite kings reigned for 576 years, but this is an approximate figure based on an average length of reign of 16 years (in italics), since $576 = 36 \times 16$. However, this value is plausible because the average duration of the 18 kings, who have a known duration of more than 1 year, is 16.4 years ($= 295/18$)²⁴. If we compare the length of overlap of the last five kings of the Sealand I dynasty with the Kassite dynasty, we see that the average throne tenure for Kassite kings nos. 4–18, who covered 250 years, is 16.5 years (Pruzinszky: 2009, 146).

The order of succession of the Kassite kings is not completely certain between no. 4 and no. 17 (Pruzinszky: 2009, 42,99-101), but synchronisms (highlighted in grey) between Assyrian and Kassite kings, as well as between Kassite and Babylonian kings, make it possible to fix the chronological placement of subsequent Kassite kings. A study of all the available tablets (in 2020) from the Kassite period has confirmed the order of succession, as well as the dates of the reigns, from Kara-indaš (no. 16) to Enlil-nâdin-aḫi (Clayden: 2020, 85-96). If we compare the chronological arrangements of the 36 Kassite kings (with an average duration of 16 years for kings nos. 5 to 17), from Brigitte Lion (Joannès: 2001, 164-165) to Bieke Mahieu (2021: 93-132), we see that several kings have been placed differently (in red):

TABLE 16

n°	LION (2001)	PRUZINSZKY (2009)	CHEN (2020)	MAHIEU (2021)	reign	#
1	Gandaš	Gandaš	Gandaš	Gandaš	<i>1661-1635</i>	26
2	Agum I	Agum I	Agum I	Agum I	<i>1635-1613</i>	22
3	Kaštīliašu I	Kaštīliašu I	Kaštīliašu I	Kaštīliašu I	<i>1613-1591</i>	22
4	Ušši*	Ušše*	Abi-Rattaš	Kaštīliašu II	<i>1591-1583</i>	8
5	Abi-Rattaš ?	Abi-Rattaš ?	Kaštīliašu II	Abi-Rattaš	<i>1583-1567</i>	<i>16</i>
6	Kaštīliašu II ?	Kaštīliašu II ?	Urzigurumaš	Urzigurumaš	<i>1567-1551</i>	<i>16</i>
7	Urzigurumaš	Urzigurumaš	Ḫarba-Šipak*	Ḫurbaḫ	<i>1551-1535</i>	<i>16</i>
8	Ḫarba-x*	Ḫarba-x*	Tiptakzi*	Šipta-ulzi	<i>1535-1519</i>	<i>16</i>
9	Tiptakzi*	Tiptakzi*	Agum II	Agum II	<i>1519-1503</i>	<i>16</i>
10	Agum II	Agum II	Burna-Buriaš I	Burna-Buriaš I	<i>1503-1487</i>	<i>16</i>
11	Burna-Buriaš I	Burna-Buriaš I	[...] ?	Ur[...]iaš	<i>1487-1471</i>	<i>16</i>
12	Kaštīliašu III ?	Kaštīliašu III ?	Kaštīliašu III	Kaštīliašu III	<i>1471-1455</i>	<i>16</i>
13	Ulam-Buriaš ?	Ulam-Buriaš ?	Ulam-Buriaš	Ulam-Buriaš	<i>1455-1439</i>	<i>16</i>
14	Agum III	Agum III	Agum III	Agum III	<i>1439-1423</i>	<i>16</i>
15	Kadašman-Harbe I	Kara-indaš	Kara-indaš	Kadašman-Saḫ	<i>1423-1407</i>	<i>16</i>
16	Kara-indaš	Kadašman-Harbe I	Kadašman-Harbe I	Kara-indaš	<i>1407-1391</i>	<i>16</i>
17	Kurigalzu I	Kurigalzu I	Kurigalzu I	Kadašman-Harbe I	<i>1391-1375</i>	<i>16</i>
18	Kadašman-Enlil I	Kadašman-Enlil I	Kadašman-Enlil I	Nazi-Bugaš	<i>1375-1360</i>	15
19	Burna-Buriaš II	Burna-Buriaš II	Burna-Buriaš II	Kurigalzu I	<i>1360-1333</i>	27
20	Kara-ḫardaš	Kara-ḫardaš	Kara-ḫardaš	Kadašman-Enlil I	<i>1333-1333</i>	0
21	Nazi-Bugaš	Nazi-Bugaš	Nazi-Bugaš	Burna-Buriaš II	<i>1333-1333</i>	0
22	Kurigalzu II	Kurigalzu II	Kurigalzu II	Kurigalzu II	<i>1333-1308</i>	25
23	Nazi-Maruttaš	Nazi-Maruttaš	Nazi-Maruttaš	Nazi-Maruttaš	<i>1308-1282</i>	26
24	Kadašman-Turgu	Kadašman-Turgu	Kadašman-Turgu	Kadašman-Turgu	<i>1282-1264</i>	18
25	Kadašman-Enlil II	Kadašman-Enlil II	Kadašman-Enlil II	Kadašman-Enlil II	<i>1264-1255</i>	9
26	Kudur-Enlil	Kudur-Enlil	Kudur-Enlil	Kudur-Enlil	<i>1255-1246</i>	9
27	Šagarakti-šuriaš	Šagarakti-šuriaš	Šagarakti-šuriaš	Šagarakti-šuriaš	<i>1246-1233</i>	13
28	Kaštīliašu IV	Kaštīliašu IV	Kaštīliašu IV	Kaštīliašu IV	<i>1233-1225</i>	8
29	Enlil-nâdin-šumi	Enlil-nâdin-šumi	Enlil-nâdin-šumi	Enlil-nâdin-šumi	<i>1225-1224</i>	1
30	Kadašman-Harbe II	Kadašman-Harbe II	Kadašman-Harbe II	Kadašman-Harbe II	<i>1224-1223</i>	1
31	Adad-šuma-iddina	Adad-šuma-iddina	Adad-šuma-iddina	Adad-šuma-iddina	<i>1223-1217</i>	6
32	Adad-šuma-ušur	Adad-šuma-ušur	Adad-šuma-ušur	Adad-šuma-ušur	<i>1217-1187</i>	30
33	Meli-Šipak	Meli-Šipak	Meli-Šipak	Meli-Šipak	<i>1187-1172</i>	15
34	Marduk-apla-iddina	Marduk-apla-iddina	Marduk-apla-iddina	Marduk-apla-iddina	<i>1172-1159</i>	13
35	Zababa-šuma-iddina	Zababa-šuma-iddina	Zababa-šuma-iddina	Zababa-šuma-iddina	<i>1159-1158</i>	1
36	Enlil-nâdin-aḫi	Enlil-nâdin-aḫi	Enlil-nâdin-aḫi	Enlil-nâdin-aḫi	<i>1158-1155</i>	3

These disagreements stem from the following reasons: there is only one king list, the Synchronistic King List from Ashur (ScKL), many of whose damaged names are almost illegible, King Ušši* (no. 4 in BKL A) does not appear in the ScKL, and King Kaštīliašu II (no. 5 in ScKL) does not appear in the BKL A. The badly damaged names of kings Ḫarba-Šipak* (no. 7) and Tiptakzi* (no. 8) are currently read Ḫurbaḫ and Šipta-ulzi (Chen: 2020, 1-29,47-49). A second study (Mahieu: 2021, 98) corrected the spelling of these

²⁴ $295 = 26$ (no. 1) + $22 + 22 + 8 + 15 + 27 + 25 + 26 + 18 + 9 + 9 + 13 + 8 + 6 + + 30 + 15 + 13 + 3$ (no. 36).

two names and exchanged kings Abi-Rattaš (no. 4) and Kaštiliašu II (no. 3) because the name [Uš]-ši*, which appears in the BKL A (no. 4), must have been a distortion of [Kaštilia]šu (II) rather than of Abi-Rattaš (Chen: 2020, 48). The comparison of the ScKL with the BKL A, as well as with two king list fragments, the Agum-kakrime Inscription (Beaulieu: 2018, 128) and the King List Tablet (Bartelmus, Sternitzke: 2017, 75), confirms this identification. However, this last fragmentary king's list revealed the existence of the kings Kadašman-Saḥ* and Ur[...]iaš after Agum III.

TABLE 17

n°	King (BKL A)	King (ScKL)	son of	Agum-kakrime Insc.	King List Tablet
1	Gandaš	Ga[ndaš]			
2	Agum I	[Agum I]	Gandaš (no. 1)	Agum I	
3	Kaštiliašu I	Kaštiliašu I	Agum I (no. 2)	Kaštiliašu (I)	
4	[Uš]-ši*			*	
5	Abi-Rattaš	Abi-Rattaš Kaštiliašu II	Kaštiliašu (II?)	Abi-Rattaš	
6	Urzigurumaš	Urzigurumaš		Urzigurumaš	
7	[o o o]	Ḥarba-[Šipak?]			
8	[o o o]	Tip[takzi?]			
9	[o o o]	[Agum]	Urzigurumaš (no. 6)	Agum(II)-kakrime	Agum (II)
10	[o o o]	Burna-[Buriaš I]			Burna-Buriaš I
11	[o o o]	Ur[...]iaš			
12	[o o o]	[Kaštiliašu III]	Burna-Buriaš I (no. 10)		Kaštiliašu (III)
13	[o o o]	[Ulam-Buriaš]	Burna-Buriaš I (no. 10)		*
14	[o o o]	[Agum III]	Kaštiliašu III (no. 12)		Agum (III)
15	[o o o]	[Kadašman-Harbe I]			Kadašman-Saḥ*
					Ur[...]iaš
16	Kara-indaš	[Kara-indaš]			
17	Kurigalzu I	Kurigalzu I	Kadašman-Harbe I		
18	Kadašman-Enlil I	Kadašman-Enlil I			
19	Burna-Buriaš II	Burna-Buriaš II	Kadašman-Enlil I		
36	Enlil-nâdin-aḥi	Enlil-nâdin-aḥi			

It seems likely that the Babylonian scribe who wrote the ScKL moved king Kaštiliašu II (Ušši in the BKL A) after Abi-Rattaš (no. 5), Kaštiliašu's son, because he assumed that he was Kaštiliašu I. Similarly, the Agum-kakrime inscription assimilates the two kings Kaštiliašu (I and II) into one. A second study (Mahieu: 2021, 121-123) confirmed the order of Kaštiliašu I (no. 3), Kaštiliašu II (no. 4), Abi-Rattaš (no. 5) and assumed that the illegible name of the king no. 11 in the ScKL should be read Ur[...]iaš. The name of this king also appears in a fragmentary king list (King List Tablet), but after king Kadašman-Saḥ*, who is completely unknown. By comparing this fragmentary king list with the complete Kassite king list from the ScKL, we can resolve a number of anomalies.

TABLE 18

n°	King List Tablet			n°	KASSITE KING (ScKL)	reign
1	Agum (II)	son of Uršigurumaš		9	Agum II	1519-1503
2	Burna-Burariaš (I)	son of Agum (no. 1)	1499 -	10	Burna-Buriaš I	1503-1487
	resettlement of Babylon			11	Ur[...]iaš	1487-1471
3	Kaštiliašu (III)	son of Burna-Burariaš (no. 2)	-1462	12	Kaštiliašu III	1471-1455
*	Sealand is conquered			13	Ulam-Buriaš	1455-1439
4	Agum (III)	son of Kaštiliašu (no. 3)		14	Agum III	1439-1423
5/6	Kadašman-Saḥ	son of ...		15	Kadašman-Harbe I	1423-1407
6/5	Ur[...]iaš	son of ...		16	Kara-indaš	1407-1391

Mahieu assumed that Kadašman-Saḥ was a new king and inserted him in the place of Kadašman-Harbe (no. 15) by completely upsetting the succession of kings nos. 15 to 21, which is impossible for chronological reasons (Clayden: 2020, 85-96). Some specialists have assumed that Kadašman-Saḥ had reigned in co-regency with Agum III (Beaulieu: 2018, 131-132), but the king lists never mention co-regencies. The most plausible explanation is that the scribe of this fragmentary list wrote Kadašman-Saḥ* instead of Kadašman-Harbe²⁵. Surprisingly, Ulam-Buriaš does not appear in this fragmentary list, but this king, who was the brother of Kaštiliašu III and reigned during the conquest of the Sea-Land, however that same Ulam-Buriaš is known from two authentic inscriptions, one on a macehead and the other on a weight, where his name

²⁵ Ḥarbe was probably the head of the Kassite pantheon, Enlil being his Mesopotamian equivalent (it is interesting to note that the word Ḥarbu means “deserted/abandoned land” in Akkadian). Saḥ was the Kassite sun god, Shamash his Mesopotamian equivalent who was a major god in the Mesopotamian pantheon.

appears as “Ula(m)-Burariaš, son of Burna-Burariaš, the king.” In the macehead inscription, the title “King of the Sea-Land” is appended to his name, which is consistent with the relationship of this king with the Sea-Land in the Chronicle of Early Kings. As a result, it is true that Ulam-Burariaš was king of the Sea-Land and not king of Babylon (Abraham, Gabbay: 2013, 183-195).

The Agum-kakrime Inscription gives a clear idea of the extent of the realm bequeathed to Burna-Burariaš I: Northern Babylonia, with or without the Euphrates valley, in combination with domains east of the Tigris. The Sea-land of Southern Mesopotamia was certainly not included, and we have seen that rulers of that kingdom extended their influence in the direction of Babylon during the final decades of the Old Babylonian Period. It is possible that Babylon started to gain ground upon the Sea-Land already under Burna-Burariaš, because a Kassite kingship of the Sea-Land, in the hands of his son Ulam-Burariaš, seems more likely the result of a father splitting his realm between his two sons than a position created when the occupant's brother (Kaštiliašu III) was king of Babylon. According to the Chronicle of Early Kings, Ulam-Burariaš achieved an important victory over his Sea-Land opponents during the reign of his brother Kaštiliašu III, but this did not bring the showdown between the two powers to a close. According to the same source, Kaštiliašu's successor Agum III also waged war in the south, and the island of Bahrain appears to have fallen in Kassite hands as an outcome of his campaigns (Bartelmus, Sternitzke: 2017, 75-76).

The position of King Ur[...]iaš is illogical, as he is placed at the end of the fragmentary list of kings whereas he is in 11th position in the ScKL during the resettlement of Babylon. The existence of this king is paradoxical because, although he lived at a pivotal moment in the takeover of Babylonia by the Kassite dynasty, no inscription mentions him. After the fall of the Babylonian dynasty, Babylon remained without a king for 37 years since the contracts are dated up to “year 37 of the resettlement of Babylon (in 1462 BCE)”. During this period the western part of Babylonia became a Kassite protectorate from Agum II onwards, but he did not have the title of “King of Babylon”. For example, a tablet (VAT 1429)²⁶ describes Agum II as *bukašu* “Duke”, who was the first Kassite “king” of Babylon (Freu, Mazoyer: 2007, 114) after Samsuditana's death in 1499 BCE. During this period the eastern part of Babylonia became a protectorate of the Sea-Land dynasty. After the reign of Agum II, his successor, Burna-Burariaš I extended his protectorate over the western part of Babylonia and entrusted his son, Ulam-Burariaš, with the conquest of the eastern part, which was a protectorate of the Sea-Land dynasty. After his victory, Ulam-Burariaš succeeded Ea-gamil, the last king of the Kassite dynasty (Boivin: 2018, 72-85). As the succession of Kassite kings was generally father/son, Ur[...]iaš, who succeeded Burna-Burariaš I, should have been his son, but he does not appear in the genealogy mentioned in an inscription from Kaštiliašu III (Abraham, Gabbay: 2013, 183-195):

I am K[aš]tiliašu (III), Governor of Enlil, son of [B]urna-Burariaš (I), grandson of Agum (II), the humble, who makes Enlil happy. En[lil], my Lord, requested from me to dig the Sumundar waterway. He ... The Land of Yamutbal (upstream from Sippar)²⁷ and its troops he entrusted to me. By order of Enlil, my Lord, I dug the Sumundar waterway with a silver spade. I carried the earth in a silver basket. I established everlasting water for Nippur. This spade and basket I placed in the House of Enlil, my Lord.

According to this inscription, Kaštiliašu III appears as Governor (ŠAGINA³) of Enlil, not as a Kassite king (LUGAL kaššû), having succeeded [B]urna-Burariaš (I), who in turn succeeded Agum II. The name Ur[...]iaš does not appear in this royal genealogy, and the name [B]urna-Burariaš is written Urna-Burariaš (^m[b]ur-na-bu-ra-ri-ia-aš), which suggests that king Ur[...]iaš of the ScKL must be identified with the “king” [B]urna-Burariaš of this inscription. It seems likely that this double spelling of the name [B]urna-Burariaš led scribes to believe that there were two separate kings when in fact there was only one. This also explains the embarrassment of the scribe of the fragmentary king list who relayed Ur[na-Bur]iaš at the end of the list not after Burna-Burariaš. This identification means that the king in 11th position in the ScKL is a duplicate of the one in 10th position and has chronological consequences for the 208-year period (= 1583 - 1375) during which 13 kings would have reigned for an average of 16 years. They must therefore be replaced by 12 kings who reigned for around 17 years (= 208/12). However, as Kaštiliašu III succeeded Burna-Burariaš I, it seems likely that his brother Ulam-Burariaš reigned in parallel over the Sea-Land, which implies dividing the three successive reigns of 17 years into two reigns of 30 and 21 years (3x17 = 30+21). Several synchronisms help to verify the accuracy of the chronology of the Kassite “kings”.

- Alliance between Assyrian king Aššur-bêl-nišešu (1411-1403) and Kassite “king” Kara-indaš.
- Alliance between Assyrian king Puzur-Aššur III (1491-1467) and Kassite “king” Burna-Burariaš I. This alliance was likely concluded at the beginning of the reign of Puzur-Aššur III (c. 1490 BCE).

²⁶ Ilima-Shahan and Ilum-malik, servants of Sullammu and A[-], messengers of the prince of Halab (Aleppo), who are in the House of Agum, have come from the House of Agum to Lower Akkad. They told us as follows: [-]Agum, the duke (*bu-ka-šum*), who is in charge of a battle together with the messengers of the prince of Halab ... to receive his gift, and with the gift that the prince of Halab sent to Babylon, determined to send the messengers ... have had them drawn out ... was arrested, and the messengers of the prince of Halab were not sent (Frankena: 1974, 18-19)

²⁷ The term Kassite Houses was coined to designate an area occupied by Kassite chiefs (Bartelmus, Sternitzke: 2017, 50-54)

- A Babylonian chronicle mentions an assault by Kassite troops led by the first Kassite “king”, Gandaš, in Year 9 of Samsu-iluna (Goetze: 1964, 97), in 1645 BCE according to his reign (1654-1616).

TABLE 19

n°	KASSITE	son of	reign	#	synchronism with	
1	Gandaš		1657-1631	26	Samsu-iluna	1654-1645
2	Agum I	Gandaš (no. 1)	1631-1609	22		
3	Kaštiliašu I	Agum I (no. 2)	1609-1587	22		
4	Kaštiliašu II	(Kaštiliašu I?)	1587-1579	8		
5	Abi-Rattaš	Kaštiliašu II?	1579-1562	17		
6	Urzigurumaš		1562-1545	17		
7	Ḫurbaḫ		1545-1528	17		
8	Šipta-ulzi		1528-1511	17		
9	Agum II		1511-1494	17	Samsuditana	1530-1499
10	Burna-Buriaš I	Urzigurumaš (no. 6 !)	1494 -	30	Puzur-Aššur III	1491 -
11	[B]ur[na-Bur]iaš I		-1464			-1467
12	Kaštiliašu III	Burna-Buriaš I (no. 10)	1464 -	21	<i>End of the resettlement</i>	
13	Ulam-Buriaš	Burna-Buriaš I (no. 10)	-1443		<i>of Babylon</i>	
14	Agum III	Kaštiliašu III (no. 12)	1443-1426	17		
15	Kadašman-Harbe I		1426-1409	17		
16	Kara-indaš		1409-1392	17	Aššur-bêl-nišešu	1411-1403
17	Kurigalzu I	Kadašman-Harbe I (no. 15)	1392-1375	17		
18	Kadašman-Enlil I		1375-1360	15	Erîba-Adad I	1385-1358
19	Burna-Buriaš II	Kadašman-Enlil I ?	1360-1333	27		

As Kara-indaš was a contemporary of the Assyrian king Aššur-bêl-nišešu (1411-1403), he should be placed in 16th position instead of 15th for chronological reasons (Pruzinszky: 2009, 99 n. 448).

TABLE 20

n°	KASSITE	reign	#	BABYLONIAN	reign	#	ASSYRIAN	reign
				Sîn-muballit	1717-1697	20	Šamšî-Adad I (n°39)	1712 -
				Hammurabi	1697-1680	17		-1680
					1680 -	26	Išme-Dagan I	1680-1670
					-1654		Bêlu-bâni	1664-1654
1	Gandaš	1657 -	26	Samsu-iluna	1654-1645	9	Libbaya	1654 -
		-1631			1645 -	29		-1638
2	Agum I	1631 -	22		-1616		Šarma-Adad I	1638-1626
		-1609					Puzur-Sîn	1626-1615
3	Kaštiliašu I	1609-1587	22	Abi-ešuḫ	1616-1588	28	Bazaya	1615-1588
4	Kaštiliašu II	1587-1579	8	Ammiditana	1588 -	37	Lullaya	1588-1582
5	Abi-Rattaš	1579 -	17				Šû-Ninûa	1582-1568
		-1562					Šarma-Adad II	1568-1565
6	Urzigurumaš	1562-1545	17		-1551		Ērišu III	1565-1553
7	Ḫurbaḫ	1545 -	17	Ammišaduqa	1551 -	21	Šamšî-Adad II	1553-1547
		-1528			-1530		Išme-Dagan II	1547-1531
8	Šipta-ulzi	1528-1511	17	Samsuditana	1530 -	31	Šamšî-Adad III	1531-1516
9	Agum II	1511-1494	17		-1499		Aššur-nêrârî I	1516-1491
10	Burna-Buriaš I	1494 -	30	<i>resettlement of</i>	1499 -	36	Puzur-Aššur III	1491 -
11	[B]urna-Buriaš	-1464		<i>Babylon</i>	-1464		(n°61)	-1467
12	Kaštiliašu III	1464 -	21	Years 36-41	1464-1459		Enlil-nâšir I	1467-1455
13	Ulam-Buriaš						Nûr-ili	1455-1443
		-1443					Aššur-šadûni	1443-1443
14	Agum III	1443 -	17				Aššur-rabi I	1443-1433
		-1426					Aššur-nâdin-aḫḫe I	1433-1424
15	Kadašman-Harbe I	1426 -	17				Enlil-našir II	1424-1418
		-1409					Aššur-nêrârî II	1418-1411
16	Kara-indaš	1409 -	17				Aššur-bêl-nišešu	1411-1403
		-1392					Aššur-rê'im-nišešu	1403-1395
17	Kurigalzu I	1392 -	17				Aššur-nâdin-aḫḫe II	1395-1385
		-1375					Erîba-Adad I (n°72)	1385 -
18	Kadašman-Enlil I	1375-1360	15					-1358
19	Burna-Buriaš II	1360-1333	27				Aššur-uballit I (n°73)	1358 -
20	Kara-ḫardaš	1333-1333	0					
21	Nazi-Bugaš	1333-1333	0					-1323
22	Kurigalzu II	1333-1308	25				Enlil-nêrârî (n°74)	1323-1313

The synchronism between Year 9 of Samsu-iluna (1654–1616) in 1645 BCE and Gandaš's reign (1657-1631) is verified. The Kassite chronology is also verified by synchronisms with the Sealand chronology, which is itself anchored on several synchronisms with the Babylonian chronology (Grayson: 2000, 156). Bieke Mahieu solved all the difficulties of the chronology of the kings of the Sealand by assuming that this dynasty which lasted 368 years was divided into two parallel dynasties of 184 years (= 368/2). The regnal years presented in Table 21 are those commonly proposed for the Sealand I, except for Damiq-ilišu II, who is given '39' instead of 16, 26, 36, or 46 years²⁸, in order to make the total duration of this dynasty 184 years (1648-1464). That Babylon I ends 35 years before the Sealand I does, is suggested by the era of the resettlement of Babylon. This era likely begins at the conquest of Babylon and is attested from year 36 until year 41. The first attestation, in year 36, points to a time span of 35 years (from year 1 until year 36), i.e. a period which lasts as long as the 28+7 and 26+9 years of the late Sealand I. If these periods correspond, then the era was applied for the first time at the end of the Sealand I (when the 28+7 = 26+9 years end), and Babylon was conquered 35 years earlier (when the era begins in 1499 BCE = Year 1), i.e. at the end of the reigns of Gulkišar and Pešgaldarameš. In the Gulkišar epic, Gulkišar is said to have campaigned against Samsuditana (1530-1499), the last king of Babylon I. This campaign might have brought both Gulkišar's and Samsuditana's reigns to an end: in the present reconstruction, Babylon I ends at the same time as Gulkišar's reign (Zomer: 2021, 324-332). In addition, two more synchronisms exist between the Sealand I dynasty and Babylon I dynasty: Ili-ma-ilu is contemporary with Samsuiluna (1654-1616) and Abi-ešuh (1616-1588); in his regnal year 37 (1551 BCE), Ammiditana "destroyed the wall of Udinim which (the people/troops of) Damiq-ilišu (II) had built" (Mahieu: 2022, 131-135). Finally, Ea-gamil fled to Elam ahead of an invading horde led by Kassite chief Ulam-Buriaš, brother of Kaštiliašu III, who conquered the Sealand, incorporated it into Karduniaš (Babylonia) and "made himself master of the land". Agum III, successor to Ulam-Buriaš, is also described as attacking Sealand and destroying a temple in "Dūr-Enlil" (Grayson: 2000, 156):

Ea-gamil, king of the Sealand, fled to Elam. After he had gone, Ulam-Buriaš, brother of Kaštiliašu (III), mustered his army and marched to the Sealand. He was the master of the land.

As the resettlement of Babylon ended in its year 36 (1464 BCE), which corresponds to the beginning of the reign of Ulam-Buriaš (1464-1443), it seems logical to attribute to him the end of the short reign of Ea-gamil (1473-1464). As a result, Kaštiliašu III (1464-1443) officially became King of Karduniaš (Babylon) after the end of the resettlement of Babylon. However, several Babylonian contracts continued to be dated after the end of the reinstatement of Babylon, in the year 36, until the year 41. The sequence of events between Agum II and Agum III is poorly documented (Sauvage: 2020, 87-99):

TABLE 21

BABYLONIAN	reign	#	ISIN I	reign	#			
Sābium	1749 -	14	Zambīya	1742-1739	3			
	-1735		Itēr-pīša	1739-1735	4			
			Urdukuša	1735-1731	4			
Apil-Sîn	1735-1717	18	Sîn-māgir	1731-1720	11			
Sîn-muballit	1717-1697	20	Damiq-ilišu I	1720-1697	23			
Hammurabi	1697-1654	43						
Samsu-iluna	1654 -	38	SEALAND I	reign	#	SEALAND IBIS	reign	#
	-1616		Ilu-ma-ilu	1648 -	60	Itti-ili-nibi	1648 -	55
				-1588			-1593	
Abi-ešuh	1616-1588	28	Damiq-ilišu II	1588 -	'39'	Iškibal	1593-1578	15
Ammiditana	1588 -	37		-1549		Šušši	1578-1554	24
	-1551					Gulkišar	1554 -	55
Ammišaduša	1551-1530	21	Pešgaldarameš	1549 -	50			
Samsuditana	1530-1499	31		-1499			-1499	
<i>Resettling of Babylon</i>	1499 -		Ayadaragalama	1499-1471	28	Akurduana	1499-1473	26
Year 36	-1464		Melamkura	1471-1464	7	Ea-gamil	1473-1464	9
Years 36-41	1464-1459					Ulam-Buriaš	1464-1443	21
(Agum III)	1443-1426	17						

The synchronisms of the reigns with the Babylonian kings, as well as the number of years of reign (#) that are known (Boivin: 2018, 74-75, 241-250), make it possible to specify the duration of the Kassite reigns (figures in brackets). The chronology of the Isin I dynasty is based on the lengths of the reigns (#) combined with the synchronisms²⁹ with the Larsa dynasty (Pruzsinszky: 2009, 194–198).

²⁸ Both the decade and the digit of Dam(i)q-ilišu's years in BKL.A i.6 are unclear. If one opts for the (generally preferred) decade of 30 and if one adds a row of three wedges to the digit of 6, one obtains 39. If Dam(i)q-ilišu reigns 39 years, he reigns as many years as his two contemporaries, Iškibal (15) and Šušši (24), together do (15+24 = 39 years).

²⁹ Only 18 year-names are attested for Išme-Dagān and only three year-names are known for Itēr-pīša from the Ur-Isin King List. However the following synchronisms, between the Isin I Dynasty and the Larsa Dynasty, confirm the number of years of reign: Išbi-Erra Y. 1 = Naplānum Y. 9; Lipit-Eštar Y. 11 = Gungunum Y. 9 = Ur-Ninurta Y. 0; Zambīya Y. 1 = Sîn-iqīšam Y. 5.

TABLE 22

	(GUTIUM)	reign	#	BABYLONIAN	reign	#			
	(vassal of ELAM)	2024	-	Ur-Namma	2020-2002	18			
				Šulgi	2002-1954	48			
				Amar-Sîn	1954-1945	9			
				Šū-Sîn	1945-1936	9			
				Ibbi-Sîn	1936	-	24	ISIN I	reign
		-1912			-1912			Išbi-Erra	1923-1890
								Šū-ilīšu	1890-1880
								Iddin-Dagān	1880-1859
								Išme-Dagān	1859-1840
								Lipit-Eštar	1840-1829
								Ur-Ninurta	1829-1801
				Sumu-abum	1799-1785	14	Būr-Sîn	1801-1779	22
				Sumu-la-II	1785	-	Lipit-Enlil	1779-1774	5
							Erra-imittī	1774-1766	8
						-1749	Enlil-Bāni	1766-1742	24
				Sābium	1749	-	Zambīya	1742-1739	3
							Itēr-pīša	1739-1735	4
						-1735	Urduka	1735-1731	4
				Apil-Sîn	1735-1717	18	Sîn-māgir	1731-1720	11
				Sîn-muballit	1717-1697	20	Damiq-ilīšu I	1720-1697	23
	KASSITE	reign	#	Hammurabi	1697	-			
1	Gandaš	1657	-		-1654	43	SEALAND I	reign	#
		-1631	26	Samsu-iluna	1654	-	Ilu-ma-ilu	1648	-
2	Agum I	1631-1609	22		-1616	38			60
3	Kaštiliašu I	1609-1587	22	Abi-ešuḫ	1616-1588	28			-1588
4	Kaštiliašu II	1587-1579	8	Ammiditana	1588	-	Damiq-ilīšu II	1588	-
5	Abi-Rattaš	1579-1562	17			37			39
6	Urzigurumaš	1562	-		-1551				-1549
		-1543	17	Ammišaduqa	1551	-	Pešgaldarameš	1549	-
7	Ḫurbaḫ	1543-1528	17		-1530	21			50
8	Šipta-ulzi	1528-1511	17	Samsuditana	1530	-			
9	Agum II	1511-1494	17		-1499	31	SEALAND I BIS	-1499	
10	Burna-Buriaš I	1494	-	resettlement of Babylon	1499	-	Akurduana	1499	-
11	[B]urna-Buriaš	-1464	30	Year 36	-1464			-1473	26
12	Kaštiliašu III	1464	-	Years 36-41	1464-1459		Ea-gamil	1473-1464	9
13	(Ulam-Buriaš)	-1443	21	(KARDUNIAŠ)		-	Ulam-Buriaš	1464	-
14	Agum III	1443-1426	17					-1443	21
15	Kadašman-Harbe I	1426	-				ASSYRIAN	reign	#
		-1409	17				Aššur-nêrârî II (n°68)	1418-1411	7
16	Kara-indaš	1409	-				Aššur-bêl-nišešu	1411-1403	9
		-1392	17				Aššur-rê'im-nišešu	1403-1395	8
17	Kurigalzu I	1392	-				Aššur-nâdin-aḫḫe II	1395-1385	10
		-1375	17				Erîba-Adad I (n°72)	1385	-
18	Kadašman-Enlil I	1375-1360	15					-1358	27
19	Burna-Buriaš II	1360-1333	27				Aššur-uballit I (n°73)	1358	-
20	Kara-ḫardaš	1333-1333	0						36
21	Nazi-Bugaš	1333-1333	0					-1323	
22	Kurigalzu II	1333	-				Enlil-nêrârî	1323-1313	10
		-1308	25				Arik-dên-ili	1313-1302	12
23	Nazi-Maruttaš	1308-1282	26				Adad-nêrârî I	1302-1271	32
24	Kadašman-Turgu	1282-1264	18				Shalmaneser I	1271	-
25	Kadašman-Enlil II	1264-1255	9						30
26	Kudur-Enlil	1255-1246	9					-1242	
27	Šagarakti-šuriaš	1246-1233	13				Tukultî-Ninurta I	1242	-
28	Kaštiliašu IV	1233-1225	8					-1206	37

Most Hittitologists reject this chronology because they consider it to be about a century too short compared to their own and because there would have been “too many” kings of Hana during the period 1600-1500 BCE called « Dark Ages » (Freu, Mazoyer: 2007, 111-117). The traditional chronology of the 29 Hittite kings is divided into three periods: Old Kingdom (nos. 1 to 9); Middle Kingdom (nos. 10 to 20); New Kingdom (nos. 21 to 29), which are preceded by the Hattian kings (pre-Hittites).

It is interesting to note that the ¹⁴C dating (IntCal04) of the strata corresponding to the period of the Old Hittite Kingdom gives a date of 1600-1500 BCE (Gorny: 2006-2007, 18-33) instead of 1670-1530 BCE proposed by Hittitologists (Freu, Mazoyer: 2007, 25).

All specialists agree that the origins of Hittite history are still full of darkness and many uncertainties remain (Margueron, Pfirsich: 2012, 212). For example, Naram-Sîn of Akkad (2163-2126) marched against a coalition of 17 kings including Pamba king of Hatti, and Zipani king of Kanesh, but it is difficult to date the reign of these Hittite kings. The triple synchronism between kings Agum II (Kassite), Kirta (Mitanni) and Thutmose I around 1500 BCE (De Martino: 2004, 40), requires the setting of the reign of those kings over a period covering the reign of Agum II (c.1511-1495). Recent archaeological discoveries have shown that the synchronisms with the Kassite kings fit only with the Ultra-Low chronology (Podany: 2014, 51-73; 2016, 69-98). The oldest Hittian king³⁰, Ḫurmeli, who appears in the Assyrian documents of Mari was, therefore, a contemporary of the oldest list of eponyms MEC A (1775-1745). Several synchronisms with the Babylonian kings and Kassite kings make it possible to fix the Hittite chronology:

- Hittites from the period 2000-1700 BCE are known mainly through letters of Assyrian merchants (written in Paleo-Assyrian). These merchants lived temporarily in towns near the road linking Kanesh to Assyria but traded with the inhabitants in the south of Anatolia (Joannès: 2001, 440-441) where there were major Hittite commercial counters such as those in Mama, Zalpa and Urshum, near Carchemish.
- Anitta's reign was interrupted by an attack in the 23rd year of Samsu-iluna (Veenhof, Eidem: 2008, 143-146), which is dated 1631 BCE. Given that there was a period of about 120 years between the beginning of Ḫurmeli's reign c. 1750 BCE and the end of Anitta's reign c. 1630 BCE, the average duration of the reigns must have been around 20 years (= 120/6).
- The Hurrians were enemies of the Hittite kings Ḫattušili I and Muršili I, and their strength is shown by records of their conquest of much of the Hittite kingdom in the time of Ḫattušili I who seems to have retaliated late in his career, attacking Aleppo (Halab). However, Kuwari, a king of Hana, managed to defeat an attack led by the warriors of Hatti (Ḫatte). Conceivably, the Hittite expedition of Muršili I arose from an alliance between the Hittites and the Kassites, for the Hittites, the motivation was the rich spoils of Babylon, and for the Kassites, the prospect of creating a new ruling dynasty in Babylonia (Bryce: 2005, 99-100). The period after the fall of Babylon, in 1499 BCE, is poorly documented and therefore difficult to reconstruct. The kingdom of Karduniaš of the Kassite kings to the north-east of Babylon will first encompass the remains of the Babylonian kingdom, and then after the resettlement of Babylon, in 1464 BCE, the kingdom of Sealand to the south-east of Babylon, the new kingdom formed being called Karduniaš. During this period the kingdom of Mittani would encompass the kingdom of Hana around the city of Mari (Sauvage: 2020, 90-93).
- The chronological reconstruction of the 17 Hittite kings between Muršili I (no. 4), who destroyed Babylon in 1499 BCE, and Šuppiluliuma I (1353-1322) is uncertain because there is no dated synchronism with other Mesopotamian chronologies. The existence of kings before Labarna (no. 2) is highly controversial, likewise the duration of several Hittite kings, Zidanta I (no. 6), Ḫuzziya II (no. 8) and Taḫurwaili I (no. 12), was brief and is ignored by some authors (Freu, Mazoyer: 2007, 25-26).
- The succession of the kings between Tuḫaliya I (no. 16) and Šuppiluliuma I (no. 21) is controversial (Bryce: 2005, 121-153; Freu, Mazoyer: 2007b, 75-116; Miller: 2020, 191-2), but the transition between Muwatalli I (no. 15) and Tuḫaliya I is dated to c. 1400 BCE (Bryce: 2012, 310) thanks to the similarity

³⁰ The existence of the Hittite homeland is very old, but this Hittite kingdom of Pamba is doubly paradoxical: it only covered a small part of Hatti (a region around the city of Hattusa) and the Hittite language was not used. They spoke Nesite (or Neseli). The two most important city-states of this time in the Land of Hatti were Kaniš (former Nesa) and Mama (Michel: 2001, 105, 117-130). The Hattians were an ancient people who inhabited the land of Hatti (Bryce: 2005, 11-20). Consequently, the use of the word "Proto-Hittite" to refer to Hattians is inaccurate (Freu, Mazoyer: 2007, 15-16). According to later Hittite documents, Sargon of Akkad (2243-2187) had fought with the Luwian king Nurdaggal of Burushanda. The group was documented at least as early as the empire of Sargon of Akkad, until it was gradually absorbed c. 2000-1700 BCE by the Indo-European Hittites, who became identified with the "land of Hatti". The oldest name for central Anatolia, "land of Hatti", was found on Mesopotamian cuneiform tablets from the period of Sargon of Akkad: on those tablets Assyrian-Akkadian traders implored King Sargon for help. This appellation continued to exist for about 1500 years until 630 BCE, as stated in Assyrian chronicles. The Hattians spoke Hattic, a non-Indo-European language of uncertain affiliation. The few texts that have survived are predominantly religious or cultic in character. Hittite, also called Nesite because it was spoken in Nesa/Kanesh, is an Indo-European language, linguistically distinct from the Hattians. The Hittites continued to use the term Land of Hatti for their new kingdom and they always called themselves "people of the land of Hatti (Heth)". The Hattians eventually merged with people who spoke Indo-European languages such as Hittite, Luwian and Palaic and were organized in feudal city-states and small kingdoms or principalities (perhaps up to six). These cities were well organized and ruled as theocratic principalities. Nesite was the official language of the Hittite kingdom and was mainly spoken by its ruling class. Primarily for this reason Nesite (Hittite) continued to be used as the official chancellery language in Hattusa when the Hittite kingdom was established, and as the language of written communications between the royal court and the various peoples of Anatolia, particularly in the west. Those who occupied the throne frequently proclaimed their genealogical links with their earliest known predecessors (as in Genesis 23:2-10). These links helped substantiate their claims to the throne.

of the seals of the Hana kings (Podany: 2014, 56-57) with the Kassite king Kara-indaš (1407-1391). The average length of the reigns of the 5 Hittite kings over the period 1400-1350 BCE was thus 10 years. The similarity of the seals of the Hittite kings with those of the Kassite kings and the kings of Hana, made it possible to lower the reign of Muršili I, conventionally dated from c.1620-1590 BCE to c.1580-1560 BCE (Bilgin: 2018, 13-22), which eliminates the synchronism with the fall of Babylon in 1595 BCE (Middle Chronology). Consequently, the average length of the 8 non-negligible reigns between Ḫantili I, who reigned after 1499 BCE, and Tuḫaliya I (c.1400-1390), was about 12 years (= [1499 - 1403]/8).

The precise synchronisms between the kings Anitta (c.1650-1630) and Samsu-iluna (1654-1616), as well as between the kings Muršili I (c.1520-1499) and Samsuditana (1530-1499), confirm the “Ultra-Low” chronology. The precise synchronisms between the kings of Mari who were under the control of the Assyrian kings from Yahdun-Lîm (1716-1699) also confirm the “Ultra-Low” chronology. After the reign of Išme-Dagan I (1680-1670) the kings of Mari were replaced by the kings of Mari and the land of Hana (whose Mari and Terqa were the main cities), expression abbreviated in kings of Hana. The chronology of these 21 kings of Hana, who had no year of reign, can only be reconstructed from the synchronisms with the Hittite and Kassite kings. The period following the collapse of the Babylonian kingdom, in 1499 BCE, allowed the immediate emergence around 1500 BCE of Mitanni³¹ whose first king was called Kirta (Novák: 2007, 389-401). This period is difficult to reconstruct because the first three kings of Mitanni placed the kings of Hana (nos. 12-14) under the control of the Mitannian kings.

- The first kings of Hana are well identified, and it is known that in Year 28 of his reign (1626 BCE), Samsu-iluna (1654-1616) ended the reign of Yadiḫ-Abu and replaced him with Zimri-Lim II (Charpin: 2022, 365-386). As Kaštiliašu (1613-1591) succeeded Zimri-Lim II (1626-1613), the Hana kings who succeeded Zimri-Lim I (1680-1667) had an average reign length of 13 years (= [1680 - 1613]/5).
- Kaštiliašu (no. 5), a contemporary of Abi-ešuḫ (1616-1588), thus corresponds to the Kassite king of the same name. The six kings of Hana who succeeded him, before the takeover of the Mitanni c. 1500 BCE (Podany: 2014, 51-73; 2016, 69-98), thus reigned for an average of 14.5 years (= [1587 - 1500]/6).

TABLE 23

n° HATTI	reign	#	n° MARI & HANA	reign	#	ASSYRIA	reign	#
1 Ḫurmeli (¹⁴ C)	1750-1730	[20]				(MEC A)	1775-1745	
2 Ḫarpatiwa	1730-1710	[20]				Ērišu II (n°38)	1722-1712	10
3 Inar	1710 -	[20]	1 Yahdun-Lîm	1716-1699	17	Šamši-Adad I	1712 -	33
	-1690		2 Sumu-Yamam	1699-1697	2			
			3 Samsî-Addu	1697-1687	10			
4 Waršama	1690 -	[20]	4 Yasmah-Addu	1687-1680	7		-1680	
	-1670		5 Zimri-Lim I	1680-1667	13	Išme-Dagan I	1680-1670	10
5 Piḫana	1670-1650	[20]	1 Yâpaḫ-Šumu-Abu	1667-1654	13	BABYLONIA	reign	
6 Anitta	1650 -	[20]	2 Iši-Šumu-Abu	1654-1640	14	Samsu-iluna	1654 -	38
	-1630		3 Yadiḫ-Abu	1640-1626	14		-1626	
7 Zûzu	1630-1610	[20]	4 Zimri-Lim II	1626 -	17			
				-1609			-1616	
HITTITE	reign	#						
1 Ḫuzziya I (¹⁴ C)	1610-1590	[20]	5 Kaštiliašu (I)	1609-1587	22	Abi-ešuḫ	1616-1588	28
- Tuḫaliya?	1590-1570	[20]	6 Šunuḫru-Ammu	1587-1573	[14]	Ammiditana	1588 -	37
- PU-Šarruma?	1570-1550	[20]	7 Ammi-madar	1573-1559	[14]		-1551	
2 Labarna	1550 -	[15]	8 Idi-Abu	1559-1545	[14]	Ammišaduqa	1551 -	21
	-1535		9 Zimri-Lim III	1545-1531	[14]		-1530	
3 Ḫattušili I	1535-1520	[15]	10 Kasapan	1531-1517	[14]	Samsuditana	1530 -	31
4 Muršili I	1520 -	[21]	11 Kuari	1517-1503	[14]			
	-1499		12 Hanaya /Ya'usa	1503 -	[14]		-1499	
5 Ḫantili I	1499 -	[12]	MITANNI			KASSITE	reign	
						Agum II (n°9)	1509-1494	17
	-1487					Burna-Buriaš I	1494-1464	30

³¹ The historical narratives of the kings of the Old Hittite Kingdom frequently speak of the Hurrians, but they never mention Mitanni before 1500 BCE. These sources show that Ḫattušili I and Muršili I encountered a whole host of polities during their military campaigns to Syria, the main ones being Uršum, Haššum, Hahhum. These potentates were supported by Aleppo (Ebla) as well as by the Hurrians. The Hurrians that are mentioned as adversaries of the Hittites. The Hurrians are mentioned among the allies of Uršum in the Old Hittite narrative on the siege of Uršum, the Annals of Ḫattušili I report a Hurrian attack that had occurred when the king of Hatti was fighting in western Anatolia. The Hurrians were a threat and were also opposed to the Hittite advance in Syria during the kingdom of Muršili I (who was responsible for the end of Ebla in 1499 BCE). In any case, these Hittite sources never give the impression that the Hittites were facing a unified Hurrian front. Consequently, the birth of the Mitanni state is linked to its military expansion over large parts of Syria which was favoured by the political vacuum that the Hittites created in Syria. The adoption of the title “King of the Hurrian troops” by the sovereigns of Mitanni is a clear indication of the importance of military power in the political structures of this state. The first Mitannian king known to us who bears a name of Indo-Aryan origin is Šuttarna whose name (Saitarna is a variant) is only attested on a seal impression dating to the reign of Sauštatar (De Martino: 2014, 61-74).

The probable succession of the kings of Hana (Podany: 2014, 51-73; 2016, 69-98) under the control of the Mitanni kings (hatched areas) is: Hanaya (no. 12) & Ya'usa, Siniya (no. 13) & Sausadatra (= Šauštatar), and Qiš-Addu (no. 14) & Sausadatra, Qiš-Addu & Sa'itarna (= Šuttarna I), Qiš-Addu & Parattarna (= Parattarna I). Despite these uncertainties it is possible to determine the approximate chronology of the kings of Hana and Mitanni through the following synchronisms:

- The synchronism between the reigns of Kirta and Muršili I is dated stratigraphically around 1500 BCE just before the reign of Thutmose I (Novák: 2007, 389-401).
- There was synchronism 1) between Šauštatar II (no. 6) and Tuḫaliya I (no. 16) dated around 1400 BCE (Bryce: 2012, 310), 2) between Artatama I and Thutmose IV (1392-1383), 3) between Šuttarna II and Amenhotep III's year 10 (1383-1345), in 1373 BCE, and 4) between Tušratta and Šuppiluliuma I (1353-1322). Šattuara II disappeared in 1265 BCE. The name Kirta, unattested, means “famed” (Mladjov: 2019, 33-37) corresponds to king Šauštatar (0). The chronology of Egyptian reigns is based on several absolute dates determined by astronomy (see Table 25).
- The Mitanni was attacked from Year 22 of Adad-nêrârî I (in 1280 BCE) and was definitively defeated in Year 7 of Shalmaneser I, in 1264 BCE, therefore the last king of Hana, Pagiru (no. 21), ended at this date, but around 1258 BCE according to the Middle Chronology (Freu: 2003, 177-219).

The Hittite chronology between the kings Tuḫaliya I (no. 16) and Šuppiluliuma I (no. 21) is very problematic and can only be accurately reconstructed based on synchronisms (highlighted areas) with the kings of Egypt, Assyria and Kassite (Stiebing, Helft: 2023, 282-283). The reign of Tuḫaliya I has been dated to around 1400 BCE, thanks to synchronism with Kara-indaš (1407-1391).

A total solar eclipse (“solar omen”) is mentioned in a text of Muršili II (1322-1295). The text records that in the 10th year of Muršili's reign (in 1312 BCE), “the Sun gave a sign”, just as the king was about to launch a campaign against the Kingdom of Azzi-Hayasa in north-eastern Anatolia. The 1312 BCE eclipse occurred over northern Anatolia in the early afternoon, and its effects would have been quite spectacular for Muršili II and his men on campaign: 24 June 1312 BCE (-1311*)³². The average length of the eight effective reigns (greater than or equal to one year) between Muršili I (1520-1499) and Tuḫaliya I (1403-1393) is 12 years (= [1499 - 1403]/8) and the average length of the five reigns between Tuḫaliya I and Šuppiluliuma I (1353-1322) is 10 years (= [1403 - 1353]/5). Amélie Kuhrt used the Middle Chronology (MC) to establish her chronology of the Hittite kings from no. 16 to no. 23 (Kuhrt: 2020, 230), in which the dating of all the synchronisms is erroneous (highlighted in orange).

TABLE 24

n°	MC (Kuhrt)	#	HITTITE	reign	#	n°	KASSITE	reign	#
4	1620 -	[30]	Muršili I	1520 -	[21]	8	Šipta-ulzi	1528-1511	17
	-1590			-1499		9	Agum II	1511 -	17
5	1590 -	[30]	Ḫantili I	1499 -	[12]			-1494	
	-1560			-1487		10	Burna-Buriaš I	1494 -	30
6	1560-1550	[10]	Zidanta I	1487-1487	<1	11	[B]urna-Buriaš		
7	1550-1530	[20]	Ammuna	1487-1475	[12]				
8	1530-1525	[5]	Ḫuzziya II	1475-1475	<1				
9	1525-1500	[25]	Ṭelipinu	1475-1463	[12]			-1464	
10	1500-1500	<1	Ṭaḫurwaili I	1463-1463	<1	12	Kaštiliašu III	1464 -	21
11	1500-1490	[10]	Alluwamna	1463-1451	[12]	13	(Ulam-Buriaš)		
12	1490-1480	[10]	Ḫantili II	1451-1439	[12]			-1443	
13	1480-1470	[10]	Zidanza (II)	1439-1427	[12]	14	Agum III	1443-1426	17
14	1470-1460	[10]	Ḫuzziya III	1427-1415	[12]	15	Kadašman-Harbe I	1426 -	17
15	1460-1420	[40]	Muwatalli I	1415-1403	[12]			-1409	
16	1400-1390	[10]	Tuḫaliya I	1403-1393	[10]	16	Kara-indaš	1409-1392	17
17	1420-1400	[20]	Ḫattušili II*	1393-1383	[10]	17	Kurigalzu I	1392 -	17
18	1380-1370	[10]	Tuḫaliya II*	1383-1373	[10]			-1375	
19	1390-1380	[10]	Arnuwanda I*	1373-1363	[10]	18	Kadašman-Enlil I	1375-1360	15
20	1370-1370	<1	Tuḫaliya III*	1363-1353	[10]	19	Burna-Buriaš II	1360 -	27
21	1370-1330	[40]	Šuppiluliuma I	1353-1322	31			-1333	
22	1330-1330	<1	Arnuwanda II	1322-1322	<1	22	Kurigalzu II	1333 -	25
23	1330 -	35	Muršili II	1322 -	27			-1308	
	-1295			-1295		23	Nazi-Maruttaš	1308 -	26
24	1295 -	13	Muwatalli II	1295 -	20			-1282	
	-1282			-1275		24	Kadašman-Turgu	1282 -	18
25	1282-1275	7	Urhi-Teshub	1275-1268	7			-1264	
26	1275 -	30	Ḫattušili III	1268 -	27	25	Kadašman-Enlil II	1264-1255	9
	-1245			-1241		26	Kudur-Enlil	1255-1246	9

³² <https://eclipse.gsfc.nasa.gov/SEatlas/SEatlas-2/SEatlas-1319.GIF>

27	1245	-	30	Tuthaliya IV	1241	-	32	27	Šagarakti-šuriaš	1246-1233	13			
	-1215										28	Kaštiliašu IV	1233-1225	8
											29	Enlil-n.din-šumi	1225-1224	1
											30	Kadašman-Harbe II	1224-1223	1
											31	Adad-šuma-iddina	1223-1217	6
											32	Adad-šuma-ušur	1217-1187	30

The succession of Hittite kings after Tuthaliya I (1400 BCE) is controversial; some hittitologists placed the reign of Ḫattušili II (which is attested only once) after that of Arnuwanda I and merged the reigns of Tuthaliya I and Tuthaliya II into a single Tuthaliya I/II (Freu, Mazoyer: 2007b, 18-20). Some Hittitologists have deleted the reign of Ḫattušili II from the list of Hittite kings (Wilhelm: 2004, 76), others place it before Tuthaliya I (Kuhrt: 2020, 230). However, a recent study confirms the existence of a Tuthaliya I (son of Kantuzzili) who reigned before a Tuthaliya II (husband of Nikkal-madi). Tuthaliya III is not, however, unequivocally attested as having reigned at the same time as his parents Arnuwanda and Ašmu-Nikkal. Arnuwanda himself is clearly attested alongside his own father, Tuthaliya I, as co-regent, so Arnuwanda was certainly aware of the institution of co-regency and may therefore have regarded it as an opportune measure for the reign of his own son, Tuthaliya III (Miller: 2020, 191-192). Ḫattušili II is only mentioned in the Talmi-Šarruma treaty (CTH 75) in the succession: Ḫattušili (I), Muršili (I), Tuthaliya (I), Ḫattušili (II) and Šuppiluliuma. The existence of Ḫattušili II (as King not as Great King) is therefore problematic; it is possible that his reign was brief, around 2 years (?), which would be in line with the average length of 12 years of previous reigns (or perhaps he was only co-regent because he did not have the title of Great King).

The many chronological synchronisms in El-Amarna's letters (Moran: 1992, 1-370) between the kings Šuppiluliuma I (1353-1322) and Burna-Buriaš II (1360-1333) with the Egyptian kings, Amenhotep III and Amenhotep IV, can be anchored precisely to three absolute dates (highlighted in dark blue) set by astronomical events during the Egyptian reigns.

- The total solar eclipse of 14 May 1338 BCE upon the city of Akhenaten (named Akhet-aten), cited in allusion on the Amun's priest graffito³³ dated III Akhet 10, Year 3 of Ankhkheperure (Murnane: 1995, 207-208), dated 1st October 1338 BCE, and which was understood as a terrible omen against the king of Egypt, meaning: "Aten is going to die", could explain easily the strange behaviour of the queen to get a king on the throne of Egypt. The deeds of Šuppiluliuma (28 III:11-15) tell that after Akhenaten's death the scared widow of Semenkare (written [Nip]Ḫururiya in cuneiform) asked for a son to Šuppiluliuma to become a "Sun" in Egypt (likely in order to get an heir). However, this unprecedented marriage never took place because the Hittite prince Zannanza (third son of Šuppiluliuma) was assassinated when he came into Egypt. Consequently, Ankhkheperure remained a widow as indicated by a jar inscription dated Year 3 of her reign³⁴. The total solar eclipse was interpreted by Egyptian priests as a curse against Aten. For example, we read in the graffito dated 10/III/3 of Ankhkheperure: *Make worship to Amun, sniff the earth for Unnefer (Osiris) the part of scribes of the divine offerings of Amun*. So, Aten is no longer mentioned and was replaced by Amun³⁵. It may be noted that the queen died shortly after the solar eclipse. The transition from Ankhkheperure to Tutankhamun therefore took place in a dramatic context. Ankhkheperure's reign can be assessed thanks to the 50 shards inscribed in hieratic found in Amarna and dated year 2 as well as 13 shards dated to year 3. As Akhenaten inaugurated the city of Akhetaten (Amarna) in year 5 of his reign, all jars bearing a regnal year lower than 5 belong to his successor Ankhkheperure (Gabolde: 2015, 81,552). Assuming dated inscriptions were produced at a constant rate of about 4 per month (= 50/12), Year 3 lasted about 1 month (= 13/12). This reign's duration, going from October 1340 to November 1338 BCE, is identical to that given by Manetho (2 years 1 month) and ends in the Egyptian month IV in 1338 BCE, which was the accession month of Tutankhamun appearing in the Restoration Stela (CGC 34183).
- Amenhotep IV probably expected the death of Amenhotep III in transferring the whole court to the new city (Akhetaten) and in favouring the promoting of Aten's worship (Tutankhaten, later Tutankhamun, would choose again the ancient Amun's worship). The receipt of foreign tributes at Amarna is dated IV Peret 8 Year 12 of Amenhotep IV (Gabolde: 1998, 281-283). This celebration inaugurated in fact Aten's worship in Amarna. The date was well chosen because it was a few days before the solar beam appearing the IV Peret 13 (3 March 1341 BCE). This temple is directed precisely toward a notch in the

³³ « As you [Amun-Re] made me see the darkness which are yours to give, make it for me light so I can see you ».

³⁴ « Jar 17½ hin (8 liters). Year III, wine for the house of the solitary king of West River. Head of winemakers, Pencha » (Gabolde; 2015, 77-86).

³⁵ The seemingly incomprehensible choice of Ankhkheperure who wanted to choose a husband who was not Egyptian is likely due to her fear of seeing him die if he would have been a son of Aten (the Sun). This incongruous choice had to have been disapproved by the high priest of Amun, who asked General Ay (who later became Pharaoh) to murder Zannanza discreetly, in order to favour a normal succession with Tutankhamun, the third and last son of Amenhotep III.

mountains visible on the horizon (azimuth 103°). The name of the new capital built by Akhenaten, called Akhetaten (*3ht-'itn*) “where the sun disk rises [Aten's horizon]” which was represented by the hieroglyph ☉ exactly imitating the sun appearing in the notch of the mountain in Amarna. The temple in the city was inaugurated on IV Peret 13 in Year 5 of Akhenaten and commemorated in Year 6 on the same date (Murnane: 1987, 239-246). The fact that the temple is oriented exactly in line with the Royal Wadi (Silverman, Wegner, Houser Wegner: 2006, 43-55) suggests that Akhenaten chose to inaugurate the city, the precise day when the sun rose in the notch of the mountain (Gabolde: 2010, 243-256), illuminating the temple as a laser beam. The simulation of sunrise observed at that location in 14th century BCE (Wells: 1987, 313-333) indicates that it appeared to 4:38 UT in the notch of the mountain (which apparent diameter is 0.9°, the one of the sun is 0.5°) only two days in the year: 3/4 March and 5/6 November, as the apparent path of the sun drift of about 0.4° per day at the horizon (0° altitude) to go back and forth between the two extreme positions reached at solstices on 1 January and 5 July (spring equinox was on 2 April at that time). This implies that the equation: IV Peret 13 = 3 March, day of solar illumination in the temple, was satisfied only for 4 years, from 1341 to 1338 BCE. As the commemoration of IV Peret 13 stopped at the 6th year of Akhenaten (there is no 7th year), one can assume that it was the last year of his reign (matching the 17th year from his co-regency). The posthumous stela of Year 8 had completed in the last year of the 4-year cycle, in 1338 BCE.

BCE				King	
1341	1	<i>VI</i>	5	16	Sunrise at azimuth 103° dated 13/VIII/5 (3 March 1341 BCE) Temple's inauguration, stela of year 5 in Akhetaten
	2	<i>VII</i>			
	3	<i>VIII</i>			
	4	<i>IX</i>			
	5	<i>X</i>			
	6	<i>XI</i>			
	7	<i>XII</i>			
	8	<i>I</i>			
	9	<i>II</i>			
	10	<i>III</i>			
	11	<i>IV</i>			
	12	<i>V</i>			
1340	1	<i>VI</i>	6	17	Sunrise at azimuth 103° dated 13/VIII/6 (3 March 1340 BCE) stela of year 6 in Akhetaten
	2	<i>VII</i>			
	3	<i>VIII</i>			
	4	<i>IX</i>			
	5	<i>X</i>			
	6	<i>XI</i>			
	7	<i>XII</i>			
	8	<i>I</i>			
	9	<i>II</i>			
	10	<i>III</i>			
	11	<i>IV</i>			
	12	<i>V</i>			
1339	1	<i>VI</i>	[7]	1	Semenkhkare (reigned 1 year 4 months) Wine jar date Year 1, <i>Master of flooding (The city of Akhenaten III, no 279)</i>
	2	<i>VII</i>			
	3	<i>VIII</i>			
	4	<i>IX</i>			
	5	<i>X</i>			
	6	<i>XI</i>			
	7	<i>XII</i>			
	8	<i>I</i>			
	9	<i>II</i>			
	10	<i>III</i>			
	11	<i>IV</i>			
	12	<i>V</i>			
1338	1	<i>VI</i>	8	***	Total solar eclipse upon Akhetaten on 14 May 1338 BCE
	2	<i>VII</i>			
	3	<i>VIII</i>			
	4	<i>IX</i>			
	5	<i>X</i>			
	6	<i>XI</i>			
	7	<i>XII</i>			
	8	<i>I</i>			
	9	<i>II</i>			
	10	<i>III</i>			
	11	<i>IV</i>			
	12	<i>V</i>			
1338	1	<i>VI</i>	8	3	Graffito dated 10/III/3 of Ankhkeperure mentioning a solar eclipse
	2	<i>VII</i>			
	3	<i>VIII</i>			
	4	<i>IX</i>			
	5	<i>X</i>			
	6	<i>XI</i>			
	7	<i>XII</i>			
	8	<i>I</i>			
	9	<i>II</i>			
	10	<i>III</i>			
	11	<i>IV</i>			
	12	<i>V</i>			
1338	1	<i>VI</i>	8	1	Tutankhaten accession in Akhetaten (Amarna) on 19/IV/1 Wine jar dated Year 1, <i>Master of vintage (The city of Akhenaten III, no 35,55-57)</i>
	2	<i>VII</i>			
	3	<i>VIII</i>			
	4	<i>IX</i>			
	5	<i>X</i>			
	6	<i>XI</i>			
	7	<i>XII</i>			
	8	<i>I</i>			
	9	<i>II</i>			
	10	<i>III</i>			
	11	<i>IV</i>			
	12	<i>V</i>			

³⁶ Akhenaten's death in October is confirmed by a label on a jar dated year 17 (partially erased and changed to 1) referring to honey and honey harvesting in Egypt, in the valley, which was carried out in September (Nicholson, Shaw: 2000, 410-411).

1337	1	<i>VI</i>	Letter EA 9 from Burna-Buriaš II to Tutankhaten (Nibḥurrereya) congratulating him on becoming king	
	2	<i>VII</i>		
	3	<i>VIII</i>		
	4	<i>IX</i>		
	5	<i>X</i>		
	6	<i>XI</i>		
	7	<i>XII</i>		
	8	<i>I</i>		
	9	<i>II</i>		Akhetaten, the city of Akhenaten, is abandoned
	10	<i>III</i>		
	11	<i>IV</i>		1 Tutankhamun accession in Memphis on 19/IV/1
	12	<i>V</i>		Restoration Stela (CGC 34183)
1336	1	<i>VI</i>	Wine jar dated Year 1, month I, domain of Sehetepaten, Khay [<i>who was Officer of the Southern Foreign Lands, Troop Commander of Tutankhamun</i>] (<i>The city of Akhenaten II, no 111</i>)	
	2	<i>VII</i>		
	3	<i>VIII</i>		
	4	<i>IX</i>		
	5	<i>X</i>		
	6	<i>XI</i>		
	7	<i>XII</i>		
	8	<i>I</i>		
	9	<i>II</i>		
	10	<i>III</i>		
	11	<i>IV</i>		2
	12	<i>V</i>		

TABLE 25

BCE	EGYPT		MITANNI		KASSITE		HATTI
1358	Amenhotep III		Šutarna II	14	Burna-Buriaš II	2	Tuthaliya III
1357	27	<i>P. Berlin 9784</i>		15		3	
1356	28	Amenhotep IV	Artašumara	1		4	
1355	29	2		2		5	
1354	30	3	Tušratta	3		6	
1353	31	4	[1]			7	Šuppiluliuma I
1352	32 (EA 254)	5	[2]			8	1st attack
1351	33	[6]	EA 17, EA 18	1		9	2
1350	34	[7]	EA 19, EA 20	2		10	3
1349	35	8	EA 21, EA 22	3		11	4
1348	36 (EA 75)	9	EA 23, EA 24	4		12	'1-year War'
1347	37 (EA 106)	[10]	EA 25	5		13	6/1
1346	38	[11]	EA 26			14	2
1345	Akhenaten	12 (EA 116)	EA 27	1		15	3
1344	[2]	[13]		2		16	4
1343	[3]	14	EA 28	3		17	5
1342	[4]	[15]		4		18	6
1341	5	16	EA 29			19	7
1340	6	17	[14]		EA 10, EA 11	20	8
1339	[-]	Semenkhkare	[15]			21	9 (EA 41)
1338	*g*	2	(EA 43)	1		22	10
1337		-Ankhkheperure	Artatama II	2		23	11
1336	<i>Akhetaten</i>	Tutankhamun	Šutarna III	1	EA 9	24	12
1335	<i>abandoned</i>	2		2		25	13
1334		3		3		26	14
1333		4		4		27	15
1332		5		5	Kurigalzu II	1	16
1331		6		6		2	17
1330		7		7		3	18
1329		8		8		4	19
1328		9		9		5	20
1327		10		10		6	'6-year War'
1326		Ay		11		7	2
1325		2		12		8	3
1324		3	Šattiwaza	1		9	4
1323		4		2		10	5
1322		Horemheb		3		11	Arnuwanda II
1321		2		4		12	Muršili II
1320		3		5		13	2
1319		4		6		14	3

As a result, only chronologies based on absolute dates (highlighted in dark blue) exactly satisfy the five synchronisms during the reign of Šuppiluliuma I (highlighted in light blue).

TABLE 26

EGYPT	reign	#	n°	HATTI	reign	#	n°	KASSITE	reign	#
Amenhotep II	1418 -	26	15	Muwatalli I	1415-1403 [12]	15	15	Kadašman-Harbe I	1426-1409	17
	-1392		16	Tuḫaliya I	1403-1391 [12]	16	16	Kara-indaš	1409-1392	17
Thutmose IV	1392-1383	9	17	[Hattušili II*?]	1391-1389 [2]	17	17	Kurigalzu I	1392 -	17
Amenhotep III	1383 -	38	18	Tuḫaliya II	1389-1377 [12]				-1375	
			19	Arnuwanda I	1377-1365 [12]	18	18	Kadašman-Enlil I	1375 -	15
			20	Tuḫaliya III	1365-1353 [12]				-1360	
	-1345		21	Šuppiluliuma I	1353 -	31	19	Burna-Buriaš II	1360 -	27
Amenhotep IV	1356-1340	17								
Semenkhkare	1340-1338	2								
Tutankhaten	1338-1337	1								
Tutankhamun	1337-1327	10							-1333	
Aÿ	1327-1323	4			-1322		22	Kurigalzu II	1333 -	25
Horemheb	1323 -	27	22	Arnuwanda II	1322-1322 <1				-1308	
	-1295		23	Muršili II	1322 -	27				
					-1295		23	Nazi-Maruttaš	1308-1282	26

Placing the chronologies of Hatti, Hana and Mitanni in parallel, with their synchronisms (highlighted in grey), makes it possible to reconstruct approximate reign lengths (number in brackets) whose average values are 23 years for the last 10 kings of Hana (nos. 12 to 21) and 14 years for the 17 kings of Mitanni.

TABLE 27

HATTI	reign	#	n°	HANA	reign	#	n°	MITANNI	reign	#
Muršili I	1520-1499	11	11	Kuari	1515-1500 [15]					
Hantili I	1499-1487	12	12	Hanaya <Ya'usa	1500 -	[10]	1	(Kirta) Šauštatar 0	1500 -	[10]
Zidanta I	1487-1487				-1490				-1490	
Ammuna	1487 -	13	13	Siniya <	1490-1480 [10]		2	Suttarna I	1490-1480 [10]	
	-1475		14	Qiš-Addu <	1480 -	[25]	3	Parattarna I	1480 -	[25]
Huzziya II	1475-1475									
Telipinu	1475-1463									
Tahurwaili I	1463-1463									
Alluwamna	1463-1451				-1455				-1455	
Hantili II	1451-1439	15	15	Iddin-Kakka	1455 -	[25]	4	Šauštatar I	1455-1435 [20]	
Zidanza II	1439-1427				-1430		5	Paršatatar	1435-1425 [10]	
Huzziya III	1427-1415	16	16	Išar-Lim	1430 -	[25]	6	Šauštatar II	1425 -	[30]
Muwatalli I	1415-1403				-1405					
Tuḫaliya I	1403-1391	17	17	Iggid-Lim	1405 -	[25]			-1395	
[Hattušili II* ?]	1391-1389				-1380		7	Parattarna II	1395-1387 [8]	
Tuḫaliya II	1389-1377	18	18	Iših-Dagan	1380 -	[25]	8	Artatama I	1387-1372 [15]	
Arnuwanda I	1377-1365						9	Šutarna II	1372-1357 [15]	
Tuḫaliya III	1365-1353				-1355		10	Artašumara	1357-1354 [3]	
Šuppiluliuma I	1353 -	19	19	Ahuni	1355 -	[25]	11	Tušratta	1354-1339 [15]	
	-1322				-1330		12	Artatama II	1339-1337 [2]	
Arnuwanda II	1322-1322						13	Šutarna III	1337-1325 [12]	
Muršili II	1322-1295				-1305		14	Šattiwaza	1325 -	[25]
Muwatalli II	1295 -	21	21	Pagiru	1305-1280 [25]		15	Šattuara I	1300-1285 [15]	
	-1275			Mitanni attacked	1280 -	[15]	16	Wašašatta	1285-1275 [10]	
Urhi-Teshub	1275-1268			Collapse	-1265		17	Šattuara II	1275-1265 [10]	
Hattušili III	1268-1241									

The complete reconstruction (below) of the chronologies of the Hittite, Assyrian, Babylonian, Kassite and Hana (and Mitanni) kings, as well as the parallelism of all their synchronisms, confirms the total coherence of these chronological data.

TABLE 28

n° HATTI	reign	#	n° MARI & HANA	reign	#	ASSYRIA	reign	#	
1 Hurmeli (¹⁴ C)	1750-1730 [20]					(MEC A)	1775-1745		
2 Harpatiwa	1730-1710 [20]					Ērišu II (n°38)	1722-1712	10	
3 Inar	1710 -	[20]	1	Yahdun-Lîm	1716-1699	17	Šamšî-Adad I	1712 -	33
	-1690		2	Sumu-Yamam	1699-1697	2			
			3	Samsî-Addu	1697-1687	10			

4	Waršama	1690 - 1670	[20]	4	Yasmah-Addu	1687-1680	7		-1680	
				5	Zimri-Lim I	1680-1667	13	Išme-Dagan I	1680-1670	10
5	Pithana	1670-1650	[20]	1	Yâpaḥ-Šumu-Abu	1667-1654	13	BABYLONIA	reign	
6	Anitta	1650 - 1630	[20]	2	Iši-Šumu-Abu	1654-1640	14	Samsu-iluna	1654 - 1626	38
				3	Yadiḥ-Abu	1640-1626	14			
7	Zûzu	1630-1610	[20]	4	Zimri-Lim II	1626 - 1609	17			
	HITTITE	reign	#							
1	Ḫuzziya I (¹⁴ C	1610-1590	[20]	5	Kaštiliašu (I)	1609-1587	22	Abi-ešuḥ	1616-1588	28
	- Tudḫaliya?	1590-1570	[20]	6	Šunuḫru-Ammu	1587-1573	[14]	Ammiditana	1588 - 1551	37
	- PU-Šarruma?	1570-1550	[20]	7	Ammi-madar	1573-1559	[14]			
2	Labarna	1550 - 1535	[15]	8	Idi-Abu	1559-1545	[14]	Ammišaduqa	1551 - 1530	21
				9	Zimri-Lim III	1545-1531	[14]			
3	Ḫattušili I	1535-1520	[15]	10	Kasapan	1531-1517	[14]	Samsuditana	1530 - 1499	31
4	Muršili I	1520-1499	[21]	11	Kuari	1517-1503	[14]			
5	Ḫantili I	1499 - 1487	[12]		MITANNI	1503 - 1490	[14]	KASSITE	reign	
				12	Hanaya /Ya'usa	-1490		Agum II (n°9)	1511-1494	17
6	Zidanta I	1487-1487	<1	13	Siniya /	1490 - 1480	[10]	Burna-Buriaš I	1494 - 1464	30
7	Ammuna	1487 - 1475	[12]							
8	Ḫuzziya II	1475-1475	<1	14	Qiš-Addu	1480 - 1455	[25]			
9	Telipinu	1475-1463	[12]					Kaštiliašu III	1464 - 1443	21
10	Taḫurwaili I	1463-1463	<1					Ulam-Buriaš		
11	Alluwamna	1463--1451	[12]							
12	Ḫantili II	1451-1439	[12]	15	Iddin-Kakka	1455 - 1430	[25]			
13	Zidanza (II)	1439-1427	[12]					Agum III	1443-1426	17
14	Ḫuzziya III	1427-1415	[12]	16	Išar-Lim	1430 - 1405	[25]	Kadašman-Har.	1426 - 1409	17
15	Muwatalli I	1415-1403	[12]							
16	Tudḫaliya I	1403-1391	[12]	17	Iggid-Lim	1405 - 1380	[25]	Kara-indaš	1409-1392	17
17	[Ḫattušili II ?]	1391-1389	[2]					Kurigalzu I	1392 - 1375	17
18	Tudḫaliya II	1389-1377	[12]	18	Išiḫ-Dagan	1380 - 1355	[25]			
19	Arnuwanda I	1377-1365	[12]					Kadašman-Enl.	1375-1360	15
20	Tudḫaliya III	1365-1353	[12]					Burna-Buriaš II	1360 - 1333	27
21	Šuppiluliuma I	1353-1322	31	19	Ahuni	1355-1330	[25]			
22	Arnuwanda II	1322-1322	<1	20	Hammurapi	1330 - 1305	[25]			
23	Muršili II	1322-1295	27					ASSYRIA		
24	Muwatalli II	1295-1275	20	21	Pagiru	1305-1280	[25]	Adad-nêrârî I	1302 - 1271	31
25	Urhi-Teshub	1275-1268	7		Mitanni attacked	1280 - 1265	15			
26	Ḫattušili III	1268-1241	27		Collapse	-1265		Shalmaneser I	1271-1242	29
27	Tudḫaliya IV	1241-1209	32					Tukultî-Ninurta I	1242-1206	36

REIGN OF HAMMURABI ACCORDING TO ASSYRIAN KING LIST (AKL)

The Assyrian King List allows us to date the reign of Šamšî-Adad I (1712-1680) and the synchronism with Hammurabi (1697-1654) allows us to date the reigns of Šulgi, Ibbi-Sîn and Ammišaduqa, three reigns (highlighted in sky blue) which are based on astronomical phenomena. According to the Babylonian King List C (BKL C), Marduk-kabit-aḫḫešu (Isin II) had a reign of 18 years (1159-1141), as he started to rule from Zababa-šuma-iddina (Chen: 2020, 76,138,202-206; Radner, Moeller, Potts: 2023, 524-527).

TABLE 29

n°	ASSYRIAN KING	#	#	Reign	n°	BABYLONIAN KING	#	Reign
23	Yakmeni		14	2010-1996	1	Ur-Namma (UR III)	18	2020-2002
24	Yazkur-El		14	1996-1982	2	Šulgi	48	2002 - 1954
25	Ila-kabkabû		14	1982-1968				
26	Amînum		14	1968-1954				
27	Sulili (= Zariqum)		14	1954-1940	3	Amar-Sîn	9	1954-1945
28	Kikkia		14	1940-1927	4	Šu-Sîn	9	1945-1936
29	Akia		14	1927-1913	1	5 Ibbi-Sîn	24	1936-1912
30	Puzur-Aššur I		14	1913-1900		Išbi-Erra (ISIN I)	33	1923 - 1890
31	Šalim-ahum		14	1900-1886				
32	Ilu-šumma		14	1886-1873	2	Šû-ilîšu	10	1890-1880
33	Erišu I	40	40	1873 - 1834	3	Iddin-Dagân	21	1880-1859
					4	Išme-Dagân	19	1859-1840
34	Ikunum	159	14	1834-1821	5	Lipit-Eštar	11	1840-1829

35	Sargon I		40	1821 -	6		Ur-Ninurta	28	1829-1801
				-1782	7	1	Sumu-abum	14	1799-1785
36	Puzur-Aššur II		8	1782-1774	8	2	Sumu-la-II	36	1785 -
37	Naram-Sîn		54	1774 -	9				
					10				-1749
					11	3	Sâbium	14	1749 -
					12				
				-1722	13				-1735
38	Ērišu II		10	1722-1712	14	4	Apil-Sîn	18	1735-1717
39	Šamšî-Adad I		33	1712 -	15	5	Sîn-muballiṭ	20	1717-1697
				-1680		6	Hammurabi	17	1697-1680
40	Išme-Dagan I	434	11	1680-1670				26	1680 -
41	Aššur-dugul		6	1670-1664					
42	Aššur-apla-idi		0	1664-1664					
43	Nâšir-Sîn		0	1664-1664					
44	Sîn-namir		0	1664-1664					
45	Ipqi-Ištar		0	1664-1664					
46	Adad-šalûlu		0	1664-1664					
47	Adasi		0	1664-1664					
48	Bêlu-bâni		10	1664-1654					-1654
49	Libbaya		17	1654-1638	1	7	Samsu-iluna	38	1654 -
50	Šarma-Adad I		12	1638-1626	2				
51	Puzur-Sîn		12	1626-1615					-1616
52	Bazaya		28	1615-1588	3	8	Abi-ešuḥ	28	1616-1588
53	Lullaya		6	1588-1582	4	9	Ammiditana	37	1588 -
54	Šû-Ninûa		14	1582-1568	5				
55	Šarma-Adad II		3	1568-1565	6				
56	Ērišu III		13	1565-1553					-1551
57	Šamšî-Adad II		6	1553-1547	7	10	Ammišaduqa	21	1551 -
58	Išme-Dagan II		16	1547-1531					-1530
59	Šamšî-Adad III		16	1531-1516	8	11	Samsuditana	31	1530 -
60	Aššur-nêrârî I		26	1516-1491	9		<i>Fall of Babylon</i>		-1499
61	Puzur-Aššur III		24	1491 -			Agum II (KASSITE)	16	1511-1495
				-1467	10		Burna-Buriaš I	16	1495-1479
62	Enlil-nâšir I		13	1467 -	11		Ur[na-Bur]iaš ?	8	1479-1471
				-1455	12		Kaštiliašu III	16	1471-1455
63	Nûr-ili		12	1455-1443	13		Ulam-Buriaš	16	1455 -
64	Aššur-šadûni		0	1443-1443					-1439
65	Aššur-rabi I		10	1443-1433	14		Agum III	16	1439 -
66	Aššur-nâdin-aḥḥe I		10	1433-1424					-1423
67	Enlil-našir II		6	1424-1418	15		Kadašman-Harbe I	16	1423 -
68	Aššur-nêrârî II		7	1418-1411					-1407
69	Aššur-bêl-nišešu		9	1411-1403	16		Kara-indaš	16	1407 -
70	Aššur-rê'im-nišešu		8	1403-1395					-1391
71	Aššur-nâdin-aḥḥe II		10	1395-1385	17		Kurigalzu I	16	1391 -
72	Erîba-Adad I		27	1385 -					-1375
				-1358	18		Kadašman-Enlil I	15	1375-1360
73	Aššur-uballiṭ I		36	1358 -	19		Burna-Buriaš II	27	1360-1333
					20		Kara-ḥardaš	0	1333-1333
				-1323	21		Nazi-Bugaš	0	1333-1333
74	Enlil-nêrârî		10	1323-1313	22		Kurigalzu II	25	1333 -
75	Arik-dên-ili		12	1313-1302					-1308
76	Adad-nêrârî I		32	1302-1271	23		Nazi-Maruttaš	26	1308-1282
77	Shalmaneser I		12	1271-1259	24		Kadašman-Turgu	18	1282-1264
		580	18	1259 -	25		Kadašman-Enlil II	9	1264-1255
				-1242	26		Kudur-Enlil	9	1255-1246
78	Tukultî-Ninurta I		37	1242 -	27		Sagarakti-šuriaš	13	1246-1233
					28		Kaštiliašu IV	8	1233-1225
					29		Enlil-nâdin-šumi	1	1225-1224
					30		Kadašman-Harbe II	1	1224-1223
				-1206	31		Adad-šuma-iddina	6	1223-1217
79	Aššur-nâdin-apli		4	1206-1203	32		Adad-šuma-ušur	30	1217 -
80	Aššur-nêrârî III		6	1203-1197					
81	Enlil-kudurri-ušur		5	1197-1192					-1187

82	Ninurta-apil-Ekur		13	1192-1179	33		Meli-Šipak	15	1187	-
83	Aššur-dân I		46	1179						-1172
					34		Marduk-apla-iddina	13	1172	-1159
					35		Zababa-šuma-iddina	1	1159	-1158
					36		Enlil-nâdin-aḫi	3	1158	-1155
				-1133	37		Marduk-kabit-aḫḫešu	18	1159	-1141
84	Ninurta-tukultî-Aššur		0	1133-1133	38		Itti-Marduk-balaṭu (ISIN II)	8	1141	-
85	Mutakkil-Nusku		0	1133-1133						-1133
86	Aššur-rêš-iši I		18	1133-1115	39		Ninurta-nâdin-šumi	6	1133	-1127
87	Tiglath-pileser I		39	1115	40		Nebuchadnezzar I	22	1127	-1105
	(Grayson: 2000, 189)			-1076	41		Enlil-nâdin-apli	4	1105	-1101
88	Ašared-apil-Ekur		2	1076-1074	42		Marduk-nâdin-aḫḫê	18	1101	-1083
89	Aššur-bêl-kala		18	1074-1056	43		Marduk-šapik-zêri	13	1083	-1070
90	Erîba-Adad II		2	1056-1054	44		Adad-apla-iddina	22	1070	-1048
91	Šamšî-Adad IV		4	1054-1050	45		Marduk-aḫḫê-erîba	1	1048	-1047
92	Aššurnaširpal I		19	1050-1031	46		Marduk-zêr-[...]	12	1047	-1035
93	Shalmaneser II		12	1031-1019	47		Nabû-šum-libur	8	1035	-1027
94	Aššur-nêrârî IV		6	1019-1013	48		Simbar-šipak	18	1027	-1009
95	Aššur-rabi II		41	1013	49		Ea-mukîn-zêri	1	1009	-1008
				-972	50		Kaššu-nâdin-aḫi	2	1008	-1006
96	Aššur-rêš-iši II		5	972-967	51		Eulmaš-šakin-šumi	17	1006	-989
97	Tiglath-pileser II		32	967	52		Ninurta-kudurri-ušur I	3	989	-986
				-935	53		Širiki-šuqamuna	1	986	-985
98	Aššur-dân II		23	935-912	54		Mâr-bîti-apla-ušur	5	985	-980
99	Adad-nêrârî II		21	912	55		Nabû-mukîn-apli	36	980	-
				-891						-944
100	Tukultî-Ninurta II		7	891-884	56		Ninurta-kudurri-ušur II	3	944	-941
101	Aššurnaširpal II		25	884-859	57		Mâr-bîti-aḫḫê-iddin	20	941	-921
102	Shalmaneser III		35	859-824	58		Šamaš-mudammîq	21	921	-
103	Šamšî-Adad V		13	824						-900
				-811	59		Nabû-šum-ukîn I	12	900	-
104	Adad-nêrârî III		28	811						-888
				-783	60		Nabû-apla-iddina	33	888	-855
105	Shalmaneser IV		10	783-773	61		Marduk-zâkir-šumi I	36	855	-819
106	Aššur-dân III		18	773-755	62		Marduk-balâssu-iqbi	6	819	-813
107	Aššur-nêrârî V		10	755-745	63		Bâba-ah-iddina	-	813	-812
108	Tiglath-pileser III		18	745			- no kings	-	812	-801
				-727	64-68		5 unknown kings	-	801	-800
109	Shalmaneser V		5	727-722	69		Ninurta-apla-[...]	10	800	-790
110	Sargon II		17	722	70		Marduk-bêl-zêri	10	790	-780
				-705	71		Marduk-apla-ušur	10	780	-770
111	Sennacherib		24	705	72		Erîba-Marduk	9	770	-761
				-681	73		Nabû-šum-iškun	13	761	-748
					74		Nabû-našir	14	748	-734
					75		Nabû-nâdin-zêri	2	734	-732
					76		Nabû-šum-ukîn II	0	732	-732
					77		Nabû-mukîn-zêri	3	732	-729
					78		Pûlu (Tiglath-pileser III)	2	729	-727
109	Shalmaneser V		5	727-722	79		Ulûlaiu (Shalmaneser V)	5	727	-722
110	Sargon II		17	722	80		Merodachbaladan II	12	722	-710
				-705	81		Sargon II	5	710	-705
111	Sennacherib		24	705	82		Sennacherib	2	705	-703
					83		Marduk-zâkir-šumi II	0	703	-703
					84		Bêl-ibni	3	703	-700
					85		Aššur-nâdin-šumi	6	700	-694
					86		Nergal-ušezib	1	694	-693
					87		Mušeziḫ-Marduk	4	693	-689
					88		Sennacherib	8	689	-681
112	Esarhaddon	72	12	681-669	89		Esarhaddon	12	681	-669
113	Aššurbanipal		42	669-627	90		Šamaš-šum-ukîn	20	668	-648
114	Aššur-etel-ilâni		1	627-626	91		Kandalanu	22	648	-626
115	Sin-šar-iškun		14	626-612	92		Nabopolassar	21	626	-
116	Aššur-uballiṭ II		3	612-609						-605

	93	Nebuchadnezzar II	43	605-562
	94	Amel-Marduk	2	562-560
	95	Neriglissar	4	560-556
	96	Nabonidus	17	556-539

The paleo-Assyrian (or Amorite) calendar was lunar while the calendar of Mari was lunisolar like the calendar of Babylon. The day 30 could be 29 or 1 (Sasson: 1984, 246-252). Synchronization among various calendars of the past is made difficult by these changing paradigms (unreported). For instance, on the death of Šamši-Adad I it is possible to get the following synchronisms among months of several different calendars³⁷ (Charpin, Ziegler: 2003, 134-176, 260-262): the end of Šamši-Adad I's reign is dated³⁸ 20 February 1679 BCE because this king died on 14/xii°/33. Consequently, the month VI in Mari coincides with the Assyrian month i* (because months VI to XII are dated “after the eponym Țab-šilla-Aššur”)³⁹.

TABLE 30

	BABYLONIAN	JULIAN		MARIOTE		AMORRITE	PALEO-ASSYRIAN	
X	Tebētu	1	January (<i>winter</i>)	xi°	<i>Abum (IV)</i>	xi*	<i>Abum</i>	<i>Ab šarrāni (v*)</i>
XI	Šabātu	2	February	xii°	<i>Hibirtum (V)</i>	xii*	<i>Tīrum</i>	<i>Hubur (vi*)</i>
XII	Addāru	3	March	i°	<i>Hubur (Hilib)</i>	i*	<i>Niqmum</i>	<i>Šip'im (vii*)</i>
I	Nisannu	4	April (<i>spring</i>)	ii°	<i>Kinūnum (VII)</i>	ii*	<i>Kinūnum</i>	<i>Qarrātim (viii*)</i>
II	Ayyaru	5	May	iii°	<i>Dagan (VIII)</i>	iii*	<i>Tamhīrum</i>	<i>Kanwarta (ix*)</i>
III	Simanu	6	June	iv°	<i>Līliatum (IX)</i>	iv*	<i>Nabrūm</i>	<i>Te'inātim (x*)</i>
IV	Du'ūzu	7	July (<i>summer</i>)	v°	<i>Bēlet-bīri (X)</i>	v*	<i>Mammītum</i>	<i>Kuzallu (xi*)</i>
V	Abu	8	August	vi°	<i>Kiskissum (XI)</i>	vi*	<i>Mana</i>	<i>Allanātim (xii*)</i>
VI	Ulūlū	9	September	vii°	<i>Ebūrum (XII)</i>	vii*	<i>Ayyarum</i>	<i>Bēlti-ekallim (i*)</i>
VII	Tašrītu	10	October (<i>autumn</i>)	viii°	<i>Urāḥum (I)</i>	viii*	<i>Niggalum</i>	<i>Ša sarratim (ii*)</i>
VIII	Araḥsamna	11	November	ix°	<i>Malkānum (II)</i>	ix*	<i>Maqrānum</i>	<i>Narmak Aššur (iii*)</i>
IX	Kisilimu	12	December	x°	<i>Laḥḥum (III)</i>	x*	<i>Du'uzum</i>	<i>Maḥḥurili (iv*)</i>

The Table 30 shows that: 1) the year of the Babylonian calendar was luni-solar and began on the 1st Nisannu; 2) the year of the Mariote calendar was also luni-solar but began on the 1st Urāḥum; 3) the year of the Amorrite calendar was lunar and began on the 1st Niqumum; 4) the year of the paleo-Assyrian calendar was also lunar but began on the 1st Šip'im. The presence or the absence of intercalation further complicates synchronizations among calendars⁴⁰. Mesopotamian chronologies are anchored by numerous synchronisms (highlighted and framed) and dated by astronomical phenomena. Despite some uncertainties, Hammurabi's reign can be anchored precisely in Šamši-Adad I's reign (1712–1680). Before King Ninurta-apil-Ekur (1192–1179), Assyrian eponyms started on 1st Šippu and from Ninurta-apil-Ekur they started on 1st Nisannu⁴¹.

Δ = year (BCE) – 1088 (for example in 1679 BCE: $\Delta = 1679 - 1088 = 591$)

Julian day = $\Delta \times 365.2422 - [(\Delta \times 1.0307)] \times 354.36 + 13 + \text{Assyrian day}$

[[figure]] = figure without its decimal value. For example [[3.17]] = 3

$1.0307 = (1 \text{ solar year} = 365.24219 \text{ days}) / (1 \text{ lunar year} = 354.36706 = 12 \times 29.530588 \text{ days})$

Julian day = day ranked inside the Julian year. For example: 3 March = (31) + (28) + 3 = 62

Assyrian day = day ranked inside the Assyrian year: 1 Kalmartu = (29.5) + (29.5) + 1 = 60

For example, if we want to know which day was the 1st Šippu in the year 1679 BCE:

$\Delta = 1679 - 1088 = 591$; $\Delta \times 1.0307 = 609.14$; $[(\Delta \times 1.0307)] = 609$; Assyrian day = 1.

Julian day = $\Delta \times 365.2422 - [(\Delta \times 1.0307)] \times 354.36 + 13 + \text{Assyrian day}$

Julian day = $52.9 + 13 + 1 = 67 = (31) + (28) + 8 = 8 \text{ March (3rd month)}$.

Consequently: 1 Šippu = 8 March in 1679 BCE (-1678*), or 7 March according to astronomy⁴².

³⁷ The Šamši-Adad calendar seems to have been imposed on Upper Mesopotamia after its conquests (2021: Ziegler, 117-130).

³⁸ An exorcist priest (*wašipum*) is consulted on 11/xii°/33 and the oil for the offering king's burial came on 16/xii°/33. In 1679 BCE, 1st Nisan is dated April 5, 1st Tishri on September 30 and 1st Šip'im March 7.

It is interesting to note that the year 33 of Šamši-Adad I started with a total lunar eclipse (bad omen).

³⁹ The fall of Larsa is dated [1-6]/XII/30 of Hammurabi and matches the [1-6]/VI/60 of Rīm-Sîn I, because Zimri-Lim congratulated Hammurabi for his having taken Larsa in his letter dated 7/VI/12 (*ARM* XXV 9).

⁴⁰ For instance, the year 1 of Zimri-Lim has an intercalary month (xii°*b*) but other years are strangely irregular: 2:xii°*b*; 5:ii°*b*, iii°*b*, v°*b*; 8:i°*b*; 10:v°*b*; 11:v°*b* (Heimpel: 2003, 54-56). On the other hand, the feast of Ištar seems to be celebrated without intercalation because it is celebrated month xi in year 1 of Zimri-Lim, month ix in years 6-8 and month viii in year 12, which implies a lag of about 3 months on 12 years, indicating a lack of intercalation (at least in one of the two calendars).

⁴¹ In 1192 BCE the 1st Šippu (21 March) corresponded exactly to the 1st Nisannu (21 March, but 9 days before the spring equinox on 1 April), which prompted King Ninurta-apil-Ekur to start the eponyms on the 1st Nisannu (like the Babylonians) after his coming from Babylon and his conquest of Assyria (Grayson: 2000, 162).

⁴² 1st astronomical lunar crescent = 1st day after the new moon (<https://www.fourmilab.ch/earthview/pacalc.html>).

TABLE 31

BCE	month			Assyrian	[A]	[B]	[C]	[D]	King / eponym	
1680	1	IV	xi°	X	Ab šarrāni	6	32	16	46	Adad-bāni
	2	V	xii°	XI	Hubur					
	3	VI	i°	XII	Šip'im		33			Tab-šilli-Aššur (N°199)
	4	VII	ii°	I	Qarrātim			17	47	
	5	VIII	iii°	II	Kanwarta					
	6	IX	iv°	III	Te'inātim					
	7	X	v°	IV	Kuzallu					
	8	XI	vi°	V	Allanātim					
	9	XII	vii°	VI	Bēlti-ekallim					
	10	I	viii°	VII	Ša sarratim	7				
	11	II	ix°	VIII	Narmak Aššur					[A] Yasmah-Addu king of Mari
	12	III	x°	IX	Maḥḥurili					[B] Šamšī-Adad I king of Assyria (n°39)
1679	1	IV	xi°	X	Ab šarrāni					[C] Hammurabi king of Babylon
	2	V	xii°	XI	Hubur		0			[D] Rīm-Sîn I king of Larsa
	3	VI	i°	XII	Šip'im	0	1			after Tab-šilli-Aššur
	4	VII	ii°	I	Qarrātim			18	48	
	5	VIII	iii°	II	Kanwarta					
	6	IX	iv°	III	Te'inātim					[A] Zimri-Lim king of Mari
	7	X	v°	IV	Kuzallu					[B] Išme-Dagan I king of Assyria (n°40)
	8	XI	vi°	V	Allanātim					
	9	XII	vii°	VI	Bēlti-ekallim					
	10	I	viii°	VII	Ša sarratim	1				Ennam-Aššur (N°200)
	11	II	ix°	VIII	Narmak Aššur					
	12	III	x°	IX	Maḥḥurili					
1678	1	IV	xi°	X	Ab šarrāni					(Feast of Ištar in month xi° Ab Šarrani)
	2	V	xii°	XI	Hubur					
	3	VI	i°	XII	Šip'im					Aššur-emūqī (N°201)
	4	VII	ii°	I	Qarrātim		2	19	49	
	5	VIII	iii°	II	Kanwarta					

If we compare the reign of Šamšī-Adad I (1712-1680), obtained from the Assyrian King List, with that calculated from the reign of Ammisaduqa, and compare the difference (#) between the value given by the four chronologies in accordance with the Venus cycle, we can see that the agreement is perfect with the Ultra-Low Chronology, but there is a 96-year disagreement with the Middle Chronology.

Chronology (BCE):	AKL	Ultra-Low	#	Low	#	Middle	#	High	#
Fall of Ur		1912		1944		2008		2064	
Reign of Šamšī-Adad I	1712-1680	1712-1680	0	1745-1712	32	1809-1776	96	1865-1832	152
Reign of Hammurabi		1697-1654		1729-1686		1793-1750		1849-1806	
Reign of Ammisaduqa		1551-1530		1583-1562		1647-1626		1703-1682	
Fall of Babylon		1499		1531		1595		1651	

HOW TO ASTRONOMICALLY DATE THE FIRST FALL OF BABYLON: 1595 OR 1499 BCE?

The astronomical tablet: *Enuma Anu Enlil 63* (Reiner, Pingree: 1975, 17-62), copied in 7th century BCE, describes the setting and rising of Venus during the 21-year reign of Ammisaduqa:

Year 1 inferior Venus sets on Šabatu 15 and after 3 days rises on Šabatu 18
Year 2 superior Venus vanishes E. on Arahsamnu 21 and after 1 month 25 days appears W. on Tebetu 16
Year 3 inferior Venus sets on Ululu 29 and after 16 days rises on Tashritu 15
Year 4 superior Venus vanishes E. on Dumuzi 3 and after 2 months 6 days appears W. on Ululu 9
Year 5 inferior Venus sets on Nisan 29 and after 12 days rises on Ayar 11
Year 5 superior Venus vanishes E. on Kislimu 27 and after 2 months 3 days appears W. on Šabatu 30
Year 6 inferior Venus sets on Arahsamnu 28 and after 3 days rises on Kislimu 1
Year 7 superior Venus vanishes E. on Abu 30 and after 2 months appears W. on Tashritu 30
Year 8 inferior Venus sets on Dumuzi 9 and after 17 days rises on Dumuzi 26
Year 8 superior Venus vanishes E. on Adar 27 and after 2 months 16 days appears W. on Simanu 13
Year 9 inferior Venus sets on Adar 12 and after 2 days rises on Adar 14
Year 10 superior Venus vanishes E. on Arahsamnu 17 and after 1 month 25 days appears W. on Tebetu 12
Year 11 inferior Venus sets on Ululu 25 and after 16 days rises on II Ululu 11
Year 12 superior Venus vanishes E. on Ayar 29 and after 2 months 6 days appears W. on Abu 5
Year 13 inferior Venus sets on Nisan 25 and after 12 days rises on Ayar 7
Year 13 superior Venus vanishes E. on Tebetu 23 and after 2 months 3 days appears W. on Adar 26
Year 14 inferior Venus sets on Arahsamnu 24 and after 3 days rises on Arahsamnu 27
Year 15 superior Venus vanishes E. on Abu 26 and after 2 months appears W. on Tashritu 26
Year 16 inferior Venus sets on Dumuzi 5 and after 16 days rises on Dumuzi 21

Year 16 superior Venus vanishes E. on Adar 24 and after 2 months 15 days appears W. on Simanu 9
Year 17 inferior Venus sets on Adar 8 and after 3 days rises on Adar 11
Year 18 superior Venus vanishes E. on Arahsamnu 13 and after 1 month 25 days appears W. on Tebetu 8
Year 19 inferior Venus sets on II Ululu 20 and after 17 days rises on Tashritu 8
Year 20 superior Venus vanishes E. on Simanu 25 and after 2 months 6 days appears W. on Ululu 1
Year 21 inferior Venus sets on Nisan 22 and after 11 days rises on Ayar 3
Year 21 superior Venus vanishes E. on Tebetu 19 and after 2 months 3 days appears W. on Adar 22

Although the interpretation of this astronomical tablet is difficult (Gurzadyan: 2003, 13-17), because much data appears to have been poorly copied, the fall of Babylon can be dated to the period 1500-1700 BCE only according to four possibilities (Gurzadyan: 2000, 175-184). If we compare the observation date of the rising of Venus in Year 1 of Ammisaduqa (18 Shabatu) with the value given by astronomy, there is a difference of several days, from 13 days (ULC) to 3 days (HC), but the observed date is after the calculated date only for the Ultra-Low Chronology (the observed date cannot be before the calculated date).

Chronology (BCE):	ULC	#	LC	#	MC	#	HC	#
Fall of Ur	1912		1944		2008		2064	
Reign of Hammurabi	1697-1654		1729-1686		1793-1750		1849-1806	
Reign of Ammisaduqa	1551-1530		1583-1562		1647-1626		1703-1682	
Venus rises Year 1 (<i>calculated</i>)	14-Feb 1549	0	24-Feb 1581	0	14-Mar 1645	0	31-Mar 1701	0
Shabatu 18 Year 1 (<i>observed</i>)	27-Feb 1549	+13	19-Feb 1581	-5	9-Mar 1645	-6	28-Mar 1701	-3
Fall of Babylon	1499		1531		1595		1651	

Despite the excellent agreement (18 Shabatu is to be replaced by 8 Shabatu) with the fall of Babylon in 1499 BCE (Gasche: 2003, 205-221) the ULC chronology was rejected. It is possible to reconstruct the 25 months of the astronomical tablet and to compare them with those of the inscription. Unfortunately, no solution, depending on the selected year, gives a perfect fit. Consequently, the dating method based on the Venus cycle is used. Indeed, we can see that years 5, 13 and 21 (with a periodicity of 8 years) give the same values with a 4-day shift, which comes from the cycles of the moon and Venus. If an astronomical phenomenon occurs at the same time each year it will be noted with an advance of 2 days⁴³ at the end of an 8-year cycle. The same pattern repeats a 1-day shift every 8 years because 8 sidereal orbital periods of the Earth (365.25636 days - slightly longer than the tropical year) is 2922.06 days, and 13 sidereal orbital periods of Venus (224.701 days) is 2921.11 days. Thus, after this period both Venus and Earth have returned to very nearly the same point (1 day) in each of their respective orbits. If the Sun and Venus are perfectly aligned (Transit of Venus), the heliacal rising and setting of Venus occur on the same dates shifted by 2 or 3 days every 8 years. A transit of Venus⁴⁴ across the Sun takes place when this planet passes directly between the Sun and Earth (or another planet), becoming visible against (and hence obscuring a small portion of) the solar disk. During a transit, Venus can be seen from Earth as a small black disk moving across the face of the Sun. The duration of such transits is usually measured in hours (the transit of 2012 lasted 6 hours and 40 minutes). A transit is like a solar eclipse by the Moon. While the diameter of Venus is more than 3 times that of the Moon, Venus appears smaller, and travels more slowly across the face of the Sun, because it is much farther away from Earth. Transits of Venus are among the rarest of predictable astronomical phenomena. They occur in a pattern that repeats itself every 243 years, with pairs of transits 8 years apart separated by long gaps of 121.5 years and 105.5 years⁴⁵. Given that the astronomical data during Ammisaduqa's 21-year reign over the period of 8 years are shifted 4 days, instead of 2 or 3 when the transit of Venus exactly occurs, it means that it was close to this transit. Transits of Venus are as follows⁴⁶ (1550-1529* = 1551-1530 BCE):

Date*	greatest (UT)	Ammisaduqa	Date*	greatest (UT)	Ammisaduqa
-1892* May 21	19:26		-1528* Nov 23	12:51	1550-1529* (ULC)
-1884* May 19	12:30		-1520* Nov 20	23:44	
-1763* Nov 20	22:56		-1512* Nov 18	12:51	
-1755* Nov 18	12:18		-1406* May 23	05:57	
-1649* May 23	00:45		-1398* May 20	23:03	
-1641* May 20	18:02	1646-1625* (MC)	-1277* Nov 22	00:09	

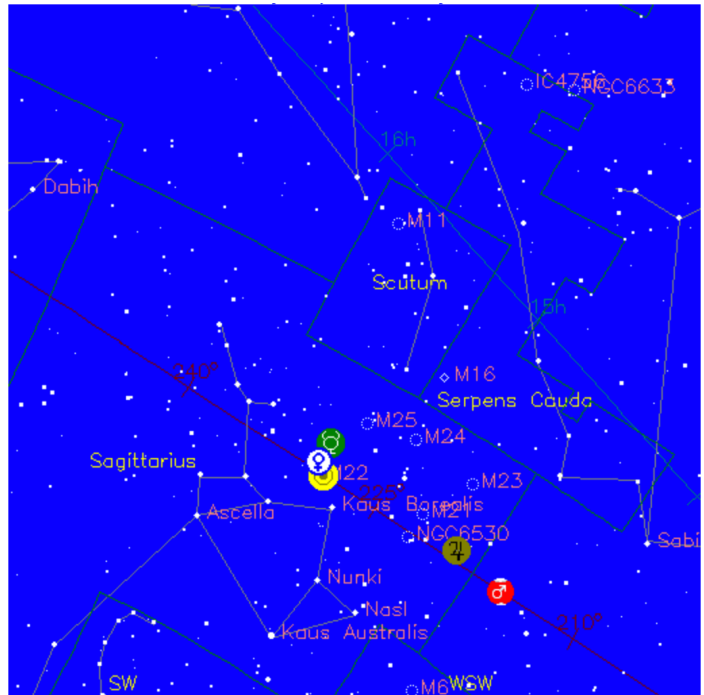
⁴³ 2 days = 8 x 365.24519 days - (8 x 12 + 3) x 29.530588 days (= -1.6 days)

⁴⁴ http://en.wikipedia.org/wiki/Transit_of_Venus

⁴⁵ Venus, with an orbit inclined by 3.4° relative to the Earth's, usually appears to pass under (or over) the Sun at inferior conjunction. A transit occurs when Venus reaches conjunction with the Sun at or near one of its nodes—the longitude where Venus passes through the Earth's orbital plane (the ecliptic)—and appears to pass directly across the Sun. Although the inclination between these two orbital planes is only 3.4°, Venus can be as far as 9.6° from the Sun when viewed from the Earth at inferior conjunction. Since the angular diameter of the Sun is about 0.5° degree, Venus may appear to pass above or below the Sun by more than 18 solar diameters during an ordinary conjunction.

⁴⁶ <http://eclipse.gsfc.nasa.gov/transit/catalog/VenusCatalog.html>

The best fit is with the Middle chronology, but it contradicts the chronology obtained from the Assyrian King List. The fit with the Ultra-Low Chronology is good because there is only a shift of an 8-year cycle (-1528* Nov 23 instead of -1520* Nov 20). We can check the deviation of alignment between Venus and the sun with respect to its position during the transit of Venus in -1528*, when this planet “crossed through the sun” (see image opposite). The observations were performed in Babylon⁴⁷. Teije de Jong regards Šamši-Adad I's death, dated 1776 BCE +/- 10 years indirectly by dendrochronology, instead of 1680 BCE, as an absolute date (De Jong: 2013, 147-163; 2013b, 366-370; 2017, 127-143). In fact, dendrochronological dating of the Acemhöyük palace (near Kaniš) requires locating the death of Šamši-Adad I after 1752 BCE (Michel, Rocher: 2000, 111-126) eliminating the Middle Chronology which dates this reign 1809-1776 BCE, at least 24 years too early (in 1776 BCE). Actually, the best way for dating the fall of Babylon is to use a couple of well identified lunar eclipses (Banjević: 2006, 251-257).



A tablet of astronomical omens (Enuma Anu Enlil 20) mentions a lunar eclipse, dated 14 Simanu (month III), at the end of the reign of Šulgi⁴⁸ (14/III/48) and another (Enuma Anu Enlil 21) mentions a (total) lunar eclipse⁴⁹, dated 14 Addaru (month XII), at the end of the Ur III dynasty which ended with the reign of Ibbi-Sîn (14/XII/24). These two lunar eclipses were separated by 42 years of reign (= 9 years of Amar-Sîn + 9 years of Šu-Sîn + 24 years of Ibbi-Sîn) and 9 months (= month XII – month III). Over the period 2200-1850 there was only one pair of eclipses⁵⁰, spaced by 42 years and 9 months, matching the description of astronomical omens (Huber: 2000, 159-176).

TABLE 32

BCE	month		King	
1954	1	X	47 Šulgi (Ur III n°2) (1/I/48 = 7 April)	
	2	XI		
	3	XII		
	4	I	48 <i>Total lunar eclipse dated</i> 14/III/48 (28 June)	
	5	II		
	6	III		
	1953	7	IV	0 Amar-Sîn (Ur III n°3)
		8	V	
		9	VI	
		10	VII	
		11	VIII	
		12	IX	
1		X	1	
2		XI		
3		XII		
4		I		
5		II		
6		III		
7	IV			
8	V			

BCE	month		King	
1912	1	X	23 Ibbi-Sîn (Ur III n°5)	
	2	XI		
	3	XII		
	4	I		24 (1/I/24 = 2 April)
	5	II		
	6	III		
	7	IV		
	8	V		
	9	VI		
	10	VII		
	11	VIII		
	12	IX		
1911	1	X	Total lunar eclipse dated 14/XII/24 (6 March)	
	2	XI		
	3	XII		
	4	I	25 Fall of Ur (see SKL IB)	
	5	II	12 Išbi-Erra (Isin I n°1)	
	6	III		
	7	IV		
	8	V		

⁴⁷ <http://www.fourmilab.ch/cgi-bin/Yourhorizon>

latitude 32°33' North; longitude 44°26' East; Universal Time (UT): -1528-11-23 12:51; Azimuth: 240°; Field of view: 45°. We notice that on 23 November 1529 BCE the planets Venus and Mars were aligned.

⁴⁸ The name of this king of Ur does not appear in the tablet (Rochberg-Halton: 1988, 189,248) but the description of the lunar eclipse allows to identify Šulgi (Banjević: 2006, 253).

⁴⁹ The series was probably compiled in its canonical form during the Kassite period but there was certainly some form of prototype in the Old Babylonian period. Only total eclipses of the moon were perceived as bad omens for 2 reasons: total darkness and dark red color were symbols of death. Total sun eclipses at a given location are rare (on average 1 per century).

⁵⁰ http://xjubier.free.fr/en/site_pages/lunar_eclipses/5MCLE/xLE_Five_Millennium_Canon.html

Before 2000 BCE: <http://www.eclipsewise.com/lunar/LEcatalog/LEcatalog.html>

Duration (LT) = TD of greatest eclipse (UT) +/- (Total duration)/2 + 2:04 (= [24:00/360]x30.97)

The statistician Peter J. Huber, who carried out an in-depth study of these two lunar eclipses, refused the identification proposed by Gasche *et al* (1998) who had fixed these two lunar eclipses in 1954 BCE and 1912 BCE (-1911*). According to Huber, the two lunar eclipses in 2160 BCE and 2053 BCE confirmed (*sic*) Sollberger's relative chronology of the Ur III dynasty. He wrote (Huber: 1999/2000, 59-70):

Only two omens permit a relatively certain identification with specific historical events: EAE 20-III is generally taken to refer to the death of Šulgi (cf. Sollberger 1954-56, p. 22), and EAE 21-XII refers to the end of the dynasty. These two eclipses were already discussed in Huber (1987a).

Tablet 20, Month III.

(1) If an eclipse occurs on the 14th day of Simānu, and the god in his eclipse becomes dark on the side east above and clears on the side west below.(The eclipse) “pulls out” (*issuh*) the first watch and touches the middle watch (so Recension A; B has: “equals” (*imšul*) the first watch. The king of Ur, his son will wrong him, and the son who wronged his father, Šamaš will catch him. He will die in the mourning place of his father. The son of the king who was not named for kingship will seize the throne. -2094JUL25: mismatch day (...)

Tablet 21, Month XII.

(2) If an eclipse occurs on the 14th day of Addaru, and it begins in the south and clears in the north; it begins in the evening watch and clears in the morning watch. You observe his eclipse and bear in mind the south. The prediction is given for the king of the world: The destruction of Ur. [. will be] destroyed, variant: an order to destroy its city walls will be given. While the barley is being heaped up, the devastation of the city and its environs (will occur).

-2052APR13: mismatch day, end (0.4 watches), exit (10°).

This eclipse (2) must have occurred in the last month of Ibbi-Sîn's second-but-last year (year 23). In any case, it follows from the date of Šulgi's death and the regnal year counts that the distance between the two eclipses (1) and (2) must be 42 years. There is a single pair of eclipses having this distance and matching the dates required by the month-lengths: (-2094JUL25 and -2052APR13). There is one other pair having the required distance of 42 years: (-2018JUN26 and -1976MAR15), but it disagrees with the month-length data. According to calculation for -2052, the eclipse ends in the second rather than in the third watch, as stated in the omen. In fact, the calculated duration of the eclipse (3.08h) is less than the duration of a watch (3.88h).

The nearest compatible eclipses lasting a watch of the night or more are -2062MAY4 and -2015APR24. I conjecture that either the description of the end of the eclipse is in error or perhaps more likely that the estimated timing of the eclipse is inaccurate. The eclipse is one of the few among our identifications that is not total (magnitude 0.63). This does not necessarily speak against the identification (cf. the comments near the beginning of Section 4) but perhaps one might argue that an eclipse predicting the downfall of the “king of the world”, and hence supposedly affecting all lands, ought to be total. Gasche *et al.* (1998, p. 75) claim to have found a pair of eclipses (-1953JUN27 and -1911MAR16) that “fit the ancient descriptions at a higher confidence level” than the (-2093, -2052) pair. My computer search for eclipses matching the Simanu and Addaru omens had missed their pair. I was therefore puzzled and re-checked. The problem with the -1953 eclipse is that it begins too early: according to calculation the moon rises totally eclipsed at 19.00 local time (a few minutes before sunset). The Babylonian first watch of the night begins at sunset not at a fixed 18.00, as the authors intimate; 18.00-22.00 is valid at the equinox is only.

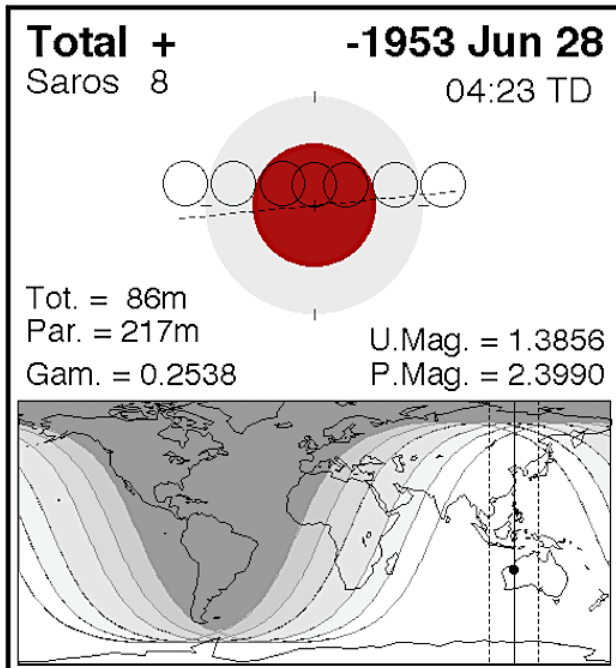
Huber's technical comments are impressive, yet they contain errors that are easy to detect. For example, the two eclipses proposed (the eclipse of 25 July -2094* [month IV year 48 of Šulgi] and the eclipse of 13 April -2052* [month I year 24 of Ibbi-Sîn]) are separated by 41 years and 9 months, not by 42 years and 9 months as required by the chronology of the Sumerian King list. This delay of 1 year comes from the change of the date marking the end of the reign of Ibbi-Sîn, because Huber replaced Year 24 month XII from the text by a hypothetical Year 23 month I, to justify his calculation. Moreover, the lunar eclipse of 25 July -2052* was partial, as Huber himself acknowledges, which prevents it from being considered as a bad omen concerning the death of the king. The explanations for rejecting the lunar eclipse of 28 June -1953* are not serious: 1) Huber's computer first failed to find the pair of eclipses proposed by Gasche *et al.* (this excuse is amusing), 2) then when it found it, Huber notes that the first watch of the night (18:00-22:00) starts rigorously at 18:00 (LT) only at the equinoxes, which would disqualify the eclipse of 28 June -1953*. Again, this explanation is not serious, because according to an astronomy software⁵¹ the sunrise on 28 June -1953* started around 4:54 (LT) and the sunset started around 18:09 (LT). This eclipse lasted approximately from 16:03 to 19:41⁵² (LT), which covered part of the first watch of the night (from 19:09 to 22:48). Huber's

⁵¹ <https://promenade.imcce.fr/fr/pages5/585.html>

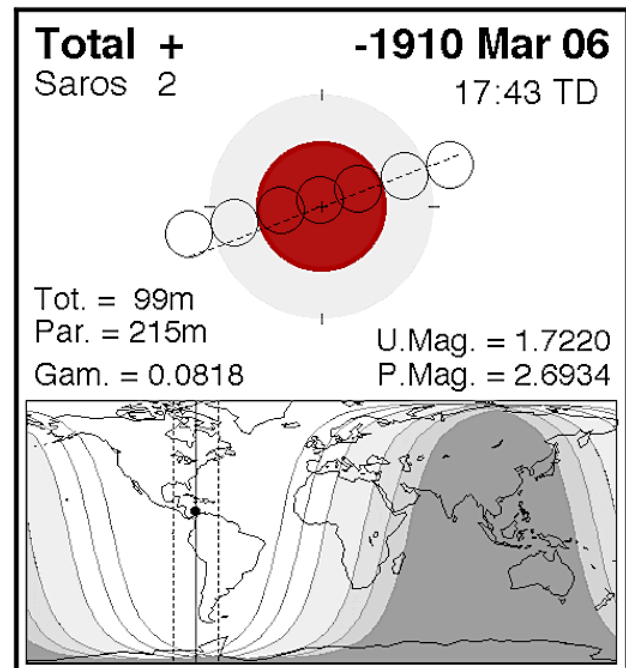
latitude 32°33' North; longitude 44°26' East; LT (Local Time) = UT (Universal Time) + 2:04.

⁵² http://xjubier.free.fr/en/site_pages/lunar_eclipses/5MCLE/xLE_Five_Millennium_Canon.html

rejection of the total lunar eclipse of 28 June -1953* (1954 BCE) is therefore not justified, as he himself admits, his translation of the text of this eclipse is hypothetical. The date of 6 March (in 1911 BCE) of the second lunar eclipse corresponds exactly to the month of Simanu (month XII). Moreover, this eclipse was total which corresponds to a bad omen of death.



Five Millennium Canon of Lunar Eclipses (Espenak & Meeus)



Five Millennium Canon of Lunar Eclipses (Espenak & Meeus)

The translation of the text for the second eclipse poses no problem since it says: *If an eclipse occurs on the 14th day of Addaru, and it begins in the south and clears in the north; it begins in the evening watch and clears in the morning watch.* The total lunar eclipse of 6 March -1910* (1911 BCE) fits exactly with this description. The penumbra of this eclipse started around 5:27 (LT), before sunrise around 5:52 (LT), and ended around 10:11 (LT). The beginning of the eclipse (penumbra) therefore started during the 3rd and last evening watch and ended during the morning watch (first watch).

The result is irrefutable. There is no total lunar eclipse according to the Low, Middle, and High chronology, neither at the end of Šulgi's reign, nor at the end of Ibbi-Sîn's reign. In contrast, with the Ultra-Low chronology there was a total lunar eclipse (bad omen) at the end of each of these two reigns, the first one on 28 June 1954 BCE (27/06/-1953*) and the second eclipse on 6 March 1911 BCE (06/03/-1910*).

TABLE 33

Fall of Babylon (Venus Tablet)	Chronology	Date (BCE)	Lunar eclipse	Date (BCE)	Lunar eclipse
		14/III/48	Last year of Šulgi	14/XII/24	Fall of Ur III
1651 BCE	High	28/06/2106	(27/08/2106)	06/03/2063	-
1595 BCE	Middle	08/07/2050	-	08/03/2007	-
1531 BCE	Low	22/06/1986	-	28/02/1943	-
1499 BCE	Ultra-Low	28/06/1954	28/06/1954	06/03/1911	06/03/1911

Of all the eclipses dated according to the EAE 20 and EAE 21 tablets, only the Ultra-Low chronology perfectly matches the astronomical data. Even the first lunar eclipse dated 27/08/2106 BCE (High Chronology) does not correspond to the date on the tablet, since there is a gap of two months. More seriously, this eclipse could not be observed in Babylon because the maximum of the eclipse occurred at 10:21 (Local Time) whereas lunar eclipses can only be seen during the night (between 18:00 and 6:00 in local time). For example, the total lunar eclipse dated 06/27/1954 had a magnitude of 1.39 and was seen in the morning in Babylon from 5:43 to 7:09 (LT), and the total lunar eclipse dated 06/03/1911 had a magnitude of 1.72 and was seen in the evening in Babylon from 18:57 to 20:35 (LT). Therefore, the confirmation by astronomy of the two lunar eclipses, dated at the end of the reign of Šulgi and at the end of the reign of Ibbi-Sîn (marking the fall of Babylon), definitively eliminates the other three chronologies (High, Middle and Low). Despite the excellent agreement with the reign of Šamšî-Adad I (1712-1680) the Ultra-Low chronology is considered too low compared to Kassite and Hittite chronologies. This criticism is unfounded (Gasche: 2003, 205-221) because these chronologies are very approximate: most durations of reigns are

unknown, and they have no link with any astronomical events. The lunar eclipse dated: *Year 38 that Babylon was resettled (...) Month of Abu (July-August), Day 10*, mentioned in the economic texts from Tell Muhammad (Gasche, Armstrong, Cole: 1998, 86) confirms definitively the Ultra-Low Chronology (the lunar eclipse dated 16/09/1614 is not suitable because there is a difference of two months with the date, month V, mentioned in the text). In addition, the lunar eclipse was total since it is an economic text (Day 10 is a mistake because eclipses always take place on the 14th-15th of the month).

TABLE 34

Chronology (BCE):	Year	Ultra-Low		Low		Middle		High	
Fall of Babylon	1	1499		1531		1595		1651	
Date 14/V/38	38	19/07/1462		11/07/1494		29/07/1558		18/07/1614	
Lunar eclipse	38	19/07/1462	T	-		-		(16/09/1614)	T

Total lunar eclipses have played a major role in Babylonian astrology because they were often associated with a bad omen such as the death of the king, an epidemic or a war that broke out in the country. These eclipses can be used to establish absolute dates, when they are well referenced, which is unfortunately rarely the case. For example, a tablet of Mari written by Ašqūdum (eponym N°193 in 1686 BCE) mentions a total lunar eclipse (Heimpel: 2003, 176-177,209-210):

To my lord (Yasmah-Addu) speak! Your servant La’um (says), “The diviner Ašqūdum came from before the king (Šamši-Adad I). Where he talked, he told many things. [So] they said to me. He denounced me, Sin-Iddinam [and] Šamaš-Tillasu before the king. Nobody is safe in his hands. Once I arrive before my lord, I will place a full report before my lord.”

To my lord speak! Your servant Ašqūdum (says), “An eclipse of Sin (the moon) occurred on the 14th day (month?). And the occurrence of that eclipse bodes ill. I made extispicies for the well-being of my lord and the well-being of the upper district, and the extispicies were sound. Now my lord [must] have (extispicies) done there for [his] well-being and the well-being of the city of Mari, and the heart of my lord need not be concerned. My lord must send [me] a response to my tablet, [and my heart] will calm!”

All the letters written by Ašqūdum show that he had been a diviner in Šamši-Adad's service and that he pursued his career during the reign of Yasmah-Addu. During the first 8 years of Zimri-Lim. Ašqūdum must have played an important role in Yasmah-Addu's career since Šamši-Adad I appointed him as eponym (N°193) at the beginning of his reign in 1686 BCE. Šamši-Adad I became king of Mari and reigned for 10 years, after the death of Sumu-Yamam, under the name of Samsi-Addu. He then named his son Yasmah-Addu as his successor (Ziegler, Charpin: 2001, 496-501).

TABLE 35

KING OF MARI	reign	KING OF ASSYRIA	reign	KING OF BABYLON	reign
(Yaggid-Lîm) ⁵³	1740-1724	Ērišu II (n°38)	1722-1712	Apil-Sîn	1735-1717
Yahdun-Lîm	1716-1699	Šamši-Adad I (n°39)	1712 -	Sîn-muballit	1717 -
Sumu-Yamam	1699-1697				-1697
Samsi-Addu	1697-1687			Hammurabi	1697 -
Yasmah-Addu	1687-1680		-1680		
Zimri-Lim	1680-1667	Išme-Dagan I (n°40)	1680-1670		-1654

The total eclipse of the moon mentioned by Ašqūdum, which could have been a bad omen for the king and the city of Mari, must be located at the beginning of the reign of Yasmah-Addu for two reasons: 1) Šamši-Adad having died in 1680 BCE the king concerned must have been Yasmah-Addu (at the beginning of his reign) or Šamši-Adad himself; 2) the total visible eclipses⁵⁴ of the moon occurring on average at least once every 3 years, only those that seemed “harmful” (bad omen) were mentioned.

TABLE 36

BCE	Date (1st eclipse)	Mag. max	duration (LT) visible in Mari	Date (2nd eclipse)	Mag. max	duration (LT) visible in Mari
1691	27/10/-1690*	1.59	3:58-5:28			
1687	19/02/-1686*	1.72	5:25-7:03	14/08/-1686*	1.48	(not visible)
1680	01/04/-1679*	1.42	6:02-6:09	25/09/-1679*	1.39	(not visible)

The year 1687 BCE was marked by two total lunar eclipses (but only one was visible in Mari), which could have been a very bad omen for the King of Mari. However, this was not the case because of the good

⁵³ Yaggid-Lîm was probably king of Terqa and was succeeded by Yahdun-Lîm (Anbar: 1991, 31-40; Ziegler: 2001, 496-501,750).

⁵⁴ <https://eclipse.gsfc.nasa.gov/LEcat5/LE-1699--1600.html> Some total lunar eclipses, which occurred during the day, were not visible in Mari (latitude 40°53' E, longitude 34°33' N), <https://promenade.imcce.fr/fr/pages5/585.html>

omens taken from the liver. A comparison of all of the reigns of the time shows that Šamšī-Adad I was replaced by his son, Yasmah-Addu, on Mari's throne at the end of year 1687 BCE and then named Ašqūdum as eponym in the beginning of the year 1686 BCE.

TABLE 37

BCE	month				[A]	[B]	[C]	[D]	King / eponym								
1688	10	<i>I</i>	<i>x</i> ^o	VII	9	25	9	39									
	11	<i>II</i>	<i>xi</i> ^o	VIII													
	12	<i>III</i>	<i>xii</i> ^o	IX													
1687	1	<i>IV</i>	<i>i</i> ^o	X						26				<i>Ikūn-pīya</i> son of <i>Šalim-Aššur</i> (N°192) <i>Total lunar eclipse dated 19/02/-1686*</i>			
	2	<i>V</i>	<i>ii</i> ^o	XI													
	3	<i>VI</i>	<i>iii</i> ^o	XII													
	4	<i>VII</i>	<i>iv</i> ^o	I											10	40	[A] <i>Šamšī-Adad</i> king of Mari [B] <i>Šamšī-Adad I</i> king of Assyria (n°39) [C] <i>Hammurabi</i> king of Babylon [D] <i>Rīm-Sîn I</i> king of Larsa
	5	<i>VIII</i>	<i>v</i> ^o	II													
	6	<i>IX</i>	<i>vi</i> ^o	III													
	7	<i>X</i>	<i>vii</i> ^o	IV													
	8	<i>XI</i>	<i>viii</i> ^o	V													
	9	<i>XII</i>	<i>ix</i> ^o	VI													
	10	<i>I</i>	<i>x</i> ^o	VII	10												
	11	<i>II</i>	<i>xi</i> ^o	VIII	0	[A] <i>Yasmah-Addu</i> king of Mari											
	12	<i>III</i>	<i>xii</i> ^o	IX													
1686	1	<i>IV</i>	<i>i</i> ^o	X	27				<i>Ašqūdum</i> (N°193)								
	2	<i>V</i>	<i>ii</i> ^o	XI													
	3	<i>VI</i>	<i>iii</i> ^o	XII													
	4	<i>VII</i>	<i>iv</i> ^o	I						11	41						
	5	<i>VIII</i>	<i>v</i> ^o	II													
	6	<i>IX</i>	<i>vi</i> ^o	III													
	7	<i>X</i>	<i>vii</i> ^o	IV													
	8	<i>XI</i>	<i>viii</i> ^o	V													
	9	<i>XII</i>	<i>ix</i> ^o	VI													
	10	<i>I</i>	<i>x</i> ^o	VII								1					
	11	<i>II</i>	<i>xi</i> ^o	VIII													

CHRONOLOGY OF MESOPOTAMIAN REIGNS OVER THE PERIOD 2340–1912 BCE

The period 2243-1912 BCE has only one reign dated by astronomy, the one of Šulgi (2002–1954). The chronology of the Sumerian kings starting from Sargon of Akkad (2243–2187) can be reconstructed exactly because the durations of their reigns are all known through several King Lists and Chronicles (Pruzsinszky: 2009, 111–124). The different versions of the Sumerian King List (SKL) have many variants (Table 38), but the SKL WB list is (almost) complete and its reign durations are correct and reliable (durations in square brackets come from the other lists and are consistent with the total duration of 181 years), except for Utu-ḫegal's reign, which has a duration of 420½ years! (Mahieu: 2019, 1–25; 2020, 219-221):

TABLE 38

Sumerian King List	SKL WB	USKL	SKL TL	SKL L ₁ +N ₁	SKL IB	SKL BT	SKL	Reign
Sargon (Akkad)	56	40	54	55	53+x		56	2243-2187
Rimuš	9	8	7	15	7		9	2187-2178
Maništusu	15	15		7	[x]		15	2178-2163
Narām-Sîn	[37]	54½		56	37		37	2163-2126
Šar-kali-šarri	[25]	21+x		25	23+x		25	2126-2101
Irgigi/ Imi/ Nanum/ Ilulu	[3]	[x]			[3]	3	3	2101-2098
Dudu	21				[x]		21	2098-2077
Šu-Turul	15				18		15	2077-2062
Total (11 kings):	181				181		181	
Ur-nigina (Uruk IV)	7				3	7?	7	2062-2055
Ur-gigira	6				7		6	2055-2049
Kuda	6	5			6		6	2049-2043
Puzur-ilî	5				20		5	2043-2038
Ur-Utu	6				6		6	2038-2032
Total (5 kings):	30				43*		30	
Utu-ḫegal (Uruk V)	7x60	7	7½		26½		*	2032-2020
Sumerian King List	SKL WB	USKL	SKL TL	UIKL	SKL P ₅	SKL Su ₃₋₄		
Ur-Namma (Ur III)	18	18	10[+x]	18	18	18	18	2020-2002
Šulgi	48		48	48	58	48	48	2002-1954
Amar-Sîn	9		9	9	9	25	9	1954-1945
Šu-Sîn	9		9	9	7	16	9	1945-1936
Ibbi-Sîn	24		23 ⁷	24	25	15	24	1936-1912
Total (5 kings):	108				117	123	108	

The Utu-ḫegal reign of 7x60 years and 7 days in the SKL WB list is obviously an error. It should probably be 7 years and 7 days, as this reign corresponds to the 7 years, 6 months and 5 days of the SKL TL list. However, the 26 years, x+2 months and 15 days in the SKL IB list prove that there is an anomaly in this reign. Moreover, reign durations are always whole values. There are never durations of less than 1 year. For example, the four kings: Irgigi/ Imi/ Nanum/ Ilulu, reigned for 3 years which implies that the reign of two or three kings was less than 1 year and was therefore included in the months of accession (before the 1st Nisan) of the following king (or kings). A duration of the reign in months and days probably indicates a co-regency between Utu-ḫegal and Ur-Namma of x years, 7 months and a few days. The contemporaneity of Ur-Namma and Utu-ḫegal is indicated by several data, for instance “Ur-[Namma], military go[vernor] of Ur,” recognises Utu-ḫegal as his overlord (RIME 2.13.6.2001). Two inscriptions of Utu-ḫegal mention “the man of Ur” in a conflict with Lagaš (RIME 2.13.6.1, 3) and might concern Ur-Namma of Ur. It is still unclear at which moment during or after Utu-ḫegal’s reign, Ur-Namma assumes power. The only way to check the accuracy of this chronology is to use the synchronisms (highlighted in grey) with the chronology of the kings of Ebla and Mari, which can be reconstructed exactly using the durations of the reigns, which are all known. The Mesopotamian chronology can therefore be reconstructed until 2340 BCE. The chronology of this period confirms that Sargon destroyed the city of Mari (Durand: 2012, 117-132).

TABLE 39

n°	KING OF MARI	#	Reign	KING OF EBLA	#	Reign	LAGASH I	#	Reign
	Ikun-Šamaš	22	2340-2318	Abur-Lîm	22	2340-2318	Ur-Nanše	18	2340-2322
	Ikun-Šamagan	12	2318 - -2306	Agur-Lîm	6	2318-2312	Akurgal	4	2322-2318
	Iški-Mari	12	2306-2294	Ibbi-Damu	6	2312-2306	E-anatum	30	2318 - -2288
	Anubu	12	2294-2282	Baga-Damu	12	2306-2294	En-anatum I	[6]	2288-2282
	Sa’umu	6	2282-2276	Enar-Damu	12	2294-2282	En-metena	30	2282 -
	Itup-Išar	4	2276-2272	Iš’ar-Malik	6	2282-2276			
	Iblul-II	20	2272 - -2252	Kun-Damu	6	2276-2270			
	Nizi	3	2252-2249	Adub-Damu	6	2270-2264			
	Enna-Dagan	4	2249-2245	Igriš-Halab	12	2264-2252			
				Irkab-Damu/Tir	5	2252-2247	En-anatum II	7	2252 - -2245
				/Arrukun	2	2247-2245			
				Iš’ar-Damu	17	2245 -	En-entarzi	5	2245-2240
	ASSYRIAN KING			/Ibrium			Sargon (AKKAD)	56	2243 -
1	Tudiya	9	2235-2226	/Ibbi-zikir	15	-2228			
2	Adamu	9	2226-2217			-2213			
3	Yangi	9	2217-2208						
4	Suḫlâmu	9	2208-2199						
5	Harharu	9	2199-2190						
6	Mandaru	9	2190-2181						
7	Imšu	9	2181-2172						
8	Haršu	9	2172-2163						
9	Didânu	9	2163-2154				Rimuš	9	2187-2178
10	Hanû	9	2154-2145				Maništusu	15	2178 - -2163
11	Zuabu	9	2145-2136						
12	Nuabu	9	2136-2127						
13	Abazu	9	2127-2118						
14	Belû	9	2118-2109						
15	Azarah	9	2109-2100						
16	Ušpia	9	2100 - -2091						
17	Apišaš	11	2091-2080						
18	Halê	14	2080-2066						
19	Samânu	14	2066-2052						
20	Hayâni	14	2052 - -2038						
21	Ilu-Mer	14	2038-2024						
22	Yakmesi	14	2024-2010						
23	Yakmeni	14	2010-1996						
24	Yazkur-îlu	14	1996-1982						
25	Ila-kabkabû	14	1982-1968						
26	Amînum	14	1968 - -1954						
27	Sulili/Zariqum	14	1954-1940						

28	Kikkia	14	1940 - -1927	Hitlal-Erra	7	-1933	Šu-Sîn	9	1945-1936
29	Akia	14	1927 - -1913	Hanun-Dagan	8	1926-1918	Ibbi-Sîn	24	1936 - -1912
30	Puzur-Aššur I	14	1913 - -1899	Itûr ?[-]	6	1912-1906	Išbi-Erra (ISIN I)	33	1923 -
31	Šalim-ahum	14	1899 - -1885	Amer-Nunnu	6	1906-1900			-1890
				Têr-Dagan	8	1900-1892			-1890
				Dagan-[-]	6	1892-1886	Šû-ilîšu		1890-1880

According to this chronological reconstruction Utu-ḫegal must have been king of Uruk IV for 12 years (2032-2020), then king of Uruk V for 8 (7½) years (2020-2012). The first duration of 12 years was therefore not recorded in the King List and the second duration of 8 (7½) years was recorded as a co-regency. The present analysis proposes that both reigns (Ur III and Uruk V) begin at the same time and that the second phase of Ur-Namma's reign begins at Utu-ḫegal's death. The contemporaneity lasts for 8 (7½) years. During these 8 years, Ur-Namma assumes the titles of "military governor of Ur" and "king of Ur". During the 10 years that follow Utu-ḫegal's death (2012-2002), he uses the title "king of Sumer and Akkad". The 18 years in the USKL, UIKL, and SKL represent Ur-Namma's entire period of government (Mahieu: 2020, 220). The durations of reigns of the kings of Gutium mentioned in the SKL WB list (Mahieu: 2019, 4-6) allow us to verify that the reign of Utu-ḫegal began in 2032 BCE because this king put an end to the dynasty of Gutium by killing Tirigan whose reign lasted 40 days. The second synchronism (highlighted in brown) is mentioned during the 11th year of Šar-kalli-šarri⁵⁵ (in 2114 BCE) who took King Sarlagab prisoner.

TABLE 40

AKKAD	reign	LAGASH II	reign	GUTIUM	reign	ELAM	AWAN I/II
Šar-kalli-šarri	2126 - -2114	Lugal-ušumgal Puzur-Mama	2130-2120 2120 - -2110	Nibia Inkišuš Sarlagab	2123-2120 2120-2114 2114-2108	3 Ili-išmani 6 (vassal) 6 ?	2135 -
	-2101	Ur-Ningirsu I	2110 - -2100	Šulme	2108-2102	6 ?	
Irgigi, Imi Nuhum Ilulu	2101 - -2098	Pirig-me	2100-2090	Silulumeš	2102-2096	6 ?	
Dudu	2098-2077	Lu-Ba'u	2090-2080	Inimabakeš	2096-2091	5 ?	-2095
Šu-Turul	2077 - -2062	Lu-Gula Inim-kug	2080-2070 2070 - -2060	Igeša'uš Jarlabag Ibate Jarla Kurum	2091-2085 2085-2070 2070-2067 2067-2064 2064-2063	6 Ĥielu (n°10) 15 3 3 1	2095 - -2065
URUK IV				Ĥabil-kîn	2063-2060	3 Ĥita (n°11)	2065 -
Ur-nigina	2062 - -2055	Ur-Ba'u	2060 - -2048	Lā'arābum Irarum Ibranum	2060-2058 2058-2056 2056-2055	2 2 1	
Ur-gigira	2055 - -2049			Ĥablum	2055-2053	2	
Kuda	2049-2043	Gudea	2048 -	Puzur-Sîn	2053-2046	7	
Puzur-ilî	2043-2038			Jarlaganda	2046 - -2039	7 (n°12)	-2040
Ur-Utu	2038-2032			Si'um	2039-2032	7	2040 -
Utu-ḫegal (V)	2032 - -2020		-2028	Tirigan (vassal of Awan)	2032-2032 2032 -	0 Puzur- Inšušinak	
		Ur-Ningirsu II	2028-2023				
		Ur-gar	2023-2022				
		Ur-abba	2022-2021				
UR III		Ur-Mama	2021-2020	ELAM	SIMAŠKI		
Ur-Namma	2020 - -2002	Nam-mahazi (Ur's vassal)	2020-2017	[unammed]	2020 -		-2005
Šulgi	2002 - -1954	Ur-Ninsuna Ur-Ninkimara Lu-kirilaza	1996-1986 1986-1976 1976-1954			[-]-lu Ku-du[-ur-La -gamar]	2005-1990 1990 - -1954
Amar-Sîn	1954-1945	Ir-Nanna	1954 -			Tazitta I	1955-1940
Šu-Sîn	1945-1936		-1933			Ebarat I	1955-1935
Ibbi-Sîn	1936 - -1912	Ur-Ningirsu Ur-Nanše ISIN I	1933-1928 1928-1923			Tazitta II Lurrakluḫḫan	1935-1925 1925 - -1915
		Išbi-Erra	1923 - -1890			Kindadu	1915-1905
						Idadu I	1905-1890

⁵⁵ https://cdli.ox.ac.uk/wiki/doku.php?id=sharkalisharri_year_names (year j) In the year in which Szarkalisharri laid the foundations of the temples of the goddess Annunitum and of the god Aba in Babylon and took prisoner Szarlag(ab) the king of Gutium.

This chronological agreement proves that the SKL WB list is reliable, the main difficulty is to place the parallel dynasties. The only way to do this is to use synchronisms (highlighted in grey). For example, the Elamite dynasty Awan I, which ruled over Akkad (2020-1954), is recorded in parallel with the Sumerian dynasty Ur III (2020-1912). The 12 kings of Awan II (2390-2032) with the 3 kings of Awan I had a duration of 356 years (SKL WB) and reigned before the 12 kings of Shimashki (Sallaberger, Schrakamp: 2015, 23-25). Consequently, Puzur-Inšušinak⁵⁶, the 12th and last king of Awan II, reigned first over Elam (2040-2020), then also over Akkad (2020-2005) as first king of Awan I (Sallaberger, Schrakamp: 2015, 122-126).

TABLE 41

SUMER		AKKAD		ELAM		
URUK IV				AWAN II		
Ur-nigina			2062-2055	Hita	2065 - 11th	
Ur-gigira			2055-2049			
Kuda			2049-2043			
Puzur-ilī			2043-2038		-2040	
Ur-Utu			2038-2032	Puzur-Inšušinak	2040 - 12th	
Utu-hegal	URUK V		2032-2021			
UR III		AWAN I			-2020	SIMASHKI
Ur-Namma	2020 - -2002		2020 - -2005	1st		[unammed] 2020 -
Šulgi	2002 - -1954	[-]-lu Kudu[r-Laga.]	2005-1990 1990-1954	2nd 3rd		-1990
Amar-Sîn	1954-1945				1st	Girnamme 1990-1955
Šu-Sîn	1945-1936				2nd	Tazitta I 1955-1940
Ibbi-Sîn	1936 - -1912	ISIN I Išbi-Erra	1923 -		3rd	Ebarat I 1955-1935
			-1890		4th	Tazitta II 1935-1925
					5th	Lurrakluḥḥan 1925-1915
					6th	Kindadu 1915-1905
					7th	Idadu I 1905-1890

The chronology of the first 17 Assyrian kings is hypothetical for the following reason:

- According to the Assyrian King List the first 17 rulers were “kings under tents”, which means that these tribal kings were established not according to a royal lineage but according to their wisdom. Consequently, the duration of their reign must have been shorter since they began to rule at an advanced age. The average duration of 9 years was chosen because of the synchronism of Tudiya (2235-2226) with Ibrium (2245-2228), which can be deduced from the trade treaty between Ibrium, king of Ebla (in fact vizier of Iš’ar-Damu) and an anonymous king of Abarsal. According to Enna-Dagan, king of Mari: *Iblul-Il, king of Mari, took possession of Gallab’i, [of ...] and the Ganum (of Ebla) and conquered Abarsal (unknown city) at Zahiran* (Liverani: 2013, 119-126). Zahiran, also known as Sahiri (*Sa-hi-ri*), was an iron age city of the ancient near east. During the Mari-Ebla war, Zahiran was the site of a battle between Igrīš-Halab, King of Ebla (2264-2252), and Iblul-il, King of Mari (2272-2252). About a decade later it would have been absorbed into the empire of Sargon of Akkad. The town was sacked in the Battle of Nineveh (612 BCE). The chronicle of Aššur-uballit II states of this battle between Babylonian and Assyrian armies that: *in the month Ābu the king of Akkad and his army went upstream to Mane, Sahiri (Zahiran) and Bali-hu*. As the city of Abarsal had a king, it must have been an important city, so at that time (c. 2270 BCE) and in the Zahiran region there were two cities, Ashur and Nineveh. However, the name Ashur did not refer to a city but to the “region of the god Ashur”. In his report on the conquest of Abarsal, Enna-Dagan (2249-2245) does not mention any king of Abarsal, but Ibrium (2245-2228) does, which could, therefore, correspond to the first Assyrian king, Tudiya (2235-2226).

⁵⁶ An overlap of all available documents leads to the following conclusion (De Graef/Tavernier: 2012, 293-303): Puzur-Inšušinak was the first Elamite king (Awan I) who was able to dominate a major chunk of Babylonia by means of alliances to control main trade routes to Syria. That chunk was not insignificant, since included in it were northern Babylonia and the adjoining Diyala region, therefore more than half of the traditional Babylonian territories. Puzur-Inšušinak's dominion in the east were equally (if not even more) impressive, since, apart from the Susiana and the state of Awan, he put under his (military) rule the Zagros territories as far as the Hamadan plain (Kimash and Hurri). If he also controlled Anshan, Puzur-Inšušinak probably was the first Elamite ever both to establish commercial hegemony over the entire western section of the Iranian plateau and to integrate the Susiana with Elam in a vast conglomerate or “commercial empire”. This control of trade routes in Akkadian cities in the north sparked rivalries and opposition from Sumerian cities in the south. The king of Elam Puzur-Inšušinak founded his very brief empire (Awan I) by allying with the military aristocracy of kings of Gutium and joining the kings of Akkad to control the trade route towards Syria. Taxation (and plunder) of this important trade route severely disadvantaged Sumerian cities causing their resentment. On the other hand, the growing prosperity of this region attracted massively nomadic Amorites living in Syria. The relationship between the “emperor” of Elam, the Mesopotamian kings and the Amorites was complex because it wavered between vassalage and rebellion, which complicates a bit more the reading of documents. For example, Utu-hegal who put an end to the Gutium dynasty (in 2032 BCE), was king of Uruk, king of the four quarters of the world (Sumer and Akkad), but also vassal of Awan.

The synchronisms obtained by a prosopographical study of the kings of Lagash, Mari and Ebla (Archi: 1996, 11-28) allow a chronological rebuilding (Joannès: 2001, XVI-XVII). Since there are 12 intervals between the first king of Lagash Ur-Nanše (2340-2322) and the 5th, En-metena (2282-2252), each interval should have an average duration of 6 years = $(2322-2252)/12$.

TABLE 42

LAGASH I	MARI	EBLA	(Vizier)	UR I	N°	period
Ur-Nanše (18)	Ikun-Šamaš	Abur-Lîm		Mesanepada (20)		2340-2320
Akurgal (5<)				Aanepada	1	2320-2318
E-anatum (30)	Ikun-Šamagan	Agur-Lîm		Meski'agnuna (36?)	2	2318-2312
		Ibbi-Damu			3	2312-2306
	Iški-Mari	Baga-Damu			4	2306-2300
	Anubu	Enar-Damu			5	2300-2294
En-anatum I (6?)					6	2294-2288
En-metena (30)	Sa'umu	Iš'ar-Malik			7	2288-2282
	Itup-Išar	Kun-Damu		Balulu (36)	8	2282-2276
	Iblul-II (20?)	Adub-Damu			9	2276-2270
		Igriš-Halab (12) Darmia			10	2270-2264
			11		2264-2258	
					12	2258-2252
En-anatum II (7)	Nizi (3)	Irkab-Damu (7)	Tir			
En-entarzi (5)	Enna-Dagan (4?)		Arrukum			
Lugal-Anda (7)	Ikun-Išar (-)			AKKAD		
Urukagina (11)	Hida'ar (35)	Iš'ar-Damu (32)	Ibrium	Sargon		2243 -
Lugalzagesi (25)	Išqi-Mari (9)		Ibbi-zikir			-2213

Iš'ar-Damu (2245-2213), king of Ebla, reigned 32 years through his two viziers: 17 years with Ibrium (2245-2228) then 15 years with Ibbi-zikir (2228-2213), that is $17 + 15 = 32$ years (Pomponio: 2013, 71-83). This chronology can be improved by the following synchronisms (Charpin: 2008, 222-233):

- Year 1 of Irkab-damu king of Ebla (2252-2245) corresponds to year 1 of Nizi king of Mari (2252-2249) and his Year 7 corresponds to year 1 of Iš'ar-Damu king of Ebla (2245-2213);
- Year 1 of Hida'ar king of Mari (2245-2210) corresponds to year 1 of Iš'ar-Damu king of Ebla;
- The destruction of Ebla by Sargon is dated to year 32 of Iš'ar-Damu (2245-2213);
- The destruction of Mari in year [42] Sargon (2243-2187) is dated to year 9 of Išqi-Mari (2210-2201) king of Mari (Gordon, Rendsburg: 2002, 62-72);
- Lugalzagesi's reign is approximate (2240-2215). We only know that it encompasses Urukagina's reign.
- Year 1 of Puzur-Estar, king of Mari (1958-1933) corresponds to year 44 of Šulgi king of Ur (2002-1954);
- Ur-Namma's reign, king of Ur (2020-2002), is included in Apil-Kîn's reign (2030-1995), king of Mari.

TABLE 43

LAGAŠH I	Reign	MARI	Reign	EBLA	Reign
Ur-Nanše	18 2340-2322	Ikun-Šamaš	2340-2318 [18]	Abur-Lîm	2340-2318
Akurgal	4 2322-2318	Ikun-Šamagan	2318 -	Agur-Lîm	2318-2312 [6]
E-anatum	30 2318 - -2288		-2306	Ibbi-Damu	2312-2306 [6]
		Iški-Mari	2306-2294	Baga-Damu	2306-2294 [6]
En-anatum I	6? 2288-2282	Anubu (Ianupu)	2294-2282	Enar-Damu	2294-2282 [6]
En-metena	30 2282 - -2252	Sa'umu	2282-2276	Iš'ar-Malik	2282-2276 [6]
		Itup-Išar	2276-2270	Kun-Damu	2276-2270 [6]
		Iblul-II	2270 -	Adub-Damu	2270-2264 [6]
			-2252	Igriš-Halab	2264-2252 12
En-anatum II	7 2252 - -2245	Nizi	2252-2249 3	Irkab-Damu	2252 - 7
		Enna-Dagan	2249-2245 4?		
AKKAD		Ikun-Išar	2245-2245 -		-2245
Sargon	56 2243 - -2187	Hida'ar	2245-2210 35	Iš'ar-Damu	2245-2213 32
		Išqi-Mari	2210-2201 9	<i>Fall of Ebla</i>	
		<i>Fall of Mari</i>			
Rimuš	9 2187-2178		2201 -		
Maništusu	15 2178-2163	<i>military governor</i>	-2164		
Narâm-Šin	37 2163-2126	Ididiš	2164 - 60		
Šar-kali-šarri	25 2126-2101		-2104		
LAGAŠH II		Šu-Dagan	2104-2099 5		
Pirig-me	2100-2090	Išmah-Dagan	2099 - 45		
Lu-Ba'u	2090-2080		-2054		

Mesopotamian chronology can, therefore, be established by synchronisms from the reign of Ur-Nanše (2340–2322) to the reign of Nabonidus (556–539) and can be anchored on an absolute date from the reign of Ur-Namma (2020–2002). The Assyrian chronology can be established by synchronisms reliably only from the reign of Sulili (1954–1940) to the reign of Aššur-uballit II (612–609) and can be anchored on an absolute date from the reign of Erišu I (1873–1835). Since Elamite chronology has no year of reign or absolute date, it can only be established by synchronisms with Mesopotamian chronology (Vallat: 1999, 109–117; 2000, 7–17; 2001, 272–276; 2006, 123–135; 2007, 73–83).

CHRONOLOGY OF ELAMITE REIGNS OVER THE PERIOD 2390–1050 BCE

TABLE 44

ASSYRIA	Reign	BABYLON	Reign	ELAM	Reign
Šamšî-Adad I (n°39)	1712 -	Sîn-muballit	1717-1697	Širuk-tuḫ	1715-1695
	-1680	Hammurabi	1697 -	Siwe-palar-ḫuppak	1695 -
Išme-Dagan I	1680-1670				-1670
Aššur-dugul	1670-1664			Kudu-zuluš I	1670 -
Bêlu-bâni	1664-1654		-1654		
Libbaya	1654 -	Samsu-iluna	1654 -		-1645
	-1638			Kutir-Naḫḫunte I	1645 -
Šarma-Adad I	1638-1626				
Puzur-Sîn	1626-1615		-1616		-1620
Bazaya	1615-1588	Abi-ešuḫ	1616-1588	Temti-Agum II	1620-1595
Lullaya	1588-1582	Ammiditana	1588 -	Kutir-Silḫaḫa	1595 -
Šû-Ninûa	1582-1568				
Šarma-Adad II	1568-1565				-1570
Ērišu III	1565-1553		-1551	Kuk-Našur II	1570 -
Šamšî-Adad II	1553-1547	Ammišaduqa	1551 -		-1545
Išme-Dagan II	1547-1531		-1530	Kudu-zuluš II	1545-1525
Šamšî-Adad III	1531-1516	Samsuditana	1530 -	Tan-Uli	1525-1505
Aššur-nêrârî I	1516-1491	<i>Fall of Babylon</i>		Temti-ḫalki	1505 -
Puzur-Aššur III	1491 -	Burna-Buriaš I	1494 -		-1485
	-1467		-1464	Kuk-Našur III	1485-1465
Enlil-nâšir I	1467-1455	Kaštiliašu III	1464 -	Kidinu	1465-1450
Nûr-ili	1455-1443	Ulam-Buriaš		Inšušinak-sunkir-nappipir	1450 -
Aššur-šadûni	1443-1443		-1443		-1440
Aššur-rabi I	1443-1433	Agum III	1443 -	Tan-Ruḫuratir II	1440-1435
Aššur-nâdin-aḫḫe I	1433-1424		-1426	Šalla	1435-1425
Enlil-našir II	1424-1418	Kadašman-Harbe I	1426 -	Tepti-aḫar	1425 -
Aššur-nêrârî II	1418-1411		-1409		
Aššur-bêl-nišešu	1411-1403	Kara-indaš	1409 -		-1405
Aššur-rê'im-nišešu	1403-1395		-1392	Igi-halki	1405 -
Aššur-nâdin-aḫḫe II	1395-1385	Kurigalzu I	1392 -		-1385
Eriša-Adad I	1385 -		-1375	Pahir-iššan	1385-1375
	-1358	Kadašman-Enlil I	1375 -	Attar-Kittaḫ	1375-1365
			-1360	Unpaḫaš-Napiriša	1365-1360
Aššur-uballit I	1358 -	Burna-Buriaš II	1360 -	Kidin-Ḫutran I	1360-1355
			-1333	Ḫumban-numena I	1355-1345
		Kara-ḫardaš	1333-1333	Untaš-Napiriša	1345 -
		Nazi-Bugaš	1333-1333		
	-1323	Kurigalzu II	1333 -		
Enlil-nêrârî	1323-1313		-1308		
Arik-dên-ili	1313-1302	Nazi-Maruttaš	1308 -		-1305
Adad-nêrârî I	1302 -		-1282	Kidin-Ḫutran II	1305 -
	-1271	Kadašman-Turgu	1282 -		-1275
Shalmaneser I	1271 -		-1264	Napiriša-untaš	1275 -
		Kadašman-Enlil II	1264-1255		
	-1242	Kudur-Enlil	1255-1246		-1245
Tukultî-Ninurta I	1242 -	Šagarakti-šuriaš	1246-1233	Kidin-Ḫutran III	1245 -
		Kaštiliašu IV	1233-1225		
		Enlil-nâdin-šumi	1225-1224		
		Kadašman-Harbe II	1224-1223		
		Adad-šuma-iddina	1223-1217		-1215
	-1206	Adad-šuma-ušur	1217 -	Ḫallutaš-Inšušinak	1215 -

Aššur-nâdin-apli	1206-1203				
Aššur-nêrârî III	1203-1197				
Enlil-kudurri-ušur	1197-1192		-1187		-1190
Ninurta-apil-Ekur	1192-1179	Meli-Šipak	1187-1172	Šutruk-Nahhunte I	1190 -
Aššur-dân I	1179 -	Marduk-apla-iddina	1172-1159		
		Zababa-šuma-iddina	1159-1158		-1160
		Enlil-nâdin-aḫi	1158-1155	Kutir-Nahhunte II	1160-1155
		Marduk-kabit-aḫhešu	1159-1141	Šilhak-Inšušinak	1155 -
		-1133 Itti-Marduk-balaṭu	1141 -		
Ninurta-tukultî-Aššur	1333-1333				
Mutakkil-Nusku	1333-1333		-1133		
Aššur-rêš-iši I	1133 -1115	Ninurta-nâdin-šumi	1133 -1127		-1125
Tiglath-pileser I	1115 -	Nebuchadnezzar I	1127-1105	Hutelutuš-Inšušinak	1125-1105
		Enlil-nâdin-apli	1105-1101	Šilhina-hamru-Lagamar	1105 -
	-1076	Marduk-nâdin-aḫḫê	1101-1083		-1085

The Elamite chronology before the reign of Širuk-tuḫ (1715-1695) is more difficult to establish because of the presence of parallel dynasties. We can note that between En-anatum I (2288-2282) and Šulgi (2002-1954) the reigns of the 14 Elamite kings lasted on average about 25 years (= [2288 - 1954]/14).

TABLE 45

ELAM (AWAN)	reign			LAGASH I (SUMER)	reign
Pieli (n°1)	2390-2365			En-ḫegal (LUGAL)	2370-2355
Tari (n°2)	2365-2340			Lugal-ša-engur (ENSI)	2355-2340
Ukku-taḫiš (n°3)	2340 -			Ur-Nanše	2340-2322
	-2315			Akurgal	2322-2318
Ḫišur (n°4)	2315-2290	ELAM (SUSA)	reign	E-anatum	2318-2288
Šušun-tarana (n°5)	2290-2265	[unnamed]		En-anatum I	2288-2282
Napil-ḫuš (n°6)	2265-2240			AKKAD	
Kikku-sime-temti (n°7)	2240-2215			Sargon of Akkad	2243 -
Luhḫi-iššan (n°8)	2215-2195				-2187
Ḫišep-ratep (n°9)	2195-2180	(Emaḫsini n°10)	2180-2180	Rimuš	2187-2178
Ešpum (<i>governor</i>)	2180-2170			Maništusu	2178 -
Ilšu-rabi (<i>governor</i>)	2170-2160				-2163
Epir-mupi (<i>vassal</i>)	2160-2135	(<i>governor</i>)		Narâm-Sîn	2163-2126
Ili-išmani (<i>vassal</i>)	2135 -	(<i>governor</i>)		Šar-kali-šarri	2126-2101
?	-2095			(anarchy)	2101 -
Ḫielu (n°10)	2095-2065				
Ḫita (n°11)	2065-2040			URUK IV	
Puzur-Inšušinak (n°12)	2040 -			Utu-ḫegal	2032-2021
(/Akkad n°1)		SIMĀŠKI		UR III	
	-2005	[unnamed]	2020 -	Ur-Namma	2020-2002
[Ḫie?]-lu n°2	2005-1990		-1990	Šulgi	2002 -
Kudu ₇ [ur-Lagamar] ⁵⁷ n°3	1990-1954	Girnamme	1990-1955		-1954
		Tazitta I / Ebarat I	1955-1940	Amar-Sîn	1954-1945
		Ebarat I	1940-1935	Šu-Sîn	1945-1936
		Tazitta II	1935-1925	Ibbi-Sîn	1936 -
		Lurrak-luhḫan	1925-1915		
		Kindadu	1915-1905	(Collapse of Ur)	-1912
		Idadu I	1905-1890	LARSA	
EPARTIDS		Tan-Ruḫuratir I	1890-1875	Iemšium	1910-1882
Ebarti II	1875-1855	Ebarat II	1875-1855	Samium	1882-1847
Šilhaha	1855-1835	Idadu II	1855-1825	Zabâia	1847-1838
Temti-Agun I	1835-1815	Idadu-napir	1825 -	Gungunum	1838-1811
Pala-iššan	1815-1795		-1795	Abî-sarê	1811-1800
Kuk-Kirmaš	1795-1775	Idadu-temti	1795 -	Sumu-El	1800-1771
Kuk-Naḫudi	1775-1755		-1765	Nûr-Adad	1771-1755
Kuk-Našur I	1755-1735				
Atta-ḫušu	1735-1715	BABYLON		ASSYRIA	
Širuk-tuḫ	1715-1695	Sîn-muballit	1717-1697	Samšî-Adad I (n°39)	1712 -
Siwe-palar-ḫuppak	1695 -	Hammurabi	1697 -		-1680
	-1670			Išme-Dagan I (n°40)	1680-1670

⁵⁷ The name of the last king of the Awan dynasty, who reigned 36 years, is *ku-du₇[ur-la-ga-mar]*, in line 13 of the WB444 prism (Langdon: 1923, 11-14, Plate II). This name is read *ku-ul[-]* despite the absence of Elamite names beginning with *kul*.

All synchronisms between the Elamite chronology and the “Ultra-Low” Mesopotamian chronology are respected, including between the regents (ENSI) Ešpum and Ili-išmani (Potts: 2016, 97). The transition between Ili-išmani, the last vassal (GIR.NÍTA) of the Akkadian kings, who was a contemporary of Šar-kali-šarri (2126-2101), and Hielu (2095?-2065), the 10th king of Awan, must have taken place at the time of the Akkadian anarchy that began in 2101 BCE⁵⁸. For a long time, the Mesopotamian chronology could not be evaluated by ¹⁴C dating, but the site of Hazor which could be dated by ¹⁴C allowed indirectly, through a precise synchronism with Hammurabi, the confirming of the Ultra-Low Chronology. The “Greater Hazor” that corresponded with Mari (Stratum XVI), which began in MB IIA-B (in 1700 +/- 20 BCE) reached its peak around 1680 BCE at the earliest (Ben-Tor: 2004, 45-67). It was this Hazor, with its King Ibni-Addu, that corresponded with Mari for a period of no less than 20 years. Given that Mari was destroyed by Hammurabi (1697-1654) in the 32nd year of his reign, in 1665 BCE according to the Ultra-Low Chronology, the beginning of the correspondence was in 1685 BCE, or in 1700 BCE +/- 20, according to the stratigraphy of the “Greater Hazor” (Ben-Tor: 2016, 76-77) calibrated by ¹⁴C dating, but this result has been questioned by radiocarbonists who claim that the dating of the Waršama Palace would confirm the Middle Chronology!

COMPARISON OF ABSOLUTE DATES FROM ASTRONOMY AND ¹⁴C DATES

An absolute date is a date known exactly and with no error percentage, even a small one. For example, since the Egyptian reign of Psamtik I is known to the nearest month (02/663–01/609) it is an absolute chronology because Year 1 of his reign = 663 BCE +/- 0. Since the 2000s radiocarbonists consider that their dating method allows one to obtain an absolute chronology and propose to archaeologists to calibrate the historical chronologies, Babylonian and Egyptian, with their ¹⁴C dates. Contrary to what they claim, ¹⁴C dates are neither absolute nor historical for the following reasons: ¹⁴C dates are known to have a percentage of error and the transformation of these ¹⁴C dates into historical dates is based on hypothetical historical interpretations that are often debatable (Wiener: 2012, 423–434). Moreover, radiocarbonists naively believe that conventional chronologies are accurate.

- Even with an accuracy of 1% the measurements of ¹⁴C rates are unusable in their raw state to provide a dating. They must be calibrated by dendrochronology, but correspondence between the uncalibrated years BP (Before Present) and calibrated years BCE is complex. In addition, some parts of the calibration curve are unusable, such as the period 800–400 BCE called 'plateau of Hallstatt' because the value remains constant in years BP. For example, the reign of Psamtik I (663-609), which is situated in this period, is not measurable. As a result, the reading of the BP dates calibration curve is equivocal, resulting in a significant inaccuracy of plus or minus X years (X is sometimes greater than 100 years!) despite the accuracy of the radiocarbon measurements (1%).
- A second factor of imprecision comes from the nature of the carbonaceous samples, because whereas the climate in Egypt allowed the conservation of many documents, inscriptions on papyrus or wooden objects, the Mesopotamian climate did not allow it. The only inscriptions exhumed in Mesopotamia appear on clay tablets and stone stelae, which are not datable because they are carbonless. The only objects that can be dated are pieces of charred wood from a fire, which can be dated historically, or which can be precisely located in a geological stratum. In these two cases the dating supposes a hypothesis: 1) either the piece of wood was cut a few years before its use (which is not verifiable because cedar being a precious wood, the beams of buildings have often been used for several decades and often reused during the construction of a new building, which artificially ages the final date of the material at the time of the fire), or 2) the object was buried (to get rid of it) in a layer which is therefore older than the object. Despite this imprecision of radiocarbon dating due to the method, and not to the precision of measurements, since the date of the charred wood corresponds to the manufacture of the object and not to its destruction, which generally took place several decades after its manufacture, or even more than a century later, radiocarbonists consider their dating to be absolute.
- A third factor of imprecision comes from the assumptions used by radiocarbonists to transform ¹⁴C dates into historical dates. Indeed, this transformation assumes the use of a conventional chronology to identify historical events to be dated (for example the destruction of a city due to a war among kings). This method induces a circular reasoning since the conventional chronology used to identify a historical event is then precisely dated by ¹⁴C, which indirectly validates the conventional chronology. This self-

⁵⁸ The absolute Assyrian chronology goes back to Erišu I (1873-1835), the reigns of the previous 16 kings can be estimated at 14 years which is the average length of the previous 6 kings. The synchronism between the 3rd king of Ur III, Amar-Sîn (1954-1945), and the 27th Assyrian king, Sulili, makes it possible to calculate the average value of Assyrian reigns before Erišu I. This average duration (+/- 5 years) for the 6 Assyrian kings between Sulili and Erišu I is c. 14 years = (1954 - 1873)/6. The reigns of the first 17 “kings in tents” can be estimated at 9 years, which corresponds to the average duration between Tudia (2235-2226), the first Assyrian king contemporary with the vizier Ibrum (2235-2228), and Halê (2080-2066) the 18th king (9 years = [2235 - 2080]/17).

validation is difficult to detect because when a conventional chronology is validated by ^{14}C it is then used to evaluate the other conventional chronologies, which harmonizes all the dates among themselves and therefore prevents the detection of initial dating errors⁵⁹.

Radiocarbonists completely minimize the interpretation bias of their radiocarbon dating and believe that the accuracy due to calibration by dendrochronology is sufficient, but they are unaware that conventional chronologies used as a reference are sometimes erroneous. This conviction leads radiocarbonists to interfere in the debate on the absolute chronology of the Mesopotamian chronology of the 2nd millennium BCE, as can be seen in the article: *Integrated Tree-Ring-Radiocarbon High-Resolution Timeframe to Resolve Earlier Second Millennium BCE Mesopotamian Chronology*:

500 years of ancient Near Eastern history from the earlier second millennium BCE, including such pivotal figures as Hammurabi of Babylon, Šamši-Adad I (who conquered Aššur) and Zimrilim of Mari, has long floated in calendar time subject to rival chronological schemes up to 150+ years apart (...) To address, we have integrated secure dendrochronological sequences directly with radiocarbon (^{14}C) measurements to achieve tightly resolved absolute (calendar) chronological associations and identify the secure links of this tree-ring chronology with the archaeological-historical evidence. The revised tree-ring-sequenced ^{14}C time-series for Kültepe and Achemhöyük is compatible only with the so-called Middle Chronology and not with the rival High, Low or New Chronologies. This finding provides a robust resolution to a century of uncertainty in Mesopotamian chronology and scholarship, and a secure basis for construction of a coherent timeframe and history across the Near East and East Mediterranean in the earlier second millennium BCE (Manning, Griggs, Lorentzen, Barjamovic, Bronk Ramsey, Kromer, Wild: 2016, 1-27).

Is this statement scientifically robust as the authors of this article assert? An examination of the arguments used leads to the conclusion that it is not, because while the accuracy of carbon-14 measurements is extremely rigorous from a scientific point of view, the interpretation of the dates obtained is extremely fanciful from a historical point of view. Here are the main arguments used in the article (statements that are hypotheses, or approximations, have been underlined):

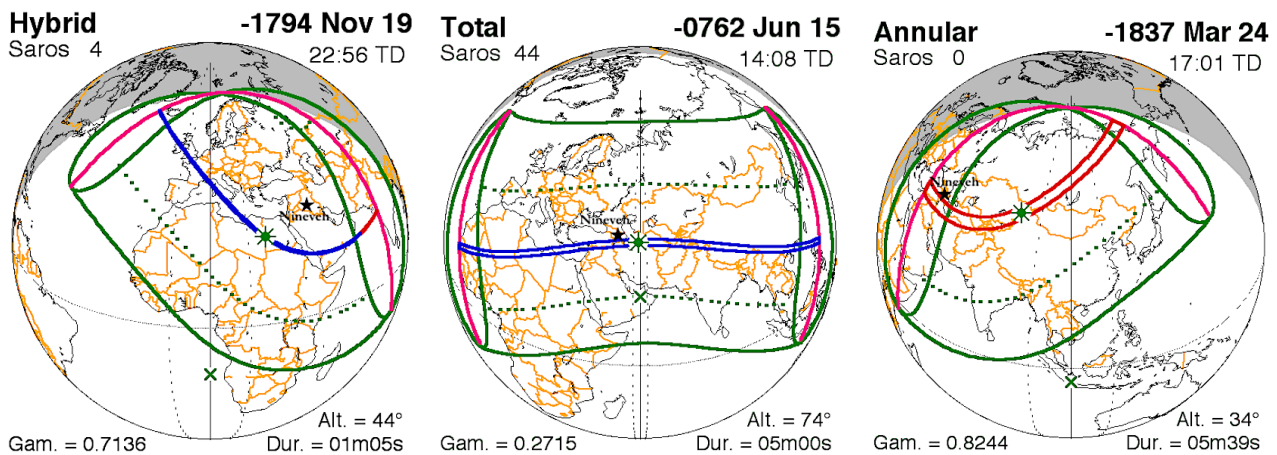
Alongside our knowledge of the Babylonian dynastic succession and the well-established synchronism of Šamši-Adad I's death in Hammurabi's 18th regnal year, this allows us to establish a relative chronological sequence of some 380 years between the ascent of the Assyrian ruler Erišum I and the destruction of Babylon during the Hittite invasion of Muršili I (...) At approximately the same time a new palace—the so called Waršama Palace of Mound Level 7—was constructed on the citadel at the site of its burnt-down predecessor, the so-called Old Palace of Mound Level 8, and is contemporary with Kültepe Lower Town Level Ib. There is wood (Juniperus spp.) from the construction of the Waršama Palace with bark preserved, which allows dating of the exact year that the tree was felled, thereby offering a potential date for the palace's construction within a year or so, and a potential tie point with the REL. However, there is a critical gap in the evidence: the documentary record comes from the lower town area, which is entirely discrete from and with no stratigraphic or decisive documentary relationship to the Waršama Palace. A simultaneous destruction and transition from (i) Lower Town Level II to Ib, and (ii) the destruction and transition from the Old Palace to the Waršama Palace has hitherto been maintained as the most likely scenario and employed as a premise. But this assumption cannot itself form a fundamental link in the evidence chain and needs to be tested. A second site offers an independent starting point for doing so. A large number of bullae (sealed clay lumps) bearing e.g. the sealings of Šamši-Adad I, king of Upper Mesopotamia, and ruler of Aššur between REL 165 and his death in REL 197 (a reign lasting 33 or 34 years), were found at the Sarıkaya Palace at Achemhöyük in Anatolia (...) We may compare the placement of the MBA tree-ring series against the date

⁵⁹ The dating of the United Monarchy illustrates this bias in the ^{14}C dating method. The United Monarchy is the name given to the Israelite kingdom of Israel and Judah, during the reigns of Saul, David and Solomon, as depicted in the Hebrew Bible. However, as the Kingdom of Saul left no archaeological traces, this archaeological period of the United Monarchy, named Iron IIA, actually covers only the reigns of David and Solomon. The kingdoms of these two famous kings are located in a period dated 1200-800 BCE called the "Dark Ages" which has left no documents, except for the stele of Tel Dan which mentions the "House of David" (BYTDWD). Consequently, some archaeologists have even denied their existence. The only way to date the reign of David is to use the traditional chronology calculated from the biblical text and then check whether this dating is in accordance with the Assyrian chronology (the only absolute chronology during this period). Dating the reign of David (1057-1017) by ^{14}C makes it possible to verify that this method does not give absolute dates but indirectly validates the conventional chronology (1010-970). Indeed, ^{14}C dates are obtained according to the following process: radiocarbon dates are first calibrated by dendrochronology and then associated with historical dates from conventional chronologies. Consequently, this dating method indirectly validates conventional chronologies. Consequently, there is a problem of method with ^{14}C dating because archaeologists proceed in the opposite manner to historians: their method requires first of all to have a hypothesis from which they derive a chronology that is then confirmed by ^{14}C measurements of archaeological remains (Finkelstein, Piasezky: 2011, 50-54). There are two ways to prevent this radiocarbon dating method from being biased, 1) using a conventional chronology that is anchored on absolute dates obtained by astronomy, such as the Assyrian chronology over the period 1050-600 BCE, or 2) using a chronology that is anchored on synchronisms with another chronology that is anchored on absolute dates obtained by astronomy over the period of the measurements.

ranges previously estimated for Mesopotamian chronology based on textual, astronomical and archaeological information as they intersect together in the construction date and assemblage of the Sarikaya Palace at Acemhöyük. It is evident that only some variation of the Middle Chronology is compatible with the tightly constrained data. Under the High Chronology Šamši-Adad would have died four decades before the Sarikaya Palace was even constructed, which is incompatible with his numerous documentary links with the building (...) The ~13–16 years older shift from our results critically resolves a problem with the (now withdrawn) previous dendrochronological dating. Although this previous date favored the Middle Chronology, it was problematic as it left the construction of the Sarikaya Palace at Acemhöyük (then given as 1774 +4/-7 BCE) occurring more or less when Šamši-Adad I died (REL 197 = 1776 BCE on the Middle Chronology—and not long before Šamši-Adad I's death on the Low Middle Chronology). And yet there are numerous sealings of Šamši-Adad I in the Sarikaya Palace suggesting, first, that they are unlikely to have been all heirlooms (or a secondary deposit), and, second, that the palace must have existed for at least several years if not a decade or few decades before his death (...) Importantly this questions the long-held but unsubstantiated assumption that the destruction/transition between Lower Town Levels II and Ib equates with the destruction of the Old Palace and building of the new Waršama Palace (...) If we consider, the notable coincidence of consonant scenarios based on the integrated dendrochronological and ¹⁴C analysis of multiple timbers from monumental constructions at two sites (over 200 km apart) demonstrates that the chronology identified reflects the correct historical timeframe and that our findings are not some accident caused by one or two re-used timbers or some other unusual situation affecting one context or even one site. The Middle Chronology offers the best fit between the Old Palace/Lower Town Level II evidence and the construction of the subsequent Waršama Palace, whereas the Low-Middle Chronology only just fits. The Middle Chronology also minimizes the gap between the start of Lower Town Level Ib and the Earliest Use of the Waršama Palace to likely as little as ~8–24 years, whereas it is likely ~16–33 years with the Low-Middle Chronology. This is not decisive, but the Middle Chronology allows the best compromise of all the pre-existing archaeological-textual assumptions with the new dendro-¹⁴C dating framework (...) More importantly, by separating the two fires, we retain the tie between the REL sequence and the astronomical data (eclipses, Venus tablets), intercalations and even potentially the suggested link between a major volcanic dust veil and several northern hemisphere tree-ring growth anomalies 1628–1627 BCE and poor atmospheric observation conditions as evident in Mesopotamian records. Finally, by dissociating the two conflagrations, we gain the necessary time for the deposit of the numerous Šamši-Adad I bullae at Sarikaya (previously something of a problem), but not enough time to render any of the later chronologies (Low Chronology, New Chronology) plausible (...) Conveniently, the sound new dates we report for the MBA chronology are only ~16 years different (older) than those previously suggested. Hence, although previous arguments using the now replaced tree-ring-based dates are inherently invalid in this strict respect, it turns out that the new, robust, evidence nonetheless finds the same Middle or Low-Middle Mesopotamian Chronology solutions are most likely but on a more rigorous basis. Thus, in line with recent text discoveries and analysis and astronomical study, we find that only the Middle Chronology or the Low-Middle Chronology (or a chronology very close to these) fits with the new dendro-¹⁴C dated constraints from the site of Acemhöyük, and also simultaneously creates a plausible historical linkage for the approximately associated dendrochronological-¹⁴C and text evidence from Kültepe. Contrary to claims that it should be dismissed, the Middle or Low-Middle Chronology can henceforth be regarded in approximate terms—with a robust dendro-¹⁴C anchor—as the accurate timeframe for Mesopotamian history. To express this new resolution in calendar years, the death of Šamši-Adad I (REL 197) may be placed ~1776 BCE or ~1768 BCE, removing previous uncertainty levels of +56/64 calendar years (to the High Chronology) and -64/88 calendar years (to the Low or New Chronologies). A decision between the Middle and Low-Middle Chronology largely hinges on the astronomical evidence, especially the record in the Mari Eponym Chronicle of what is interpreted as a solar eclipse placed about REL 127, the year after the birth of Šamši-Adad I – though there is some room for debate as the relevant text is not complete (...) The new dendro-¹⁴C dates require rethinking of recent analyses, which made assumptions based on the now incorrect previous dendrochronological dates. However, in sum, the situation remains similar—assuming we retain the approximate (within about 0–1 year) link between the birth of Šamši-Adad I in REL 126 and an eclipse in REL 127. There is a partial eclipse in 1845 BCE at sunset (hence likely visible), which is within 1 year of the Middle Chronology date for REL 127, and a slightly more conspicuous partial eclipse in 1838 BCE which matches exactly with the Low-Middle chronology date for REL 127 –whereas the total eclipse of 1833 BCE appears too late unless there are substantial unknown errors in the REL sequence. Earlier eclipses, such as in 1859 BCE, are too early, unless substantial reconsideration of the standard textual interpretation is considered. Thus, both the Middle and Low-Middle Chronology have suitable eclipse candidates within the approximate precision of the available textual evidence, but the 1838 BCE eclipse offers a slightly better (more conspicuous) case.

Contrary to what the authors of the article assert, the dating of the Middle Chronology depends on several hypothetical and approximate synchronisms (underlined parts). Worse, the defence of the Middle Chronology, which would be the most “robust according to ^{14}C measurements”, is contradicted by their own dating: *Although this previous date favored the Middle Chronology, it was problematic as it left the construction of the Sarıkaya Palace at Acmhöyük (then given as 1774 +4/-7 BCE) occurring more or less when Šamši-Adad I died (REL 197 = 1776 BCE on the Middle Chronology), which makes no sense.* The only conclusion to be drawn from this dating is that the beams of this palace, dated by dendrochronology to c. 1774 BCE, were used before the reign of Šamši-Adad I (1712-1680). In addition, the 1795 BCE eclipse contradicts the dating of the reign of Šamši-Adad I since this king died in 1776 BCE during eponym N°199 (Ṭab-šilli-Aššur) and the eclipse occurred during eponym N°126 (Puzur-Ištar) this eclipse should be dated in 1849 BCE (= 1776 + 199 - 126), which is again absurd (1795 = 1849). Despite these chronological contradictions, radiocarbonists continue to use this synchronism to defend the “Middle Chronology” (Manning, Wacker, Büntgen, Bronk Ramsey, Dee, Kromer, Lorentzen, Tegel: 2020, no. 13785). The radiocarbon measurements are not in question, but only the synchronicity of Šamši-Adad I's death with the dating of the buildings of his time. The second part of the article defending the Middle Chronology is based on the dating of a solar eclipse dated during the eponym N°127. The only problem in this astronomical analysis is that this solar eclipse never existed. The darkening of the sun mentioned during the Puzur-Ištar eponym (N°126), the year just after the birth of Šamši-Adad I, has been interpreted by some Assyriologists as a solar eclipse, which could presumably be dated 19/11/-1794* (Michel, Rocher: 2000, 111-126), but dated 24/03/-1837* according to astronomer Teije de Jong (De Jong: 2017, 127-143).

- First, the solar eclipse of 1795 BCE (19/11/-1794*) had a maximum magnitude of 1.012 at 2000 km south of Nineveh⁶⁰ (to the east of present-day Turkey, image below left) and therefore only had a magnitude of 0.35 above this city and was not seen because only eclipses with a magnitude greater than 0.95 are visible for a naked-eye observer (De Jong: 2013, 157). To calculate this magnitude, simply multiply the maximum magnitude of the eclipse (1.012) by its coefficient of distance from maximum (dark blue line), bearing in mind that the dotted line (image below left)⁶¹ represents an attenuation of 0.5. It is interesting to compare this eclipse with the total solar eclipse that occurred during the Bur-Sagale eponym (the only eclipse mentioned in Assyrian Eponym lists), dated in 763 BCE (15/06/-762*). This solar eclipse had a maximum magnitude of 1.06 and was visible a few hundred kilometres below Nineveh⁶² (middle image below) with a maximum distance coefficient of 0.95. This total eclipse was visible in Nineveh because the magnitude was 1.01 (= 1.06x0.95).



- The 1838 BCE eclipse (24/03/-1837*)⁶³ is no better, because, not only was it partial, with a maximum magnitude of 0.94, but its maximum passed a hundred or so kilometres above Nineveh (image above right)⁶⁴, with a distance coefficient of 0.95, and was therefore not visible, since the magnitude was 0.89 (= 0.94x0.95), much lower than the minimum of 0.95. As before, the date of this eclipse contradicts the Middle Chronology (1849 BCE).
- The solar eclipse during the Puzur-Ištar eponym (N°126) is impossible to find because there was not a single total solar eclipse, which was visible in an Assyrian city, like Aššur or Nineveh, during the period 1850-1700 BCE. As a result, this eclipse never existed. the term used *na'duru* “darkened, obscured,

⁶⁰ <https://eclipse.gsfc.nasa.gov/5MCSEmap/-1799--1700/-1794-11-19.gif>

⁶¹ <https://eclipse.gsfc.nasa.gov/SEatlas/SEatlas-2/SEatlas-1799.GIF>

⁶² <https://eclipse.gsfc.nasa.gov/5MCSEmap/-0799--0700/-762-06-15.gif>

⁶³ <https://eclipse.gsfc.nasa.gov/SEatlas/SEatlas-2/SEatlas-1839.GIF>

⁶⁴ <https://eclipse.gsfc.nasa.gov/5MCSEmap/-1899--1800/-1837-03-24.gif>

eclipsed” means an eclipse in a metaphorical way and is different from the usual *antallù* “eclipse” used in Mari (Pruzsinszky: 2009, 75). In addition, for a real solar eclipse, the name of the month is indicated (Simanu for the 763 BCE eclipse), which is not the case for this darkening⁶⁵. Consequently, the comment has been added later in the list of eponyms, because Šamšî-Adad I was initially an Amorite king who became part of the Assyrian dynasty only at the end of his glorious reign.

According to some radiocarbonists, the Sarikaya palace at Acemhöyük, associated with Šamšî-Adad I (1809-1776 BCE according to Middle Chronology), which can be dated to c. 1776 BCE can only correspond to the Middle Chronology (Höflmayer, Manning: 2022, 1-24). In fact, the Sarikaya Palace and the Hatipler Tepesi building, both violently burned were constructed in the same year: c. 1774 BCE (+4/-7 years). Two repair timbers in the Sarikaya Palace were cut in 1767 and 1766 or later indicating that it had a lifespan of at least 8 years. The bulk of the reported 1600 bullae in the Sarikaya Palace should have been deposited there after 1774 and before its destruction **some time after 1766 BCE**⁶⁶. Foreign royalty whose bullae are found in the Sarikaya Palace include King Šamšî-Adad I, the Princess Dugedu, daughter of King Yahdun-Lim of Mari, and King Aplakhandu of Carchemish (Newton, Kuniholm: 2004, 165-176). We know that Yaggid-Lim (1740?-1724), king of Terqa (near Mari), was probably of Amorite origin, but little is known about his reign except that he came into conflict with Ila-kabkabû (1750?-1738), king of Ekallatum, after the two had first been allies (Anbar: 1991, 31-40; Ziegler: 2001, 496-501, 750-752). Yaggid-Lim was the father of Yahdun-Lim (1716-1699), and Ila-kabkabû is mentioned as the father of Samsi-Addu/Šamšî-Adad I (1712-1680), born in 1752 BCE. As a result, the inscription in the name of Šamšî-Adad I was deposited at the beginning of his reign (1712 BCE), 54 years after the repair of the Sarikaya Palace. Contrary to what radiocarbonists claim, the “Ultra-Low” Chronology is based on perfectly dated lunar eclipses (highlighted in sky blue) and is consistent with ¹⁴C dating. Hammurabi's reign is rich in synchronisms (dates framed by a big black line), which allows us to compare all the chronologies with each other. Since the chronologies of the Egyptian kings and Hazor can be determined by ¹⁴C, this allows the chronology of Hammurabi to be determined through the synchronisms with Neferhotep I and Ibni-Addu. There is therefore quadruple synchronism between Hammurabi, Zimri-Lim, Yantin-Ammu and Neferhotep I (Kitchen: 1967, 39-54).

TABLE 46

BCE	N°	Assyrian eponym	[A]	[B]	[C]	[D]	[E]	[F]	[G]	
1706	172	Abī-šagiš	10	6	11	21		15	3	[A] Yahdun-Lîm king of Mari
	173	Tab-šilla-Aššur		7						[B] Šamšî-Adad I king of Assyria n°39
1705	174	İddin-Aššur	11	8	12	22		16	4	[C] Sîn-muballiṭ king of Babylon
1704	175	Namiya	12	9	13	23		17	1	[D] Rîm-Sîn I king of Larsa
1703	176	Ahu-šarri	13	10	14	24		18	2	[F] Yakin-[ilu II?] king of Byblos
1702	177	Dadaya	14	11	15	25		19	3	
1701	178	Ennam-[Aššur?]	15	12	16	26		20	4	[G] Sobekhotep III king of Egypt
1700	179	[?]-Aššur	16	13	17	27		21	1	[G] Neferhotep I king of Egypt (¹⁴ C)
1699	180	Atānum	17	14	18	28		22	2	
1698	181	Aššur-taklāku	1	15	19	29		23	3	[A] Sumu-Yamam king of Mari
1697	182	Haya-malik	2	16	20	30		24	4	[C] Accession of Hammurabi (Year 0)
1696	183	Šalim-Aššur	1	17	1	31		25	5	[A] Samsî-Addu king of Mari
1695	184	Šalim-Aššur	2	18	2	32		26	6	[C] Hammurabi king of Babylon
1694	185	Ennam-Aššur	3	19	3	33		1	7	[F] Yantin-Ammu king of Byblos
1693	186	Suen-muballiṭ	4	20	4	34		2	8	
1692	187	Rēš-Šamaš	5	21	5	35		3	9	
1691	188	Ibni-Adad	6	22	6	36		4	10	
1690	189	Aššur-imittî	7	23	7	37		5	11	
1689	190	Ilî-ellatî	8	24	8	38		6	1	[G] Sobekhotep IV king of Egypt
1688	191	Rigmānum	9	25	9	39		7	2	
1687	192	Ikūn-pīya	10	26	10	40		8	3	
1686	193	Ašqūdum	1	27	11	41		9	4	[A] Yasmah-Addu king of Mari
1685	194	Aššur-malik	2	28	12	42		10	5	[E] Ibni-Addu king of Hazor (¹⁴ C)
1684	195	Aḫiyaya*	3	29	13	43	1	11	6	
1683	196	Awīliya	4	30	14	44	2	12	7	
1682	197	Nimar-Suen	5	31	15	45	3	13	8	
1681	198	Adad-bāni	6	32	16	46	4	14	9	
1680	199	Tab-šilli-Aššur	7	33	17	47	5	15	1	[B] Death of Šamšî-Adad I
1679	200	Ennam-Aššur	1	1	18	48	6	16	2	[B] Išme-Dagan I king of Assyria n°40

⁶⁵ As the sentence: “on the 26th day of the month Sivan, in the 7th year [of Simbar-šipak], the day turned to night,” did not describe a solar eclipse, because a solar eclipse always coincides with the last day of the lunar month (29 or 30).

⁶⁶ For example, a building date of 1832 BCE for the Wargama Sarayi is later than the last-preserved ring, 2024 BCE, of the Eski Saray by 192 years instead of 138 eponymous years. Consequently a half-century of rings is missing!

1678	201	Aššur-emūqī	2	2	19	49	7	17	1	[G] Sobekhotep V king of Egypt
1677	202	Abu-šalim	3	3	20	50	8	18	2	[A] Zimri-Lim king of Mari
1676	203	Puṣṣānum	4	4	21	51	9	19	3	
1675	204	Ikūn-pī-līstar	5	5	22	52	10	20	1	[G] Ibiaw king of Egypt
1674	205	Ahiyaya	6	6	23	53	11	21	2	
1673	206	Bēliya	7	7	24	54	12	22	3	
	207	Ilī-bāni		8						(34 Assyrian years = 33 Babylonian years)
1672	208	Aššur-taklāku	8	9	25	55	13	23	4	
1671	208	Sassāpum	9	10	26	56	14	24	5	
1670	209	Ahu-waqar	10	11	27	57	15	25	6	
1669	210	Kizurum	11	1	28	58	16	1	7	[B] Aššur-dugul king of Assyria n°41
1668	211	Dādiya	12	2	29	59	17	2	8	
1667	212	Yam-aha?	13	3	30	60	18	3	9	Larsa is annexed by Hammurabi
1666	213	Adad-bāni	1	4	31	[1]	19	4	10	[A] Yâpah-Šumu-Abu king of Mari
1665	214	Ennam-Aššur	2	5	32	[2]	20	5	11	[E] Mari is destroyed by Hammurabi
1664	215	Attaya	3	6	33	[3]		6	1	[B] accession of 6 Assyrian kings n°42-47
1663	216	Ayā	4	1	34	[4]		7	2	[B] Bēlu-bāni king of Assyria n°48

The king of Hazor Ibni-Addu reigned for at least 20 years, from 1685 to 1665 BCE, but probably his reign had begun several years before (c. 1700 BCE?). The kings of Byblos, like Yantin-Ammu, reigned for an average of 25 years, but the variations of these reigns are not known. Egyptian reigns are based on several absolute dates fixed by astronomy. Radiocarbon dating can be accurate to +/- 20 years if the synchronism between the historical event to be dated and the wooden object associated with that event occurred over a period of less than 20 years. Two candidates meet this condition: Ibni-Addu, king of the "Great Hazor", who reigned from 1700 to 1680, and Neferhotep I, who reigned from 1710 to 1690 BCE. These two reigns, which can be dated by radiocarbon, were synchronised with the reign of Hammurabi, making it possible to decide between the "Middle Chronology" and the "Ultra-low Chronology".

IBNI-ADDU KING OF HAZOR (1685-1665): ABSOLUTE CHRONOLOGY VERSUS ¹⁴C DATING

The city of Hazor also had important trade exchanges with Egypt which makes it possible to date this period of exchange through both stratigraphy and the study of the style of pottery in these two cities. Consequently, the Egyptian chronology of this period is linked with the Mesopotamian chronology via the chronology of the city of Hazor. This is particularly true for the history of "Greater Hazor", which encompasses both the lower and upper cities, forming a site of over 200 acres, the largest in Israel at that time. It stands to reason that the Hazor that corresponded with Mari is "Greater Hazor", consisting of the acropolis and the lower city. This Hazor, which began in MB IIA–B, approximately 1720–1680 BCE, reached its peak—even if its rise was rapid—only in MB IIB, some 20–30 years later, around 1680 BCE at the earliest. The Hazor that corresponded with Mari was thus Hazor Stratum XVI (= 3), and not XVII (= 4), during which construction of the city's fortifications had only begun. As shown, the Tell el-Dab'a chronology indicates that the MB IIA–B transition occurred not before the end of the 18th century, around 1700 BCE. Weinstein suggests dating this transition somewhat earlier, to between 1730–1710 BCE "in the late third and the early fourth quarters of the 18th century B.C." The difference between these two sets of dates is not crucial (a date of c. -1710 +/- 20 may be chosen). This is therefore when building activity started at Hazor, even before the earliest mention of Hazor in the Mari documents. One may argue that Stratum F at Tell el-Dab'a, equated with the beginnings of MB Hazor, is wrongly dated and that it is in fact earlier. The response to this would be that there is a consensus among Egyptologists regarding the date of this phase and that any margin of error would be negligible. Stratum F is dated relatively late in the 13th dynasty, the date of which is also generally agreed upon. Even a slightly earlier date for this stratum would have no significant bearing. In summary, the synchronisms between Hammurabi, king of Babylon, Ibni-Addu, king of Hazor, and Neferhotep I, king of Egypt, make it necessary to date all these reigns in the same period. Since the strata of the "Greater Hazor" (of Ibni-Addu) are dated c. -1700 +/- 20 by ¹⁴C and those of the corresponding Egyptian period are dated around -1710 +/- 20 years (McAneney, Baillie: 2019, 99–112), this implies that the corresponding Mesopotamian period (Hammurabi) should also be dated in this period. The reign of Neferhotep I (1710-1693) was dated through ¹⁴C measurements (Maderna-Sieben: 2018, 94-95).

TABLE 47

King of Egypt	Reign (¹⁴ C)	King of Hazor	Reign (¹⁴ C)	King of Babylon	Reign	Chronology
	(+/- 20)		(+/- 20)		1793–1750	Middle
					1778–1635	Low-Middle
Neferhotep I	1705-1693	Ibni-Addu	1700-1680	Hammurabi	1697–1654	Ultra-Low

As the conventional Egyptian chronology of this period agrees to +/- 20 years with the ¹⁴C dating and as the stratigraphic dating of the objects found at Hazor gives the same value of -1700 +/- 20, this confirms the dating of the “Ultra-Low Chronology”, which fixes Šamši-Adad I's death in 1680 BCE. The chronology of the reigns of Neferhotep I (1705-1693) and Abni-Addu (1700-1680) obtained by ¹⁴C dating agrees with the astronomical chronology anchored on absolute dates obtained by astronomy, within the limit of course of the measurement errors (+/- 20 years) of the ¹⁴C dating in the period 2000-1600 BCE. However, the reign of Ibni-Addu (1685-1665) is 15 years lower than the reign measured by ¹⁴C (1700-1680) and that of Neferhotep I (1701-1690) is 10 years lower (1710-1693). Neferhotep I is considered the 27th Egyptian King of Dynasty 13. This dynasty is difficult to date because the duration of many reigns is not precisely known. However, Egyptologists use two chronological data to calculate these durations: Dynasty 13 began immediately after Dynasty 12, and given the number of reigns over this period, the average duration of the reigns is estimated to be about 4 years. Moreover, the chronology of Dynasty 13 can be anchored on absolute dates (like ¹⁴C dates) because the reigns of Senwosret III and Amenemhat III, include well-identified astronomical phenomena. According to dating Middle Bronze Age strata, dated +/- 30 years (Bietak: 1991, 27-72), the first part of the 13th Dynasty could be dated 1750-1650 (MB IIB), the 15th Dynasty in 1650-1550 (MB IIC) and the beginning of the 18th Dynasty in 1550 BCE (LB AI). The material culture of the Canaanite settlers in the eastern Delta displays a distinct similarity to the material culture found at Middle Bronze Age sites in Palestine (Ben-Tor: 2007, 1-3) and studies of scarabs of the Middle Bronze period from both regions argue for the southern Levant as the place of origin of the Second Intermediate Period of foreign rulers in Egypt⁶⁷ (Ben-Tor: 2009, 1-7). If the first Hyksos (14th dynasty) began to reign around 1750 BCE, they must have already arrived in Egypt more than a century earlier and, according to Egyptian records, most of them came from Palestine, which was called Retenu in Egyptian. Although the name and order of some pharaohs in the Hyksos period based on archaeological findings remain controversial the following chronological framework is generally accepted (Franke: 2013, 7-13; Steiner, Killebrew: 2014, 542):

TABLE 48

Strata	Period	#1	#2	Egyptian Dynasty	Vizier	Asiatic Dynasty	Capital
MB IIA	1975–1778			12 (Lisht/ [Memphis])	Yes		
MB IIB	1778–1750			13 (Lisht/ [Memphis])	Yes		
	1750–1680				Yes	14 (Hyksos)	Tanis
MB IIC	1680–1613	400	68	(Thebes)	-	15 (Great Hyksos)	Avaris
	1613–1572		40		-		
	1572–1544					17 (Thebes)	-
	1544–1533			Seqenenre Taa	-		
LB IA	1533–1530			Kamose	-	(‘ <i>War of the Hyksos</i> ’)	
	1530 – –1480			18 (Thebes) Ahmose	Yes		
LB IB	1480–1375						
LB IIA	1400–1280						
LB IIB	1280–1190			19 (Thebes) Ramses II	Yes		

The comparison of archaeological data with the Turin King List shows that the three Hyksos dynasties should be in parallel (Schneider: 1998, 123-145; Vernus, Yoyotte: 1998, 63,185-186). The 17th Dynasty is a continuation of the 13th dynasty, but the order of its nine kings remains controversial (Polz: 2010, 343-352). As there were 50 kings in the 13th Dynasty (1778-1572) and 9 kings in the 17th (1572-1530) the average duration of each reign is approximately 4 years = (1778 – 1530)/(50 + 9). As we know the duration of the last two reigns (3 years for Kamose and 11 years for Seqenenre Taa), the 17th dynasty had to have started in 1572 BCE (= 1530 + 3 + 11 + 7x4). The average of 4 years may be adjusted based on the number of dated documents and highest dates (Ryholt: 1997, 203-204). There is no consensus about the reconstruction of the 13th Dynasty. The only document available to restore this dynasty is the Turin Canon (Dodson, Hilton: 2010, 100-129), despite its very incomplete state and numerous errors. Durations of missing reigns are supposed to be on average 5 years because the total of 24 known reigns is 118 years. Some lists of Pharaohs appear in a few tombs, but their ranking is sometimes surprising⁶⁸. Consequently, the chronology of the 13th dynasty (1778-1572) is uncertain, because the position of the first 35 kings is approximate and the last 15 kings are

⁶⁷ The site of Tell el-Dab'a, identified with ancient Avaris, was recently identified with the New Kingdom port of *Prw Nfr*, when two possible harbours were found (Bader: 2011, 137-158).

⁶⁸ For example, on the scene called “Lords of the West” from Inherkau's tomb (TT359) we see on the top row from the right: 1) King Amenhotep I, 2) King Ahmose I, 6) King Siamun A, 11) Crown Prince Ahmose Sapaïr, then on the bottom row from the right: 1) Ahmes-Nefertiry, 2) King Ramses I, 3) King Mentuhotep II, 4) King Amenhotep II, 5) King Taa Seqenenre, 6) Crown prince Ra(?)mose, 7) King Ramses IV, 8) King unknown, 9) King Thutmose I.

not identifiable in the present state of documentation⁶⁹. The reign of Sihornedjherkef Hotepibre having several prestigious relics, we can assume that he easily exceeded the average of 4 years. In addition, there are several synchronisms between kings of Egypt and kings of Byblos (Gerstenblith: 1983, 101-107) as well as Zimri-Lim, a king of Mari, that allow the verifying of the reliability of the chronological anchorage. Assuming an exact contemporaneity, the death of Abi-Shemu had to have occurred c. 1790 BCE (death of Amenemhat III). The living conditions of Byblos Rulers at the time of these Egyptian kings being quite similar one can assume a period of about 25 years of reign, because eight reigns lasted 197 years (25 years = 197/8). Given that the historical sequence of kings of Byblos is known⁷⁰ (Nigro: 2009, 159-175), one can also assume that Neferhotep I was a contemporary of Yantin-Ammu since there was found at Byblos a relief showing Pharaoh Neferhotep I opposite Prince Yantin-(Ammu) of Byblos. In addition, in a letter dated the 9th year of Zimri-Lim (1680-1667), the name Yantin-Ammu appears as the donor of a gold cup (Ryholt: 1997, 87-88). According to astronomy the first year of the reign of Senwosret I (1946-1901) is dated in 1946 BCE (Gabolde: 2010, 243-256) which therefore fixes the reign of Neferu-sobek (1782-1778).

The following chronological reconstruction shows that the agreement between reign dates, including ¹⁴C* dates, is satisfied at +/- 10 years (the parts highlighted indicate a synchronism between two reigns and the parts highlighted in sky blue indicate that the dates of the reigns were anchored on astronomical dates):

TABLE 49

King of Mari	Reign	King of Byblos	Reign	#	King of Egypt	Reign	#
(King of Terqa) (Yaggid-Lîm)	1740? - -1724	Abi-Shemu	1815-1790	[25]	Amenemhat III (¹⁴ C*)	1836-1791	45
		Ipy-Shemu-Abi	1790 -	[25]	Amenemhat IV (¹⁴ C*)	1791-1782	9
			-1765		Neferusobek. (¹⁴ C*)	1782-1778	4
			1765-1740	[25]	Sobekhotep I	1778-1775	4
		Yakin-el	1740 -	[20]	[Se]Hotepibre	1753-1741	[12]
			1740 -	[20]	[-] Sewadjkare	1741-1737	[4]
					Sobekhotep II	1737-1733	[4]
					Hor I	1732-1728	[4]
					Amenemhat VII	1728-1724	[4]
					Wegaf (¹⁴ C*)	1724-1722	2
(Yahdun-Lîm)	1724 - -1716	Yakin-[ilu II?]	1720 -	[25]	Khendjer	1722-1717	[4]
Yahdun-Lîm	1716 - -1699				Imyremeshaw	1717-1713	[4]
					Antef V	1713-1709	[4]
					Seth	1709-1705	[4]
					Sobekhotep III	1705-1701	[4]
Sûmû-Yamam	1699-1697		-1695		Neferhotep I	1701 - -1690	11
Samsî-Addu	1697-1687	Yantin-Ammu	1695 -	[25]	Sobekhotep IV	1690-1681	9
Yasmah-Addu	1687-1680				Sobekhotep V	1681-1679	2
Zimri-Lim	1680 - -1667		-1670		Sobekhotep VI	1679-1676	3
Yapaḥ-šumu-Abu	1667-1664 ?		1670 -		Ibiaw	1676 - -1665	11

The chronology anchored on the dates obtained by astronomy and that deduced from radiocarbon dating (¹⁴C), are in good agreement, radiocarbon dates being only about 15 to 20 years higher.

TABLE 50

Egypt	Reign		Hazor	Reign		Babylon	Reign	Chronology
Wegaf	1768-1765	¹⁴ C					1793-1750	Middle
	1710-1693	¹⁴ C		1700-1680	¹⁴ C		1720-1670	
Neferhotep I	1701-1690	*	Ibni-Addu	1685-1665	*	Hammurabi	1697-1654	Ultra-Low

The results of this Table above show the following:

- The ¹⁴C dating of the reign of Ibni-Addu (1700-1680) agrees only with the reign of Hammurabi (1697-1654) according to the Mesopotamian Ultra-Low chronology.
- The ¹⁴C dating of the reign of Neferhotep I (1701-1690) agrees with the conventional Egyptian chronology: 1721-1710 BCE in 2006 (Hornung, Krauss, Warburton: 2006, 492) or 1705-1693 BCE in 2018 (Maderna-Sieben: 2018, 94-95), and agrees only with the Mesopotamian Ultra-Low chronology.

⁶⁹ The choice made here is that of Dodson who rearranged the Turin King List based on genealogical links between kings. It is difficult to assess the accuracy about those periods of reigns (for the first 35 kings), but a value around +/- 10 years would seem reasonable. Similarly, unknown durations have been replaced by an average value of 4 years, except for kings No. 7 to 10 and because of Nebnuni and Iufeni having left no relics (Quirke: 2010, 55-68) we can assume that their reigns were short.

⁷⁰ 1) Abi-Shemu I (Tomb I), 2) Ipy-Shemu-Abi (Tomb II), 3) Yakin-el (Tomb III), a contemporary of Sihornedjherkef Hotepibre, and 4) Ilimi-Yapi (Tomb IV). Yatin-Ammu's father was Yakin.

- The reigns anchored on absolute dates obtained by astronomy: Neferhotep I (1701-1690); Ibni-Addu (1685-1665), provide a better chronological agreement and show that ¹⁴C dates are on average 20 years higher (¹⁴C*), which would date the reign of Hammurabi around 1720-1670 BCE, instead of 1697-1654 BCE, and that of Šamši-Adad I around 1730-1700 BCE, instead of 1712-1680 BCE.

It is difficult to improve the accuracy of ¹⁴C dating of the reign of Abni-Addu because we ignore his predecessors, which prevents having other synchronisms. On the other hand, we know the predecessors and successors of Neferhotep I, which allows us to refine the dating of this reign.

NEFERHOTEP I KING OF EGYPT (1701-1690): ABSOLUTE CHRONOLOGY VERSUS ¹⁴C DATING

Neferhotep I's relative chronological position is secured thanks to the Turin King List as well as contemporary attestations. He was the successor of Sobekhotep III and predecessor of Sobekhotep IV. On the other hand, the absolute chronological position of Neferhotep is debated, with Ryholt and Baker seeing him respectively as the 26th and 27th pharaoh of the 13th Dynasty while Detlef Franke and Jürgen von Beckerath contend that he was only the 22nd ruler. Similarly, the absolute dating of Neferhotep's reign varies by as much as 37 years between scholars: 1742-1731 BCE according to Kim Ryholt (Ryholt: 1997, 197) and 1705-1694 according to Thomas Schneider (Schneider: 1997, 1102-1107). Ryholt is the only Egyptologist who has published a book to explain in detail how he calculated the chronology of the Second Intermediate Period (1800-1550) including the reign of Neferhotep I. For the internal chronology of the 13th Dynasty, Ryholt relied partly on the Turin King-list (TKL) and partly on dates preserved in contemporary sources⁷¹ (Ryholt: 1997, 190-251). From the latter group, only dates within the first regnal year and the highest attested dates are mentioned, since only these aid in establishing the reign lengths of the individual kings. The dates within the first regnal year help to narrow the accession date of the kings within the civil year.

In order to evaluate Ryholt's chronology, the absolute chronology based on astronomical dates (highlighted in midnight blue) is used to measure dating deviations. The 12th Dynasty chronology is used to measure the differences (D14) between radiocarbon dates (¹⁴C date) and dates deduced from astronomy (Astro date). This date difference (D14 = ¹⁴C date - Astro date) is due solely to the errors in radiocarbon measurements which are random (+/- 10 years). As the 12th Dynasty ends in **1778 BCE** according to astronomy, this date serves as an anchor for the beginning of the 13th Dynasty. However, as Ryholt chose the date 1803 BCE instead of 1768 BCE (the date obtained by ¹⁴C) a second deviation (DR) was introduced to measure the differences between the dates having as reference the astronomic dates (DR = D14 - 25 years, with 25 years = 1803 BCE – 1778 BCE). There is no consensus about the reconstruction of the 13th Dynasty. The only document available to restore this dynasty is the Turin King-list (Dodson, Hilton: 2010, 100-129). Consequently, the chronology of the 13th dynasty is uncertain because the position of the first 35 kings is approximate and the last 15 kings are not identifiable in the present state of documentation. It is assumed that the 17th dynasty (**1572-1530**) is a continuation of the 13th dynasty (**1778-1572**).

The 15th dynasty lasted about 108 years according to the Turin King-list and, according to Herodotus, the Egyptians did not want to remember this period perceived by them as harmful and which had lasted 106 years (The Histories II:128). According to the Stele of year 400, found at Tanis, the 15th dynasty of the Great Hyksos would have begun around 1680 BCE, 400 years prior to Ramses II. The Stele, made under Ramses II, apparently refers to the Sethian dynasty of the Hyksos, 400 years earlier⁷². The era of Ramses II would be a continuation of a prestigious past, which would place the establishment of the cult of Seth/Baal around 1680 BCE, if one counts from Ramses II's reign. It should be noted that Seth is completely absent from the title of Ramses II (1283-1216) and its worship appears only after the Battle of Kadesh (Desroches

⁷¹ Neferhotep I is known from a relatively high number of objects found over a large area, from Byblos to the north to the Egyptian fortresses of Buhen and Mirgissa in Lower Nubia to the south through all parts of Egypt, especially in the southern portion of Upper Egypt. A single attestation is known from Lower Egypt, a scarab from Tell el-Yahudiya. Other attestations include over 60 scarab seals, 2 cylinder-seals, a statue from Elephantine, and 11 rock inscriptions from Wadi el Shatt el-Rigal, Sehel Island, Konosso and Philae. The inscriptions record the members of Neferhotep's family as well as two high officials serving him: The royal acquaintance Nebankh and the Treasurer Senebi. Two stelae are known from Abydos one of which, usurped from king Wegaf and dated to his 4th regnal year, forbids the construction of tombs on the sacred processional way of Wepwawet. Two naoses housing two statues each of Neferhotep, as well as a pedestal bearing Neferhotep's and Sobekhotep IV's cartouches, have been found in Karnak. There are also a few attestations from the Faiyum region where the capital of Egypt was located at the time, in particular a statuette of the king dedicated to Sobek and Horus of Shedet, now on display in the Archaeological Museum of Bologna. Inscriptions from Aswan indicate that Neferhotep I had at least two children, named Haankhef and Kemi like his parents, with a woman called Senebsen.

⁷² The interpretation of this stele is controversial because it represents the vizier Sety (grandfather of Sety I, father of Ramses II), commemorating the event, but Ramses II seems to have connected his reign to his predecessor whose name Sethos I referred to the god Seth.

Noblecourt: 1996, 185-189, 370-372) and from the construction of the temple of Abu Simbel started in Year 5 of his reign in **1279 BCE** (= 1283 – 5 + 1). Accordingly, the 15th dynasty began in **1679 BCE** (= 1279 + 400) and ended in **1572 BCE** (= 1679 – 108 + 1). The chronological data on the Hyksos period are few, but they overlap quite well.

The Egyptian priest Manetho wrote (c. 280 BCE) that the Hyksos ruled Egypt from Pharaoh Toutimaïos (Doudimes?) and they were expelled by the Pharaoh Ahmose (1530-1505). Eusebius (Preparatio Evangelica IX:27:3-5) quotes Artapan's book entitled: *The Jews* (written c. 200 BCE), explaining that the region above Memphis was divided into various kingdoms under Pharaoh [Sobekhotep IV] Chenephres⁷³ (1690-1682). From this pharaoh, titles acquired a military bearing; they pertain to security and replace the character of administrative function of titles from the late Middle Kingdom. Similarly, the evolution of sculpture—relief and full relief—can follow an obvious loss of interest in quality. All these changes could be explained by the presence of Asiatic dynasties, especially the Hyksos dynasty (15th). There is no consensus to precisely restore the chronology of the 15th dynasty (**1680-1572**), except for Apopi, its last Hyksos king, who is well attested and reigned about 4[1] years according to the Turin king-list (Schneider: 1998, 57-75).

The Khyan sealings found at Edfu, in the same context together with those of Sobekhotep IV (1690-1681), attest a peaceful contact between the Hyksos (15th Dynasty)⁷⁴ and Upper Egypt (13th Dynasty) at that time (Moeller, Marouard: 2011, 108-111). The reign of Neferhotep I is located in a part of the Turin King List which is well identified. The missing reigning periods in the list of the first 25 kings of the 13th dynasty are replaced by an average value of [4] years (= [1778 – 1679]/25). The duration of the 5 reigns from Sobekhotep III to Sobekhotep VI can be reconstructed because the durations of all these reigns are known, except that of Sobekhotep V which can be replaced by an estimated value of [3] years, which gives a total duration of 27 years⁷⁵ between Sobekhotep III and Sobekhotep V (1705 = 1679 + 27 - 1).

TABLE 51

Dyn	EGYPT	TKL	¹⁴ C (Ryholt)	#	DR	D14	Astro date
13	20 Seth	[3] years	1752-1749		+43	+18	1709-1705
	21 Sobekhotep III <i>Sekemresewadjtawy</i>	4 years 2 m.	1749-1742	27	+44	+19	1705-1701
	22 Neferhotep I <i>Khasekhemre</i>	11 years 4 m.	1742-1731		+41	+16	1701-1690
	23 Sihathor <i>Menwadjre</i>	0 years X m.	1732-1732		+42	+17	1690-1690
24 Sobekhotep IV <i>Khaneferre</i>	9 II Akhet 3	1732-1720	+42		+17	1690-1681	
(15)	25 Sobekhotep V <i>Merhotepre</i>	[3] years	1720-1717		+39	+14	1681-1679
	26 Sobekhotep VI <i>Khahotepre</i>	4 years 8 m.	1717-1712	400	108	+13	1679-1676
	27 Ibiaw <i>Wahibre</i>	10 years 8 m.	1712-1701			+11	1676-1665

The relatively short duration of most of the 13th Dynasty's reigns, 4 years on average, has long intrigued Egyptologists compared to the average duration of 25 years for the 8 kings of the 12th Dynasty (25 years = [1975 – 1778]/8). The succession of Neferhotep I helps to explain the short durations of the 13th Dynasty, because whereas the kings of the 12th Dynasty succeeded one another from father to son, the kings of the 13th Dynasty succeeded one another from elder brother to younger brother⁷⁶. Paralleling ¹⁴C dates (Bronk Ramsey, Dee, Rowland, Higham, Harris, Brock, Quiles, Wild, Marcus, Shortland: 2010, 1554-1557) with astronomy-based dates. However, as the calibration curve for the ¹⁴C measurements (IntCal20 in 2020) has been revised several times the dating of Neferhotep I's reign has evolved from: 1742-1731 (Ryholt: 1997, 197), 1721-1710 (Hornung, Krauss, Warburton: 2006, 492), to 1705-1693 (Maderna-Sieben: 2018, 94-95). The astronomical dates (highlighted in sky blue) are obtained by calculations that are not mentioned in this study. For example, according to astronomy the first year of the reign of Senwosret I (1946-1901) is dated in **1946 BCE** (Gabolde: 2010, 243-256) which therefore fixes the reign of Neferusobek (1782-1778). The reign dates come from the Turin King List (TKL):

⁷³ The information is accurate, because the royal activities during the 13th dynasty are attested until the end of Sobekhotep IV's reign, the most prestigious king of this dynasty (Vandersleyen: 1995, 123,140,159-160), further to the north of Thebes rather than Thebes itself (the capital of Egypt remained Lisht until the end of the dynasty).

⁷⁴ Hyksos kings of the 15th dynasty were considered genuinely Egyptian kings since a manuscript, dated to the Third Intermediate Period (Barbotin: 2008, 58-59), lists two of them (likely six in all) in the following order: **Shareq, Apopi**, Ahmose and Amenhotep I.

⁷⁵ (0 year + X months) + (8 years + X months) + ([N] years) + (4 years + 8 months) = 4x[4 years] = 16 years; [N] = [3].

27 years = (4 years + 8 months) + (11 years + 4 months) + (0 year + X months) + (8 years + X months) + ([3] years).

⁷⁶ Towards the end of his reign, Neferhotep I shared the throne with his brother Sihathor, a coregency that lasted a few months to a year. Sihathor died shortly before Neferhotep, who probably then appointed another brother, Sobekhotep IV, as coregent. In any case, Sobekhotep IV succeeded Neferhotep I soon afterwards, and reigned over Egypt for 11 years and 4 months. The reigns of the two brothers mark the apex of the 13th Dynasty.

When kings succeeded one another from father to son in a peaceful context the average length of reigns is related to the average life span by the following equation: Average length of reigns = (average life span)/(3 x number of brothers). For example, with an average life of 75 years and a succession of only the elder brother the average length of reign is 25 years (= 75/3) but with an average life of 60 years and a succession of 5 brothers the average length of reign is 4 years (= 60/[3x5]).

TABLE 52

Dyn	EGYPT	Highest date/ TKL	¹⁴ C date	#	DR	D14	astronomical date		
12	1 Amenemhat I (¹⁴ C*)	30	1975-1948	197		00	1975-1946		
	2 Senwosret I (¹⁴ C*)	45	1948-1903			+2	1946-1901		
	3 Amenemhat II	35	1903-1870			+2	1901-1863		
	4 Senwosret II	8	1870-1863			+7	1863-1855		
	5 Senwosret III	19	1863-1825			+8	1855-1836		
	6 Amenemhat III	46	1825-1781			-11	1836-1791		
	7 Amenemhat IV	9 years 4 months	1781-1773			-10	1791-1782		
	8 Neferusobek (¹⁴ C*)	3 years 10 months	1773-1768			-9	1782-1778		
			K. Ryholt				astronomy		
13	1 Sobekhotep I	4 [I Akhet	1803-1800	27		+25	00	1778-1775	
	2 Sonbef	5 [I Akhet	1800-1796			+25	+2	1775-1771	
	3 [-] Nerikare	[4] years	1796-1796			+25	+2	1771-1765	
	4 Amenemhat V	[4] years	1796-1793			+31	+6	1765-1761	
	5 Qemaw	[4] years	1793-1791			+32	+7	1761-1757	
	6 Iufeni	-	1788-1788			+31	+6	1757-1757	
	7 Amenemhat VI	[4] years	1788-1785			+31	+6	1757-1753	
	8 Nebnuni	0 year ?	1785-1783			+32	+7	1753-1753	
	(14)	9 Sihor. Hotepibre	[4] years ?			1791-1788	+38	+13	1753-1741
		10 [-] Sewadjkare	[4] years ?			1781	+40	+15	1741-1737
		11 [-] Nedjemibre	0 year 7 months			1780-1780	+43	+18	1737-1737
		12 Sobekhotep II	[4] years			1780-1777	+43	+18	1737-1733
		13 Reniseneb	0 year 4 months			1777-1777	+45	+20	1733-1732
		14 Hor I	[4] years			1777-1775	+45	+20	1732-1728
		15 Amenemhat VII	[4] years			1769-1766	+41	+16	1728-1724
		16 Wegaf (¹⁴ C*)	2 years 3 months			1766-1764	+42	+17	1724-1722
		17 Khendjer	5 I Akhet 15			1764-1759	+42	+17	1722-1717
		18 Imyremeshaw	[4] years			1759-1755	+42	+17	1717-1713
		19 Antef V	[3] years			1755-1752	+42	+17	1713-1709
		20 Seth	[3] years			1752-1749	+43	+18	1709-1705
21 Sobekhotep III	4 years 2 months	1749-1742	+44	+19	1705-1701				
22 Neferhotep I	11 years 4 months	1742-1731	+41	+16	1701-1690				
23 Sihathor	0 years X month	1732-1732	+42	+17	1690-1690				
24 Sobekhotep IV	9 II Akhet 3	1732-1720	+42	+17	1690-1681				
(15)	25 Sobekhotep V	[3] years	1720-1717	+39	+14	1681-1679			
	26 Sobekhotep VI	4 years 8 months	1717-1712	400	108	+13	1679-1676		
	27 Ibiaw	10 years 8 months	1712-1701			+11	1676-1665		
	28 Aya	[1]3 years 8 months	1701-1677				1665-1652		
	29 Ini I	2 years 2 months	1677-1675				1652-1650		
	30 Sewadjtu	3 years 4 months	1675-1672				1650-1647		
	31 Ined	3 years 1 month	1672-1669				1647-1644		
	32 Hori	5 years	1669-1664				1644-1639		
	33 Sobekhotep VII	2 years	1664-1662				1639-1637		
	34 Ini II	[4] years	1662-1658				1637-1633		
35 Neferhotep II	[4] years	1658-1654				1633-1629			
?		1654		-	+13	1629			
	Sobekhotep VIII*	16 years				1615-1590			
(16)	50 ?		-1580				-1572		
17	1 Rahotep	[4] years	1580-1576	40		+8	1572-1568		
	2 Sobekemsaf I	[2] years	1576-1573			+8	1568-1566		
	3 Sobekemsaf II	7	1573-1573			+7	1566-1556		
	4 Antef VI	[2] years	1573-1571			+17	1556-1554		
	5 Antef VII	3 III Peret 25	1571-1566			+17	1554-1545		
	6 Antef VIII	0	1566-1566			+21	1545-1545		
	7 Ahmose Senakhtenre	1	1566-1559			+21	1545-1544		
	8 Taa Seqenenre	11 II Shemu (1)	1559-1558			+25	1544-1533		
	9 Kamose	3 III Shemu 10	1558-1554			+25	1533-1530		
18	1 Ahmose (¹⁴ C*)	22	1557-1532			+27	04/1530-07/1505		
	2 Amenhotep I (¹⁴ C*)	21	1532-1511			+27	08/1505-02/1484		
	3 Thutmose I	11 ?	1511-1499			+27	02/1484-11/1472		
	4 Thutmose II	1 II Akhet 8	1499-1486			+27	08/1472-05/1469		
	[Hatshepsut] (¹⁴ C*)	20 III Peret 2	[1480-1458]				[08/1472-04/1450]		
5 Thutmose III (¹⁴ C*)	54 III Peret 30	1486-1434			+14	08/1472-03/1418			

6	Amenhotep II (¹⁴ C*)	26	1434-1407		+15	04/1418-02/1392
7	Thutmose IV	8 III Peret 2	1407-1397		+14	02/1392-10/1383
8	Amenhotep III (¹⁴ C*)	38 III Shemu 1	1397-1359		+14	10/1383-07/1345
9	Amenhotep IV (¹⁴ C*)	17 II Akhet	1359-1345		+3	03/1356-10/1340
10	Semenkhkare	1	1345 -		+5	10/1340-11/1338
11	-Ankhkheperure	3 III Akhet 10	-1342			11/1338-11/1337
12	Tutankhamun (¹⁴ C*)	10 [III Akhet]	1342-1333		+5	11/1337-10/1327

Astronomical dates (highlighted in sky blue) are given as an indication to avoid weighing down this article. From Amenhotep IV onwards the date differences (D14) are small since this reign is dated to 1359-1345 BCE by ¹⁴C and 03/1356-10/1340 by astronomy. For example, the papyrus Ebers dated Year 9 of Amenhotep I begins a list of celebrations with: “Feast of the New Year, III Shemu, day 9, rising of Sirius” (Von Bomhard: 1999, 32-33). It is a lunar date because the Sothic rising at that time was on 11 July and this date in the Egyptian civil calendar should have been III Shemu 14 (11 July)⁷⁷. This Sirius rising was dated in Year 9, month 9 and lunar day 9 (III Shemu 9) because of the symbolism of the number 9⁷⁸. This chronological information makes it possible to anchor the chronology of Dynasty 18 on the reign of Amenhotep I (08/1505-02/1484) calculated by astronomy.

Calendars in 1496 BCE

TABLE 53

JUNE																															JULY (Julian calendar)																															AUGUST																														
26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4																																																					
Full moon															Sothic rising															1st lunar crescent (= new moon +1)																																																														
SIMANU (Babylonian calendar)															DUMUZU																																																																													
7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17																																																					
III SHEMU (Egyptian civil calendar)															IV SHEMU																																																																													
29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8																																																					
II SHEMU															III SHEMU (Egyptian lunar calendar)																																																																													
24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3																																																					

The chronology of Dynasty 18 is therefore exactly determined by astronomy⁷⁹, which shows that ¹⁴C dating (IntCal09) is overestimated⁸⁰ by about 27 years (D1). This ageing of the dates is confirmed by the stratigraphic dating of the nine kings of Dynasty 17 which ends around 1545 BCE instead of 1557 BCE according to radiocarbonists (Dodson, Hilton: 2010, 122-129,290).

TABLE 54

Babylonian kings	reign	Dynasty 18	¹⁴ C dating	astronomical dating	Reign duration	D1
Ammiṣaduqa	1551-1530					
Samsuditana	1530 - -1499	1 Ahmose	1557-1532	04/1530-07/1505	25 years 4 months	+27
		2 Amenhotep I	1532-1511	08/1505-02/1484	20 years 7 months	+27
Burna-Buriaš I	1495-1479	3 Thutmose I	1511-1499	02/1484-11/1472	12 years 9 months	+27

The dating of the reign of Neferhotep I (1701-1690) anchored on absolute chronology, and in agreement with the ¹⁴C dating (1717-1706), confirms the synchronism between the reign of Hammurabi (1697-1654) and Neferhotep I. This synchronism is also confirmed by the dating of the reign of Ibni-Addu (1685-1665) anchored on absolute chronology, and in agreement with the ¹⁴C dating (1700-1680).

TABLE 55

EGYPT	Reign	BYBLOS	Reign	HAZOR	Reign	BABYLON	Reign
Neferhotep I	1701-1690	Yantin-Ammu	1695-1670	Ibni-Addu	1685-1665	Hammurabi	1697-1654
¹⁴ C date:	1717-1706			¹⁴ C date:	1700-1680		
D14 :	+16 years				+15 years		

Radiocarbonists defending the Middle Chronology instead of the “Ultra-Low” Chronology have been misled due to a methodological problem (only the reigns associated with many carbonaceous objects are dateable by radiocarbon) and ignorance of historical eclipses (only total eclipses over a Mesopotamian capital city have been observed). The 15–20-year gap between the ¹⁴C dates over the period 1750-1350 BCE and the dates anchored by the absolute chronology has long been ignored by radiocarbonists, as this

⁷⁷ Julian day = 201 + (139 – Year*)/4 + (Egyptian day – 1); Year* = astronomical year.

⁷⁸ The number “9” in Egyptian is called *psd* “shine”, which also explains the connection between lunar day 1 *psdntyw* “those shining ones”, the Ennead of gods (*psdt*) and the Nine Bows (*psdt*).

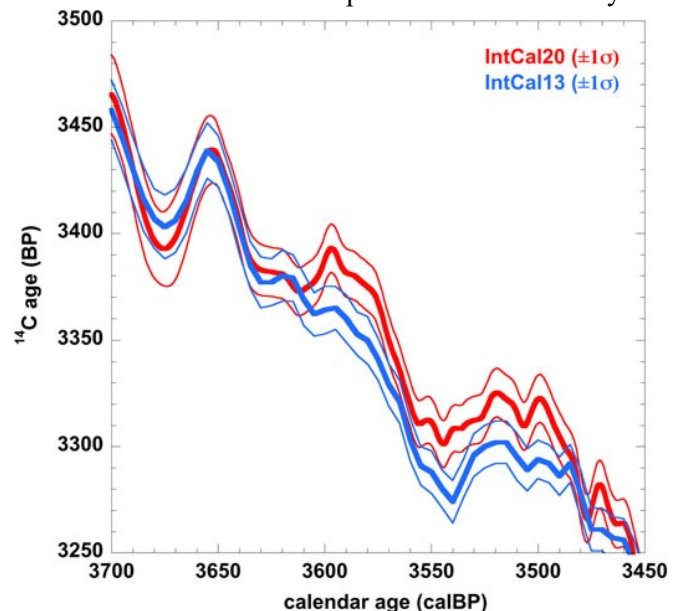
⁷⁹ The first day of the Egyptian lunar calendar coincided with the full moon (Gertoux: 2018, 202-207; 2020, 273-279), not with the first invisibility (= day after the astronomical new moon and before the first astronomical crescent moon) as Egyptologists have believed since the study of Richard A. Parker in 1950.

⁸⁰ IntCal09 means “calibration curve” established in 2009 (<https://intcal.org/curves.html>)

discrepancy has been equated with measurement errors. For example, the trees carbonized by the eruption of the Santorini volcano (Thera) have been dated precisely in 1627 BCE by dendrochronology but around 1645 \pm 25 BCE by ^{14}C . However, as the accuracy of the ^{14}C measurements had been improved to \pm 8 years (instead of \pm 25 years), it was no longer possible to match the two dates, which were approximately 18 years apart (= 1945 BCE - 1927 BCE). This conundrum was solved recently: it had to be admitted that the calibration curve of the ^{14}C had to be recalibrated by 18 years! (Van Der Plicht, Bronk Ramsey, Heaton, Scott, Talamo: 2020, 1-23). For calibration purposes, chronological anchor points provide crucial tests. A case in point of major importance is the catastrophic Minoan eruption of the Santorini/Thera volcano in the second millennium BC, a crucial anchor for Bronze Age prehistory. The precise date of the eruption has been debated for decades. Using a Greenland ice core chronology, the Thera eruption was originally thought to date to around 1645 BCE based upon volcanic tephra found in the core. However, a recent and timely analysis shows that these volcanic horizons are more likely to be the result of eruptions in Alaska rather than Thera (McAneney, Baillie: 2019, 99-112). ^{14}C dating obviously plays a major role in this discussion. The debate has been and still is that ^{14}C shows older dates than archaeological dating of the eruption, up to more than a century. The authors of the study explain:

A key component for reliable radiocarbon calibration is the quantification and modeling of uncertainty, as well as how we approach data from different laboratories, different trees, different regions, and different environmental compartments. This is critical both for the construction of a robust IntCal20 curve and later calibration against it. We use the word uncertainty rather than error since it more correctly captures the natural variations that we are concerned with. Simply put every ^{14}C measurement comes with a measure of uncertainty (estimated by the laboratory) which must be incorporated into the curve fitting and calibration procedures. The better we can understand and represent this uncertainty the more reliable the calibration process.

Historically, from radiometric days, the quoted error was provided by the laboratory considering the internal measurement processes only. When an assemblage of dates is then formed, it frequently becomes apparent that the scatter in the results from the individual laboratory is greater than had been imagined given the quoted uncertainties on the individual measurements (...). This development led to major ^{14}C (re)dating efforts of wood dated by dendrochronology for the relevant time range (...). The result is that indeed between ca. 3600 and 3500 calBP the calibration curve needs a shift of about 20 BP upwards in ^{14}C age, as can be seen in the figure (opposite). By itself, this confirms the original observation by Pearson et al. (2018)



and so, after calibration, the calendar dates will, therefore, become younger by a certain amount (...). Summarized, the ^{14}C date of the eruption can be taken as 3350 ± 10 BP (1- σ), which is an average of many dates from key sites like Palaikastro and Akrotiri (Bronk Ramsey et al. 2004; Bruins et al. 2008). Calibrating this ^{14}C date with calibration curves prior to the present IntCal20 curve yields a calendar date of the event in the late 17th century BC, most notably by wiggle matched ^{14}C dates of tree rings from an olive tree killed by the eruption. This resulted in a date of 1627–1600 BC for the event (Friedrich et al. 2006), between 100–150 years older than previous traditional archaeological assessments. This difference between archaeology and ^{14}C has spawned debates lasting decades (...). With IntCal13, the posterior calendar age estimate is approximately unimodal (i.e., shows a single large peak). In such an instance, it is reasonable to report a single interval—here we obtain a 68.2% (1- σ) interval extending from 1658–1624 calBC (= 1641 BCE \pm 17). However, with IntCal20 the picture is much more complex as our ^{14}C date of 3350 ± 10 BP hits the plateau in the curve (...). We note that the peak centered around 1625 calBC (1626 BCE \pm 19) carries the largest individual probability.

This new calibration curve transforms the raw radiocarbon dates (BP) into calibrated radiocarbon dates (calBP). Before 2020 the previous curve (IntCal13) gave the date of 1641 BCE but now the new curve (IntCal20) gives the date of 1626 BCE, i.e., a rejuvenation of 15 years (= 1641 - 1626). Although this 15-year lag depends on the position on the calibration curve and varies according to a complex relationship, this 15-year value corresponds to those measured with the ^{14}C dates of the reigns of Neferhotep I and Ibni-Addu.

This recalibration of the ^{14}C dates proves that only the chronology anchored on absolute dates obtained by astronomy is an absolute chronology (± 0 year). For example, the reign of Senwosret I (1946-1901) is supported by astronomical evidence, but radiocarbonists take no account of this, proposing their own chronologies: Chrono1 (Bronk Ramsey et al: 2010, 1554-1557), Chrono2 (Höflmayer, Manning: 2022, 1-24), Chrono3 (Stiebing, Helft: 2023, 9,203). Chrono1 fits in well (± 10 years) with astronomical values.

TABLE 56

Dynasty 12		Astronomy	#0	^{14}C dating	Chrono1	#1	Chrono2	#2	Chrono3	#3	$\Delta 3$
1	Amenemhat I	1975-1946	29		1975-1948	27	[2003-1994]	29	1991-1962	29	+16
2	Senwosret I	1946-1901	45		1948-1903	45			1971-1926	45	+25
3	Amenemhat II	1901-1863	38		1903-1870	33			1929-1895	34	+27
4	Senwosret II	1863-1855	8		1870-1863	7			1897-1878	19	+34
5	Senwosret III	1855-1836	19		1863-1825	38	1892-1853	39	1878-1839	39	+23
6	Amenemhat III	1836-1791	45		1825-1781	44	1853-1807	46	1860-1814	46	+24
7	Amenemhat IV	1791-1782	9		1781-1773	8	1807-1798	9	1815-1806	9	+24
8	Neferusobek	1782-1778	4		1773-1770	3	1798-1794	4	1806-1802	4	+24
Dynasty 18											
1	Ahmose	1530-1505	25		1557-1532	25			1570-1545	25	+40
2	Amenhotep I	1505-1484	21		1532-1511	11			1545-1525	20	+40
3	Thutmose I	1484-1472	12		1511-1499	12			1525-1492	33	+41

The Table above shows that, unlike astronomy, ^{14}C dating does not provide an absolute chronology. For example, Ahmose's reign: 1557-1532 BCE ± 10 years (Chrono1) is only the mean value of a set of measurements (image on the right), according to the IntCal13 calibration curve, and the precision of ± 10 years is not the margin of error but the statistical deviation of one standard deviation ($\pm 1\sigma$) from this mean with a 68% confidence range. With two standard deviations ($\pm 2\sigma$) the precision becomes ± 20 years (95% confidence range) and with the IntCal20 calibration curve Ahmose's reign is lowered by 20 years: 1537-1512 BCE ± 10 years ($\pm 1\sigma$), which corresponds exactly to astronomical dating: 1530-1505 BCE. According to radiocarbonists, Djer's reign should be dated to 3055-2965 BCE with a margin of error of ± 19 years ($\pm 1\sigma$) or 3078-2967 BCE with a margin of error of ± 55 years ($\pm 2\sigma$). It is easy to see that the highest confidence range (95%) gives a reign length ($\Delta 2$) of 111 years, which is physically impossible, but this outlier does not confuse radiocarbonists. Second, even if the length of the reigns cannot be evaluated in absolute value, it can be evaluated in relative value deduced from the number of censuses and it is easy to see that the lengths of the reigns obtained by ^{14}C ($\Delta 2$) have no connection with those from the Egyptian king lists ($\Delta 0$). Third, radiocarbonists claim (naively) to establish an absolute chronology, but the dates obtained get younger with time since the beginning of Dynasty 2 started c.2930 BCE, in 1992 (Vercoutter: 1992, 200,223), then c.2819 BCE, in 2013, then c. 2700 BCE, in 2019 (Mączyńska, Chłodnicki, Ciałowicz: 2019, 1-139), a rejuvenation of 230 years in only 27 years, which is much for an "absolute chronology". Paradoxically, in 1970, the first (uncalibrated) ^{14}C dates of the Egyptian dynasties (Berger: 1970, 23-36) were much lower than later results.

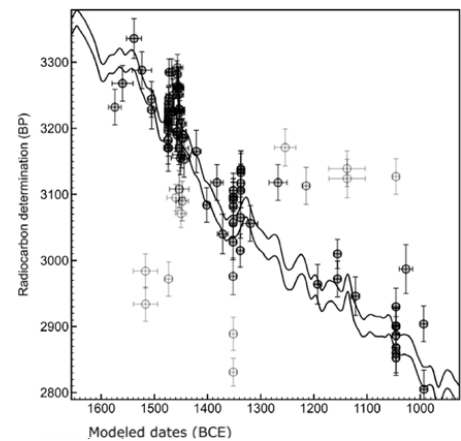


TABLE 57

^{14}C dating in:	1970 (uncalib)	1992 (IntCal98)	2013 (IntCal13)	2019 (IntCal20)
Dynasty 1	2685-2315	3185-2930	3150-2819	3000-2700
Dynasty 2	2315-2225	2930-2715	2819-2660	2700-2600

The preceding results clearly show that the Egyptian chronology obtained by ^{14}C measurements is not an absolute chronology, contrary to the claims of radiocarbonists, but only a relative chronology, calibrated by dendrochronology, which must be recalibrated on absolute dates retro-calculated by astronomy. In recent years, absolute calendrical dates for the Middle Bronze Age in the southern Levant have been challenged by several radiocarbon sequences. The traditional model was based on general historical associations with Dynastic Egypt, and hence absolute dates in the Levant were derived from the historical chronology of the Nile Valley (Höflmayer: 2022, 52-69). The Mesopotamian chronology obtained by ^{14}C measurements is not reliable because of the almost complete absence of carbonaceous residues, which are perishable (except in Egypt because of the climate). For example, the oldest building unearthed at Ebla (Palace G), which can be associated with the beginning of kingship, is stratigraphically dated between 2700 and 2400 BCE (Kühne, Czichon, Kreppner: 2008, 66), i.e. an average date of 2550 BCE ± 150 years.

Why do Assyriologists reject Ultra-Low Chronology?

Mesopotamian chronology was debated for a long time among Assyriologists, who finally accepted (in 1950) a Middle Chronology (between High and Low) based on a majority consensus but not on astronomical arguments, which were considered questionable at the time. In 1998 Hermann Gasche showed that the astronomical arguments and the relative Assyrian chronology were solely in favour of an “Ultra-Low” Chronology, but his proposal was rejected. The main reason for this rejection was the refusal to break the consensus around the Middle Chronology.

His main conclusion is that the fall of Babylon at the end of the so-called "Paleo-Babylonian" period, marked by the capture of the city by the Hittite king Muršili I and the disappearance of the Babylonian king Samsu-ditana, the last of Hammurabi's successors, is to be dated to 1500 BCE, whereas the middle chronology places this event in 1595 (...). However, although very convincing, this new chronology is subject to verification and debate in the scientific community and cannot yet be considered as official. It therefore seemed more reasonable to us, in order to maintain a certain coherence with the bibliography as a whole to which the entries in this dictionary refer, to retain the most widespread system currently in use, which remains that of the middle chronology (...) In Babylonia, during the reign of Hammurabi's fourth successor, Ammišaduqa, the phenomena of the occultation of the planet Venus were recorded (known by copies from the 7th century). The conversion of the date of this phenomenon into absolute chronology served as an anchor for the chronology of this period, with three major possibilities that determined three systems called "low", "middle", and "high" chronology. For many reasons, the "middle" chronology has emerged as the most plausible and is commonly used. Recently, however, a general revision of the 2nd millennium chronology, focusing on the date of the fall of the first Babylonian dynasty (which occurred in 1595 according to the middle chronology) and combining archaeological, textual, and astronomical data, has very convincingly set the date of this event at 1500 BCE, within a few years, a century later than the "middle chronology" (Joannès: 2001, XI, 184-188).

At the 46th Rencontre assyriologique internationale on 12 July 2000, a meeting of Assyriologists concluded that dendrochronology imposed a lower chronology than the Middle Chronology but that there was still no consensus for the following reasons: the astronomical data concerning the lunar eclipses of Ur III were extremely debated and most Hittitologists defended the Middle Chronology because, according to them, *the average duration of a generation should be 24.01 years*, whereas it was only 18.27 years according to the Ultra-Low Chronology (Beckman: 2000, 19-32). This objection is not valid because no duration of these reigns is known, moreover, if we use the average duration of the 5 reigns between Tuḫaliya I (no. 16), dated c. 1400 BCE (Bryce: 2012, 310), and Šuppiliuma I (no. 21), dated in 1353 BCE, by around 10 years (= [1400 - 1353]/5), the reign of Muršili I (no. 4) must be dated c. 1490 BCE (= 1400 + 9x10), as there are only 9 effective reigns between these two kings (no. 4 & 16) because Zidanta I (no. 6), Ḫuzziya II (no. 8) and Taḫurwaili I (no. 10) had very short reigns. Instead of pursuing this debate, Assyriologist Cécile Michel and astronomer Patrick Rocher have proposed to anchor Mesopotamian chronology on the darkening of the sun mentioned during the eponymy of Puzur-Ištar (N°126), the year just after the birth of Šamši-Adad I, which was interpreted as a solar eclipse dated 19 November 1795 BCE (Michel, Rocher: 2000, 111-126). If this debate among Assyriologists had been pursued in depth, the two objections would easily have been refuted because the two lunar eclipses of Ur III are not only precisely dated (14/III/48 of Šulgi and 14/XII/24 of Ibbi-Sin), but they must also have been total, since they were bad omens (partial eclipses cannot therefore be accepted), and exactly 42 years and 9 months apart. Cécile Michel realised that the eclipse dated 19 November 1795 BCE gave rise to several chronological inconsistencies, so she proposed the solar eclipse dated 24 June 1833 BCE (Michel: 2002, 17-18). Once again, this date leads to chronological inconsistencies, because if Šamši-Adad I had been born one year before this eclipse, i.e. in 1834 BCE, he would have died in 1761 BCE (= 1834 + 199 - 126), which is not in agreement with either the Middle Chronology (1776 BCE) or the Low Chronology (1712 BCE). So Cécile Michel invented a new concept that would prove highly successful: the “Low Middle” Chronology. A comparison of the different chronologies (below) shows that only the Ultra-Low Chronology matches the absolute dates of the total lunar eclipses (highlighted in black) and the reign of Šamši-Adad as determined by the Assyrian King List (AKL).

TABLE 58

Chronology (BCE):	Ultra-Low	Low	Low-Middle	Middle	High
Eclipse 14/III/48 of Šulgi (Ur III)	28/06/1954	-	-	-	-
Eclipse 14/XII/24 of Ibbi-Sin (Ur III)	06/03/1911	-	-	-	-
Fall of Ur	1912	1944	1983	2008	2064
Reign of Šamši-Adad I (AKL)	1712-1680	1745-1712	1784-1761	1809-1776	1865-1832
Reign of Hammurabi	1697-1654	1729-1686	1778-1635	1793-1750	1849-1806
Reign of Ammišaduqa (Venus tablet)	1551-1530	1583-1562	1632-1611	1647-1626	1703-1682
Fall of Babylon	1499	1531	1580	1595	1651
Eclipse 14/V/38 of Babylon's resettlement	19/07/1462	-	-	-	-

It is easy to see that this new concept of a “Low Middle” Chronology is illogical because it would mean that the astronomical information on the Venus tablet would be completely false (the errors on this tablet can be explained by copying errors but in no way invalidate the observation of a transit of Venus through the sun). Furthermore, it is impossible to identify astronomically the two total lunar eclipses of the Ur III dynasty, even though they are precisely dated in the Babylonian lunar calendar, outside these dates⁸¹. In addition, only the Ultra-Low chronology is consistent with the chronology deduced from the Assyrian King List (AKL). Assyriologist Hermann Hunger explained what were the reasons that prevented him from adhering to the Ultra-Low Chronology:

In my opinion it is doubtful whether one can use eclipse descriptions preserved in omen texts of the first millennium BC as if they were records of actually observed eclipses for Ur III at the end of the third millennium BC. Leaving aside the lunar eclipses, a combination of the Venus Tablet data and Old Babylonian month lengths alone supports only the so-called High chronology. According to Huber, the data has been misunderstood by Gasche and his team; their astronomical calculations are also marred by errors. In particular, the insistence by Gurzadyan that the Venus Tablet can only be used to establish an 8-year cycle of Venus phenomena beginning with Ammišaduqa year 1 does not seem to reflect an understanding the Babylonian lunar calendar (...) Pruzsinszky (2006) has supported Michel's choice by means of the Assyrian time-spans which I mentioned earlier. While people may be inclined to disregard the time-spans altogether, Pruzsinszky's proposal happens to agree with that by Michel, which was based on Manning's use of dendrochronology. Unfortunately, other dendrochronological data, from buildings in Kültepe, cannot be brought into agreement with Michel's proposal. In conclusion I regret to say that there is conflicting evidence for Mesopotamian chronology: pottery development suggests a relatively Low Chronology, tree rings (assuming they are correctly interpreted) a somewhat higher, and astronomy (if P. Huber is correct) a very high one. At the moment, a decision seems to me impossible, but I hope for better data (Hunger: 2009, 145-152).

Hermann Hunger's argument (2009) for rejecting the Ultra-Low Chronology proposed by Hermann Gasche is surprising because, although he is known for his work on Babylonian astronomy and celestial omens, in his opinion: *it is doubtful whether one can use eclipse descriptions as if they were records of actually observed eclipses for Ur III at the end of the third millennium BC*, this argument is not logical, because the fact that two key events in Mesopotamian history were associated with bad omens deduced from precisely dated lunar eclipses implies that both total lunar eclipses were observed, otherwise why would the Babylonians have invented and archived these two memorable lunar eclipses. Similarly, it is surprising that Hermann Hunger has not detected the errors in the statistical analyses of Peter J. Huber, whose statistical calculations are astronomically wrong for the lunar eclipses of the Ur III dynasty (he changed the duration of certain reigns by one year to bring them into line with his calculations) and impossible for the data on the Venus tablet. In fact, he considered that the best statistical agreement was with the Middle Chronology, or even the High Chronology, and the worst with the Ultra-Low Chronology (Huber: 2000, 159-176), whereas this chronology is the only one for which the observed values are after the theoretical values, whereas for the other chronologies it is the other way round, which is impossible (unless you admit predictive observations). Hermann Hunger's doubts about using the eclipse descriptions as if they were actually observed eclipses for Ur III may have been influenced by Boris Banjević's conclusions about these two lunar eclipses:

The formation of an absolute chronology for the ancient Near East depends upon identifying the recorded observations of ancient astronomers. The author investigates connection between the Venus observations and nine ancient solar and lunar eclipses. The Middle Chronology for the fall of Babylon 1595 BC is too long; the Ultra-Low chronology (1499 BC) is too short. The new chronology is proposed starting with 1547 BC (Banjević: 2006, 251-257).

This purely mathematical analysis contradicts several chronological data points: the two eclipses selected (18/07/-2001* and 27/05/-1961*) are separated by 40 years and 2 months instead of the required 42 years and 9 months, the date of 1847 BCE for the fall of Babylon does not agree with any date deduced from the Venus Tablet and the calculated reign of Šamši-Adad I (1760-1727) is different from that deduced from the Assyrian King List (1712-1680). Hermann Hunger's negative opinion of the two eclipses at Ur III seems to have encouraged astronomers to anchor Mesopotamian chronology on the “darkening (eclipse) of the sun” mentioned the year after the birth of Šamši-Adad I rather than on the two lunar eclipses at the end of the Ur III dynasty. For example, astronomer Teije de Jong reused the concept of “Low Middle” Chronology, taking into account the astronomical results of the Venus tablet, which did not agree with the solar eclipse of 24 June 1833 BCE proposed in 2002 by Cécile Michel. The astronomical dates on the Venus Tablet can be moved back 8 years by assuming that the observations took place 3 days later, which may be consistent with the margin of error of the dates. The date of 1595 BCE for the fall of Ur, according to Middle Chronology,

⁸¹ <https://eclipsewise.com/lunar/LEcatalog/LE-1999--1900.html> <https://eclipsewise.com/lunar/LEcatalog/LE-2099--2000.html>

becomes 1587 BCE (= 1595 - 8), according to Low Middle Chronology. However, the complex astronomical explanations used to justify this new anchoring of Mesopotamian chronology contain several elementary errors that can be understood even by the layman (the main points were underlined):

Using the well-established Old Babylonian relative chronology of the Hammurabi dynasty (e.g. Hunger and Pingree 1999, p. ix) this implies that the first year of the reign of king Ammi-saduqa is constrained to 1647 BC \pm 10 yrs, and the fall of Babylon to 1596 BC \pm 10 yrs. These much stricter limits to the absolute dating of the Old Babylonian chronology imply that of all the candidate chronologies allowed by the Venus observations only the two Middle Chronologies remain as viable candidates... The building of the Warsama palace must have taken place after the Old Palace was destroyed sometime during the period covered by REL 138-141. According to the chronological scheme, this destruction took place in 1834/1 BC for the High Middle Chronology or in 1826/3 BC for the Low Middle Chronology. Both ranges of dates fall within the 95% confidence radiocarbon window of 1835/32 BC \pm 6/-8 yrs in which the timber used for the construction of the Warsama palace was cut (Newton and Kuniholm 2006; Manning et al. 2010). If indeed the Low Middle Chronology will turn out to be the correct one this implies that the timber used for the construction of the Warsama Palace may have been cut a few years before the destruction of the Old Palace. This would allow for transportation of trees to Kanesh and for drying of the wood before processing ... On the other hand Veenhof (2007) has presented arguments in favour of shifting the birth of Samsi-Adad a few years backwards in time. He points out that according to the Distanzangaben the time interval between the accession year of Erisum I and the death of Samsi-Adad equals 199 years while according to the REL it is 196 years. This implies that Samsi-Adad would have died at the age of 74 rather than at 71 so that he may have been born three years earlier. For the discussion below I will adopt an uncertainty margin of \pm 2 years in the birth date of Samsi-Adad. Taking this margin into account I find from the chronological overview that the solar eclipse around the birth of Samsi-Adad must have taken place in 1845 BC \pm 2 yrs (High Middle Chronology) or in 1837 BC \pm 2 yrs (Low Middle Chronology). The data show that there are indeed candidate eclipses for both chronologies which may qualify as solar eclipses causing a “darkening of the Sun”, the partial eclipse of 5 August 1845 BC and the one of 24 March 1838 BC. On the basis of these solar eclipses there are two reasons to express preference for the Low Middle Chronology: (1) the 1838 BC eclipse is the most conspicuous one (0.94 magnitude at the horizon versus 0.75), and (2) the 1838 BC eclipse requires a much smaller clock-time correction error (0:30 versus 1:15 hrs, equivalent to about 0.5 versus 1.25s) which makes it about twice more probable. If the Low Middle Chronology indeed turns out to be the correct one the data imply that the birth of Samsi-Adad (REL 126) needs to be pushed backward one year in time so that an additional eponym is required between REL 127 and 197. It is of interest to note that the most spectacular candidate eclipse, the total solar eclipse of 24 June 1833 BC (Michel and Rocher 1999), while only reconcilable with the Low Middle Chronology, would require that the Revised Eponym List be inflated by about four years during the roughly 70 years spanning the lifetime of Samsi-Adad (REL 126-197) which seems more than allowed by the present uncertainties. Based on the fine-tuning process presented in this section I suggest that the Low Middle Chronology is the correct one for the history of Mesopotamia ... My arguments for this choice are threefold: 1) The Low Middle Chronology provides a better fit to the Venus observations as reflected in the mean deviation to the lunar calendar of -0.4 days for the Low Middle Chronology versus -4.3 days (exceeding the standard mean error) for the High Middle Chronology. Now that the possible candidate Venus chronologies have been reduced to two this is a much stronger argument than when one had to choose between six Venus chronologies. 2) Although for both Middle Chronologies a solar eclipse can be identified that might be responsible for the “darkening of the Sun” mentioned in the Mari Eponym Chronicle, I prefer the Low Middle Chronology eclipse candidate of 24 March 1838 BC because it is more conspicuous (magnitude 0.94 at the horizon versus 0.80) and the clock-time correction extrapolation error is more than two times smaller making it twice more probable. 3) The Low Middle Chronology also provides a natural explanation for the enhanced atmospheric extinction in Babylon, inferred from the Venus observations during years 12 and 13 of the reign of king Ammi-saduqa De Jong and Foertmeyer (2010) have argued that this enhancement was caused by aerosols expelled into the Earth atmosphere by the violent eruption of the volcano on the Greek island Thera (present-day Santorini). The eruption has been radiocarbon dated to 1613 BC \pm 14/-13 yrs (at the 95% confidence level) by Friedrich et al. (2006) based on tree-ring sequences in the remains of several olive branches found in layers of pumice left by the eruption. De Jong and Foertmeyer show that this dating can only be reconciled with the affected Venus observations if the Low Middle Chronology is adopted leading to a date for the eruption in 1628/27 BC (De Jong: 2013, 158-161). Teije de Jong excluded the Ultra-Low Chronology solely on the basis of statistical calculations (De Jong: 2013b, 366-370).

These explanations to justify the choice of the eclipse of 24 March 1838 BCE, corresponding to the darkening of the sun, and consequently the choice of the “Low Middle” Chronology are very technical and difficult to verify for a layman. The main points of the reasoning are as follows: the Middle Chronology is used as a starting point, it is then lowered by around 10 years based on hypothetical radiocarbon dates from the palace of Šamšî-Adad I, which finally makes it possible to choose the eclipse of 24 March 1838 BCE in accordance with the slightly modified dates on the Venus tablet. It should be noted that Puzur-Aššur III's reign is impossible to calculate: 1587-1563 (Middle Chronology), 1491-1467 according to the AKL (Pruzsinszky: 2009, 42) and 1521-1498 according to some archaeologists (Düring: 2020, XV-XVI):

TABLE 59

Chronology (BCE):	AKL	Ultra-Low	Low	Low-Middle*	Low-Middle	Middle
Fall of Ur		1912	1944	1993	2000	2008
Birth of Šamšî-Adad I (AKL)	1752	1752	1784	1833	1840	1848
Reign of Šamšî-Adad I (AKL)	1712-1680	1712-1680	1745-1712	1784-1761	1791-1768	1809-1776
Reign of Hammurabi		1697-1654	1729-1686	1778-1635	1785-1642	1793-1750
Reign of Ammisaduqa		1551-1530	1583-1562	1632-1611	1639-1618	1647-1626
Deviation from the Venus Tablet		0	0	(-15)	-8	0
Fall of Babylon		1499	1531	1580	1587	1595
Reign of Puzur-Aššur III (AKL)	1491-1467	1491-1467	1523-1499	1572-1548	1579-1555	1587-1563
Year 38 of Babylon's resettlement		1462	1494	1543	1550	1558

Impressed by the complexity of these astronomical calculations, no Assyriologist has challenged De Jong's assertions, even though one can see that the starting hypothesis 1) “Middle Chronology is almost correct” is arbitrary, 2) the radiocarbon dating of the palace of Šamšî-Adad I is based on several hypothetical suppositions and, icing on the cake, 3) the solar eclipse of 24 August 1838 BCE is chosen as the best option (mag. 0.94), even though it is stated just beforehand that: *Partial solar eclipses will pass unnoticed for a naked-eye observer unless the Sun is more than about 95% eclipsed* (De Jong: 2013, 157). The partial solar eclipse of 24 August 1838 BCE with a magnitude of 94% (< 95%) therefore went unnoticed by a naked-eye observer, which is quite something! What's more, only the (very rare) total solar eclipses, considered to be bad omens, are mentioned⁸² (exceptionally), for example, a tablet from Ugarit (KTU 1.78) records: *On the ... day of the new moon, in (the month) of Hiyaru, the Sun went down, its gate-keeper was Mars // Two livers were examined: danger*, which corresponds to the total eclipse of the sun on 5 March 1223 BCE (De Jong, Van Soldt: 1989, 238–240). One can verify that there were no total solar eclipses over Assyria in the period 1860-1841 BCE⁸³. In addition, the term used for the “darkening” of the Sun, in the Mari Eponym Chronicle is *na'duru* “darkened, obscured, eclipsed” which means an eclipse in a metaphorical way and is different from the usual *antallû* (AN.TA.LÛ) “eclipse” used in astronomical tablets. Vahe Gurzadyan⁸⁴ concluded that the solar eclipse without description and without links to any other chronologically anchored astronomical events (by which he means the lunar eclipses of EAE) can hardly serve as good evidence for a specific chronology (Pruzsinszky: 2009, 75 n. 290). What is even more surprising: no Assyriologist has noticed that the reign of Šamšî-Adad I deduced from the Assyrian King List (1712-1680) was very different from that assumed by the Low Middle Chronology (1791-1768). Despite all these chronological inconsistencies, physicist Werner Nahm considered (in 2013) the Low Middle Chronology to be satisfactory:

Dendrochronological data and greater precision in the relative chronology between Babylonia and Assyria have led to the reopening of the discussion about Mesopotamian chronology in the 2nd millennium BC. The article makes four points. First, the arguments for the standard chronologies based upon the data of the Venus Tablets are robust. Counterarguments are found wanting. Second, once likely errors are taken into account, there is a natural recording procedure for which the Lower Middle Chronology is in accordance with the data. Third, among the four standard chronologies only the Lower Middle Chronology can easily satisfy the constraint provided by the eclipse record of the Mari Eponym Chronicle. Finally, this chronology is also in exact agreement with the widespread record of a volcanic eruption in 1628/27 BC (Nahm: 2013, 350-372).

Influenced by the complex scientific analyses of radiocarbonists, physicists and statisticians, the debates to anchor Mesopotamian chronology on absolute dates have completely evacuated the basic criteria of an absolute chronology: 1) reconstitution of a relative chronology of the reign of Šamšî-Adad I from the Assyrian King List (1712-1680) 2) anchored on the three total lunar eclipses exactly dated in the Babylonian

⁸² A total solar eclipse (“solar omen”) is mentioned in a text dating to the reign of Muršili II (1322-1295). The text records that in the 10th year of Muršili's reign (1312 BCE), “the Sun gave a sign”, just as the king was about to launch a campaign against the Kingdom of Azzi-Hayasa in north-eastern Anatolia. The 1312 BCE eclipse occurred over northern Anatolia in the early afternoon, and its effects would have been quite spectacular for Muršili II and his men on campaign: 24 June 1312 BCE.

⁸³ <https://eclipse.gsfc.nasa.gov/SEatlas/SEatlas-2/SEatlas-1839.GIF>

⁸⁴ Vahe Gurzadyan, mathematical physicist, professor and head of Cosmology Center at Yerevan Physics Institute, Armenia.

lunar calendar: 14/III/48 of Šulgi dated 28/06/1954 BCE, 14/XII/24 of Ibbi-Sin dated 06/03/1911, 14/V/38 of Babylon's resettlement dated 19/07/1462 BCE. Despite this chronological evidence, which is easily verified by astronomy, astronomer Teije de Jong wrote the following (in 2017):

Recently much progress has been made in the absolute dating of the Old Assyrian and Old Babylonian chronologies by combining a new critical edition of the old Assyrian eponym lists found at Kültepe-Kaneš (Revised Eponym List) with radiocarbon and astronomical dating techniques. This has led to narrowing down the absolute dating of the Old Babylonian chronology to the two Middle Chronologies (Ammī-šaduqa year 1 = 1646 or 1638 BC) and to reducing the candidates for the solar eclipse recorded in the Mari Eponym Chronicle (REL 127) to three eclipses (in 1845 BC, 1838 BC, and 1833 BC). In this paper I use the results of a recent study of the intercalation of the old Assyrian calendar at Kaneš (REL 81–110) to further refine the absolute dating of the chronology of the first half of the second millennium BC. The new evidence suggests that astronomical intercalation criteria like the heliacal rising of the bright star Sirius may have played an important role in establishing the intercalation pattern of the Old Assyrian calendar. Using the REL to create three different solutions of the Old Assyrian calendar at Kaneš (REL 81–110), one for each candidate solar eclipse, I propose that the observed intercalation pattern provides an additional independent argument in support of the Low Middle Chronology. According to the absolute dating of the Old Assyrian chronology proposed here Šamši-Adad was born in 1839 BC (REL 126), in the year preceding the partial solar eclipse of 24 March 1838 BC (REL 127) and he died in December 1767 BC (REL 197), during the eighteenth year of the reign of king Hammurabi of Babylon. This chronology proposal implies that the beginning of the reign of the old Assyrian king Erišum (REL 1) may be dated to 1964 BC (De Jong: 2017, 127-143).

To reopen this debate on the anchoring of Mesopotamian chronology on absolute dates, two lectures entitled: *Mesopotamian chronology over the period 2340-539 BCE through astronomically dated synchronisms and comparison with carbon-14 dating*, showed that the three total lunar eclipses, mentioned in Babylonian Annals and in the economic texts from Tell Muhammad, anchored Mesopotamian chronology according to Ultra-Low Chronology (Gertoux: 2019a, 2019b). The main arguments confirming this absolute chronology have been mentioned in NABU 2021-3 note 73. Although the paper from this conference has been available as a preprint on HAL open science since 2019 (Gertoux: 2023, 1-87), papers on the chronology of the ancient Near East continue to deny any absolute dating values to the two lunar eclipses. The article "Mesopotamian Chronology" on Livius.org (last modified on 14 September 2020) explains why: *The publication of the ultra-low chronology, as recently as 1998, has resulted in a series of vehement polemics, from which ad hominem-arguments are not absent. Among the arguments for the ultra-low chronology is the identification of a set of eclipses; a counter-argument is that the Assyrian king list appears to be too long to fit in this framework* (<https://www.livius.org/articles/misc/mesopotamian-chronology/>). This counter-argument, asserted without reference, is false because the list of Assyrian King List (AKL) fits perfectly into this framework, since the reign of Šamši-Adad I (1712-1680) is dated exactly.

The radiocarbonists are the main defenders of the (Low) Middle Chronology, and to achieve their aim they ignore: 1) all the astronomical phenomena that have been precisely dated, as well as 2) the reign of Šamši-Adad I (1712-1680) as determined by the Assyrian King List (AKL), 3) in order to synchronise with Babylonian chronology, they increase the dates of Egyptian chronology by 40-60 years (Stiebing, Helft: 2023, 9,173, 203). For example, the reign of Senwosret III, set at 1855-1836 BCE by astronomy, is dated to 1892-1853 BCE by ¹⁴C and the only element used to anchor Babylonian chronology to an absolute date is the Sarıkaya palace at Acemhöyük, associated with Shamshi-Adad I, which can be dated to c. **1776 BCE** using dendrochronology, which agrees with the Middle Chronology (Höflmayer, Manning: 2022, 1-24). However, this date corresponds to the death of Šamši-Adad I (1809-1776), according to the Middle Chronology! The only conclusion we can draw from this dating is that the beams used to repair this palace, dated by dendrochronology to c. 1766 BCE, were used before the reign of Šamši-Adad I (1712-1680). So, it's not the radiocarbon measurements that are in question, but the concordance between the death of Šamši-Adad I and the dating of the buildings from his time. Conclusion: The "Ultra-Low" Chronology relies on absolute dates determined astronomically by the two precisely dated total lunar eclipses of Ur III dynasty (27 June 1954 BCE and 6 March 1911 BCE), whereas the Middle Chronology relies on an ancient consensus (1950) rather than the current scientific truth. The only scientific way to prove that a Mesopotamian chronology is absolute is to reconstruct exactly, year by year, all the Mesopotamian reigns with their historical and astronomical synchronisms (see All Mesopotamian synchronisms over the period 2400-1050 BCE).

Synchronisms between different chronologies, over the period 2020-1360 BCE, have been highlighted in grey, absolute dates based on astronomical phenomena have been highlighted in midnight blue, and the quadruple synchronism between Šamši-Adad I (1712-1680), Hammurabi (1697-1654), Yantin-Ammu (1695-1670) and Neferhotep I (1701-1690) has been highlighted in different colours (hereafter).

MAIN SYNCHRONISMS OVER THE PERIOD 2020-1360 BCE PROVING ULTRA-LOW CHRONOLOGY

ASSYRIA	Reign	BABYLON	Reign	MARI	Reign	EGYPT	Reign
Yakmeni	2010-1996	Ur-Namma	2020-2002	Apil-Kîn	2030-1995	Mentuhotep II	2045-1994
Yazkur-îlu	1996-1982	Sulgi	2002	Iddin-Ilum	1995-1990	Mentuhotep III	1994-1982
Ila-kabkabû	1982-1968			Ilum-Iš'ar	1990-1978	Mentuhotep IV	1982-1975
Amînum	1968-1954		-1954	Turâm-Dagan	1978-1958	Amenemhat I	1975 - -1946
Sulili	1954-1940	Amar-Sîn	1954-1945	Puzur-Eštar	1958 -		
Kikkia	1940-1927	Su-Sîn	1945-1936		-1933	Senwosret I	1946 -
Akia	1927-1913	Ibbi-Sîn	1936-1912	Iši-Dagan	1918-1912		-1901
Puzur-Aššur I	1913-1900	Išbi-Erra	1923				
Salim-ahum	1900-1886		-1890			Amenemhat II	1901 -
Ilu-šumma	1886-1873	Sû-ilîšu	1890-1880				
Erišu I	1873	Iddin-Dagân	1880-1859				-1863
	-1834	Išme-Dagân	1859-1840	BYBLOS	Reign	Senwosret II	1863-1855
Ikunum	1834-1821	Lipit-Eštar	1840-1829	Abi-Shemu	1815 -	Amenemhat III	1836 -
Sargon I	1821 -	Ur-Ninurta	1829- 1801		-1790		-1791
	-1782	Sumu-abum	1799-1785	Ipy-Shemu-Abi	1790 -	Amenemhat IV	1791-1782
Puzur-Aššur II	1782-1774	Sumu-la-II	1785 -			Neferu-sobek	1782- 1778
Naram-Sîn	1774 -		-1749		-1765	Sobekhotep I	1778-1775
		Sâbium	1749 -	Yakin-el	1765 -	[Hotepibre	1753 -
			-1735		-1740		-1741
		Apil-Sîn	1735 -	Ilimi-yapi ?	1740 -	[-] Sewadjkare	1741-1737
	-1722				-1720	Sobekhotep II	1737-1733
Erišu II	1722 -					Hor I	1732-1728
				Yakin-[îlu II?]	1720 -	Amenemhat VII	1728-1724
						Wegaf	1724-1722
	-1712		-1717			Khendjer	1722-1717
Šamšî-Adad I	1712	Sîn-muballit	1717 -			Imyremeshaw	1717-1713
			-1697			Antef V	1713-1709
					-1695	Seth	1709-1705
		Hammurabi	1697	Yantin-Ammu	1695	Neferhotep I	1701-1690
	-1680		-1680			Sobekhotep IV	1690- 1681
Išme-Dagan I	1680 -		1680 -			Sobekhotep V	1681-1679
	-1670				-1670	Sobekhotep VI	1679-1676
Aššur-dugul	1670-1664			?	1670 -	Ibiaw	1676 -
Bêlu-bâni	1664-1654		-1654	KASSITE	Reign		-1665
Libbaya	1654 -	Samsu-iluna	1654 -	Gandaš	1657 -	Aya	1665-1652
	-1638		1645		-1631		
Šarma-Adad I	1638-1626			Agum I	1631 -		
Puzur-Sîn	1626-1615		-1616		-1609		
Bazaya	1615-1588	Abi-ešuĥ	1616-1588	Kaštiliašu I	1609-1587		
Lullaya	1588-1582	Ammiditana	1588 -	Kaštiliašu II	1587-1579	Dynasty 17	
Šû-Ninûa	1582-1568			Abi-Rattaš	1579 -	Rahotep	1572-1568
Šarma-Adad II	1568-1565				-1562		
Erišu III	1565-1553		-1551	Urzigurumaš	1562-1545		
Šamšî-Adad II	1553-1547	Ammišaduqa	1551	Ĥurbaĥ	1545 -		
Išme-Dagan II	1547-1531		-1530		-1528	Dynasty 18	
Šamšî-Adad III	1531-1516	Samsuditana	1530 -	Šipta-ulzi	1528-1511	Ahmoose	1530-1505
Aššur-nêrârî I	1516-1491		-1499	Agum II	1511-1494	Amenhotep I	1505-1484
Puzur-Aššur III	1491-1467	<i>resettlement of</i>	1499	Burna-Buriaš I	1494 -	Thutmose I	1484-1472
Enlil-nâšir I	1467 -	<i>Babylon</i>	-1464		-1464	Thutmose II	1472-1469
	-1455	Years 36-41	1464-1459	Kaštiliašu III	1464	Thutmose III	1472 -
Nûr-ili	1455-1443			Ulam-Buriaš			
Aššur-šadûni	1443-1443				-1443		
Aššur-rabi I	1443-1433			Agum III	1443 -		
Aššur-nâdin-aĥĥe I	1433-1424				-1426		
Enlil-našir II	1424-1418			Kadašman-Harbe I	1426 -		-1418
Aššur-nêrârî II	1418-1411				-1409	Amenhotep II	1418 -
Aššur-bêl-nišešu	1411-1403			Kara-indaš	1409 -		
Aššur-rê'im-nišešu	1403-1395				-1392		-1392
Aššur-nâdin-aĥĥe II	1395-1385			Kurigalzu I	1392 -	Thutmose IV	1392-1383
Eriša-Adad I	1385				-1375	Amenhotep III	1383 -
	-1358			Kadašman-Enlil I	1375-1360		-1345
Aššur-uballit I	1358			Burna-Buriaš II	1360	Amenhotep IV	1356-1340
					-1333	Tutankhamun	1337-1327
	-1323			Kurigalzu II	1333 -	Aÿ	1327-1323
Enlil-nêrârî	1323-1313				-1308	Horemheb	1323-1295

All Mesopotamian synchronisms over the period 2400-1050 BCE

TABLE 60

BCE	LAGASH 0	EBLA	UR 0	URUK I	ED IIIb period
2400			6	Ur-Nungal	1
2399			7	n°6	2
2398			8	n°1	3
2397			9	A-Imdugud	4
2396			10		5
2395		n°18	11		6
2394	n°-3	Ísrud-Damu	1		7
2393	??		2		8
2392	1		3		9
2291	3		4		10
2390	4		5		11
2389	5		6		12
2388	6		7		13
2387	7		8		14
2386	8		9		15
2385	9		10		16
2384	10	n°19	11		17
2383	11	Isidu	1		18
2382	12		2		19
2381	13		3		20
2380	14		4	n°2	21
2379	15		5	Ur-Pabilsag	22
2378	16		6		23
2377	17		7		24
2376	n°-2		8		25
2375	En-ḫegal		9		26
2374	2		10		27
2373	3	n°20	11		28
2372	4	Ísrud-Halab	1		29
2371	5		2	n°7	30
2370	6		3	Udul-kalama	1
2369	7		4		2
2368	8		5		3
2367	9		6		4
2366	10		7		5
2365	11		8		6
2364	12		9		7
2363	13		10		8
2362	14	n°21	11	n°3	9
2361	15	Igsud	1	Meskalamdug	10
2360	16		2		11
2359	17		3		12
2358	n°-1		4		13
2357	Lugal-ša-engur		5		14
2356	(governor)		6	n°8	15
2355	3		7	Labašum	1
2354	4		8		2
2353	5		9		3
2352	6		10		4
2351	7	n°22	11		5
2350	8	Talda-Lîm	1		6
2349	9		2		7
2348	10		3		8
2347	11		4	n°9	9
2346	12		5	En-nun-tarah-anna	1
2345	13		6		2
2344	14		7	n°4	3
2343	15		8	Akalamdug	4
2342	16		9		5
2341	17		10		6
2340	LAGASH I	MARI			7
2339	Ur-Nanše	Ikun-Šamaš	1	n°10	8
2338	n°1	n°1	2	Mesše	1
2337	3		3		2
2336	4		4		3
2335	5		5		4
2334	6		6		5
2333	7		7		6
2332	8		8		7
2331	9		9		8
2330	10		10		9
2329	11		11		10
2328	12		12		11
2327	13		13		12
2326	14		14	URI	13

2325		15		15	Mesanepada	1		14		15
2324		16		16	n°5	2		15		16
2323		17		17		3		16		17
2322	n°2	18		18		4		17		18
2321	Akurgal	1		19		5		18		19
2320		2		20		6		19		20
2319		3		21		7		20		21
2318	n°3	4	n°2	22		8		21		22
2317	E-anatum	1	Ikun-Šamagan	1		9		22		23
2316		2		2		10		23		24
2315		3		3		11		24	n°4	25
2314		4		4		12		25	Hišur	1
2313		5		5		13		26		2
2312		6		6		14		27		3
2311		7		7		15		28		4
2310		8		8		16		29		5
2309		9		9		17		30		6
2308		10		10	n°6	18		31		7
2307		11		11	A-anepada	1		32		8
2306		12	n°3	12		2		33		9
2305		13	Iški-Mari	1		3		34		10
2304		14		2		4		35		11
2303		15		3		5	n°11	36		12
2302		16		4		6	Melam-ana	1		13
2301		17		5		7		2		14
2300		18		6		8		3		15
2299		19		7		9		4		16
2298		20		8		10		5		17
2297		21		9		11	n°12	6		18
2296		22		10		12	Lugal-kigine-dudu	1		19
2295		23		11		13		2		20
2294		24	n°4	12		14		3		21
2293		25	Anubu	1		15		4		22
2292		26		2		16		5		23
2291		27		3		17		6		24
2290		28		4	n°7	18		7	n°5	25
2289		29		5	Mes-ki'ag-nuna	1		8	Šušun-tarana	1
2288	n°4	30		6		2		9		2
2287	En-anatum I	1		7		3		10		3
2286		2		8		4		11		4
2285		3		9		5		12		5
2284		4		10		6		13		6
2283		5		11		7		14		7
2282	n°5	6	n°5	12		8		15		8
2281	En-metena	1	Sa'umu	1		9		16		9
2280		2		2	UR II	10		17		10
2279		3		3	Elulu	1		18		11
2278		4		4	n°8	2		19		12
2277		5		5		3		20		13
2276		6	n°6	6		4		21		14
2275		7	Itup-Išar	1		5		22		15
2274		8		2		6		23		16
2273		9		3		7		24		17
2272		10	n°7	4		8		25		18
2271		11	Iblul-II	1		9		26		19
2270		12		2		10		27		20
2269		13		3		11		28		21
2268		14		4		12		29		22
2267		15		5		13		30		23
2266		16		6		14		31		24
2265		17		7		15		32	n°6	25
2264		18		8	EBLA			33	Napil-ḥuš	1
2263		19		9	Igriš-Halab	1		34		2
2262		20		10	n°31	2		35		3
2261		21		11		3	URUK II	36		4
2260		22		12		4	En-šakuš-ana	1		5
2259		23		13		5	(n°13)	2		6
2258		24		14		6		3		7
2257		25		15		7		4		8
2256		26		16		8		5		9
2255		27		17		9		6		10
2254		28		18		10	Lugal-kiniše-dudu	1		11
2253		29		19		11	(n°14)	2		12
2252	n°6	30	n°8	20	n°32	12		3		13
2251	En-anatum II	1	Nizi	1	Irkab-Damu	1		4		14
2250		2		2	/Tir	2		5		15
2249		3	n°9	3		3		6		16
2248		4	Enna-Dagan	1		4		7		17

2247		5		2	/Arrukun	5	(EGYPT Dyn. 6)	9		18
2246		6	n°10	3		6	n°1 Teti	10		19
2245	n°7	7	Ikun-Išar	4	n°33	7		11		20
2244	En-entarzi	1	Hida'ar	1	Iš'ar-Damu	1		12		21
2243	AKKAD	2	n°11	2	/Ibrium	2		13		22
2242	Sargon	1 3		3		3	n°2	14		23
2241	n°1	2 4		4		4	/Userkare 1	15		24
2240		3 5		5		5		2 16	n°7	25
2239	n°8	4 6		6		6		3 17	Kikku-sime-temti	1
2238	Lugal-anda	5 1		7		7	n°3	4 18		2
2237		6 2		8		8	Pepy I Meryre (5)	1		3
2236		7 3	(URUK III)	9		9	(6)	2		4
2235		8 4	(Lugal-zagesi)	10		10	ASSYRIA			5
2234		9 5	(n°16)	11		11	Tudiya	1		6
2233	n°9	10 6		12		12	n°1	2		7
2232	Urukagina	11 1		13		13		3		8
2231		12 2		14		14		4		9
2230		13 3		15		15		5		10
2229		14 4		16		16		6		11
2228		15 5		17	/Ibbi-zikir	17		7		12
2227		16 6		18		18		8		13
2226		17 7		19		19	n°2	9		14
2225		18 8		20		20	Adamu	1		15
2224		19 9		21		21		2		16
2223		20 10		22		22		3		17
2222		21 11		23		23		4		18
2221		22		24		24		5		19
2220		23		25		25		6		20
2219		24		26		26		7		21
2218		25		27		27		8		22
2217		26		28		28	n°3	9		23
2216		27		29		29	Yangi	1		24
2215		28		30		30		2	n°8	25
2214		29		31		31		3	Luhhi-iššan	1
2213		30		32		32		4		2
2212		31		33	Fall of Ebla			5		3
2211		32		34				6		4
2210		33	n°12	35				7		5
2209		34	Išqi-Mari	1				8		6
2208		35		2			n°4	9		7
2207		36		3			Suhlāmu	1		8
2206		37		4			(Lillāmu)	2		9
2205		38		5				3		10
2204		39		6				4		11
2203		40		7				5		12
2202		41		8				6		13
2201		42		9				7		14
2200		43	Fall of Mari	1				8		15
2199		44		2			n°5	9		16
2198		45		3			Harharu	1		17
2197		46		4				2		18
2196		47		5				3		19
2195		48		6				4	n°9	20
2194		49		7				5	Hišep-ratep	1
2193		50		8				6		2
2192		51		9				7		3
2191		52		10				8		4
2190		53		11			n°6	9		5
2189		54		12			Mandaru	1		6
2188	n°2	55		13				2		7
2187	Rimuš	56		14				3		8
2186		1		15				4		9
2185		2		16				5		10
2184		3		17				6		11
2183		4		18				7		12
2182		5		19				8		13
2181		6		20			n°7	9	(n°10)	14
2180		7		21			Imsu	1	(Emašsini)	15
2179	n°3	8		22				2	Ešpum	1
2178	Maništusu	9		23				3	(governor)	2
2177		1		24				4		3
2176		2		25				5		4
2175		3		26				6		5
2174		4		27				7		6
2173		5		28				8		7
2172		6		29			n°8	9		8
2171		7		30			Haršu	1		9

2170		8		31				2		10
2169		9		32				3	Ilšu-rabi	1
2168		10		33				4	(governor)	2
2167		11		34				5		3
2166		12		35				6		4
2165		13		36				7		5
2164	n°4	14		37				8		6
2163	Narâm-Sîn	15	Ididiš	1			n°9	9		7
2162		1		2			Didânu	1		8
2161		2		3				2		9
2160		3		4	Ur II			3		10
2159		4		5	Lugal-anne	1		4	Epir-mupi	1
2158		5		6		2		5	(vassal)	2
2157		6		7		3		6		3
2156		7		8		4		7		4
2155		8		9		5		8		5
2154		9		10		6	n°10	9		6
2153		10		11		7	Hanû	1		7
2152		11		12		8		2		8
2151		12		13		9		3		9
2150		13		14		10		4		10
2149		14		15		11		5		11
2148		15		16		12		6		12
2147		16		17		13		7		13
2146		17		18		14		8		14
2145		18		19		15	n°11	9		15
2144		19		20		16	Zuabu	1		16
2143		20		21		17		2		17
2142		21		22		18		3		18
2141		22		23		19		4		19
2140		23		24		20		5		20
2139		24		25		21		6		21
2138		25		26		22		7		22
2137		26		27				8		23
2136		27		28			n°12	9		24
2135		28		29			Nuabu	1		25
2134		29		30				2	Ili-išmani	1
2133		30		31				3	(vassal)	2
2132		31		32				4		3
2131		32		33				5		4
2130		33		34				6		5
2129		34		35				7		6
2128		35		36				8		7
2127		36		37			n°13	9		8
2126	n°5	37		38			Abazu	1		9
2125	Šar-kali-šarri	1		39				2		10
2124		2		40	GUTIUM			3		11
2123		3		41	n°1	0		4		12
2122		4		42	Nibia	1		5		13
2121		5		43		2		6		14
2120		6		44	n°2	3		7		15
2119		7		45	Inkišuš	1		8		16
2118		8		46		2	n°14	9		17
2117		9		47		3	Belû	1		18
2116		10		48		4		2		19
2115		11		49		5		3		20
2114		12		50	n°3	6		4		21
2113		13		51	Sarlagab	1		5		22
2112		14		52		2		6		23
2111		15		53		3		7		24
2110		16		54		4		8	?	25
2109		17		55		5	n°15	9	?	26
2108		18		56	n°4	6	Azarah	1	?	27
2107		19		57	Šulme	1		2	?	28
2106		20		58		2		3	?	29
2105		21		59		3		4	?	30
2104		22		60		4		5	?	31
2103		23	n°2	1	Šu-Dagan	5		6	?	32
2102	n°6-9	24		2	n°5	6		7	?	33
2101	Irgigi/ Imi/	25		3	Silulumeš	1		8	?	34
2100	Nanum/ Ilulu	1		4		2	n°16	9	n°10	35
2099		2	n°3	5		3	Ušpia	1	Ĥielu	1
2098	n°10	3	Išmah-Dagan	1		4		2		2
2097	Dudu	1		2		5		3		3
2096		2		3	n°6	6		4		4
2095		3		4	Inimabakeš	1		5		5
2094		4		5		2		6		6

2093		5		6		3		7		7
2092		6		7		4		8		8
2091		7		8	n°7	5	n°17	9		9
2090		8		9	Igeša'uš	1	Apišašal	1		10
2089		9		10		2	son of Ušpia	2		11
2088		10		11		3		3		12
2087		11		12		4		4		13
2086		12		13		5		5		14
2085		13		14	n°8	6		6		15
2084		14		15	Jarlabag	1		7		16
2083		15		16		2		8		17
2082		16		17		3		9		18
2081		17		18		4		10		19
2080		18		19		5	n°18	11		20
2079		19		20		6	Halê	1		21
2078		20		21		7	s. of Apiašal	2		22
2077	n°11	21		22		8		3		23
2076	Šu-Turul	1		23		9		4		24
2075		2		24		10		5		25
2074		3		25		11		6		26
2073		4		26		12		7		27
2072		5		27		13		8		28
2071		6		28		14		9		29
2070		7		29	n°9	15		10		30
2069		8		30	Ibate	1		11		31
2068		9		31		2		12		32
2067		10		32	n°10	3		13		33
2066		11		33	Jarla	1	n°19	14		34
2065		12		34		2	Samânu	1	n°11	35
2064		13		35	n°11	3	s. of Halê	2	Ĥita	1
2063		14		36	Kurum	1		3		2
2062	URUK IV	15		37	Ĥabil-kîn	1		4		3
2061	Ur-nigina	1		38	n°13	2		5		4
2060	n°1	2		39	n°14	3		6		5
2059		3		40	Lā'arābum	1		7		6
2058		4		41	n°15	2		8		7
2057		5		42	Irarum	1		9		8
2056		6		43	n°16	2		10		9
2055	n°2	7		44	Ibratum	1		11		10
2054	Ur-gigira	1	n°4	45	Ĥablum	1		12		11
2053		2	Nûr-Mêr	1	n°18	2		13		12
2052		3		2	Puzur-Sîn	1	n°20	14		13
2051		4		3		2	Hayâni	1		14
2050		5		4		3	s. of Samânu	2		15
2049	n°3	6	n°5	5		4		3		16
2048	Kuda	1	Išdub-El	1		5		4		17
2047		2		2		6		5		18
2046		3		3	n°19	7		6		19
2045		4		4	Jarlaganda	1		7		20
2044		5		5		2		8		21
2043	n°4	6		6		3		9		22
2042	Puzur-ilî	1		7		4		10		23
2041		2		8		5		11		24
2040		3		9		6		12	n°12	25
2039		4		10	n°20	7		13	Puzur-Inšušinak /n°1	1
2038	n°5	5	n°6	11	Si'um	1	n°21	14		2
2037	Ur-Utu	1	Iškun-Addu	1		2	Ilu-Mer	1		3
2036		2		2		3	s. of Hayâni	2		4
2035		3		3		4		3		5
2034		4		4		5		4		6
2033		5		5	n°21	6		5		7
2032	URUK V	6		6	Tirigan	7		6		8
2031	Utu-ĥegal	1		7	Vassal of Elam			7		9
2030		2	n°7	8				8		10
2029		3	Apil-Kîn	1				9		11
2028		4		2				10		12
2027		5		3				11		13
2026		6		4				12		14
2025		7		5				13		15
2024		8		6			n°22	14		16
2023		9		7			Yakmesi	1		17
2022		10		8			s. of Ilu-Mer	2		18
2021		11		9				3		19
2020	UR III	12		10				4	/[king? of SUSA]	20
2019	Ur-Namma	1 / 13		11				5		21

2018	n°1	2	14	12			6		22
2017		3	15	13			7		23
2016		4	16	14			8		24
2015		5	17	15			9	n°2	25
2014		6	18	16			10	[Hie?]-lu	1
2013		7	19	17			11		2
2012		8	20	18			12		3
2011		9		19			13		4
2010		10		20		n°23	14		5
2009		11		21		Yakmeni	1		6
2008		12		22		son of Yakmesi	2		7
2007		13		23			3		8
2006		14		24			4		9
2005		15		25			5		10
2004		16		26			6		11
2003		17		27			7		12
2002	n°2	18		28			8		13
2001	Sulgi	1		29			9		14
2000		2		30			10		15
1999		3		31			11		16
1998		4		32			12		17
1997		5		33			13		18
1996		6		34		n°24	14		19
1995		7	n°8	35		Yazkur-ilu	1		20
1994		8	Iddin-Illum	1		s. of Yakmeni	2		21
1993		9		2			3		22
1992		10		3			4		23
1991		11		4			5		24
1990		12	n°9	5			6	n°3	25
1989		13	Illum-Iš'ar	1			7	Kudu[ur-Lagamar]	1
1988		14		2			8	n°1 /Girnamme	2
1987		15		3			9	/SIMAŠKI	3
1986		16		4			10		4
1985		17		5			11		5
1984		18		6			12		6
1983		19		7			13		7
1982		20		8		n°25	14		8
1981		21		9		Ila-kabkabû	1		9
1980		22		10		s. of Yazkur-ilu	2		10
1979		23		11			3		11
1978		24	n°10	12			4		12
1977		25	Turâm-Dagan	1			5		13
1976		26		2	(EGYPT)		6		14
1975		27		3	n°1 (Dyn. 6)	1	7		15
1974		28		4	Amenemhat I	2	8		16
1973		29		5		3	9		17
1972		30		6		4	10		18
1971		31		7		5	11		19
1970		32		8		6	12		20
1969		33		9		7	13		21
1968		34		10		8	14	n°26	22
1967		35		11		9	1	Amînum	23
1966		36		12		10	2	s. of Ila-kabkabû	24
1965		37		13		11	3		25
1964		38		14		12	4		26
1963		39		15		13	5		27
1962		40		16		14	6		28
1961		41		17		15	7		29
1960		42		18		16	8		30
1959		43		19		17	9		31
1958		44	n°11	20		18	10		32
1957		45	Puzur-Eštar	1		19	11		33
1956		46		2		20	12		34
1955		47		3		21	13	n°2	35
1954	n°3	48		4		22	14	n°27	Tazitta I/Ebarat I 36
1953	Amar-Sîn	1		5		23	1	Sulili	2
1952		2		6		24	2	s. of Amînum	3
1951		3		7		25	3		4
1950		4		8		26	4		5
1949		5		9		27	5		6
1948		6		10		28	6		7
1947		7		11		29	7		8
1946		8		12	n°2	1	8		9
1945	n°4	9		13	Senwosret I	2	9		10
1944	Šu-Sîn	1		14		3	10		11
1943		2		15		4	11		12
1942		3		16		5	12		13
1941		4		17		6	13		14

1940	5		18			n°28	14	n°3	15
1939	6		19			Kikkia	1	Ebarat I	1
1938	7		20				2		2
1937	8		21				3		3
1936	n°5	9	22				4		4
1935	Ibbi-Sîn	1	23				5	n°4	5
1934		2	24				6	Tazitta II	1
1933		3	n°12	25			7		2
1932		4	Hitlal-Erra	1			8		3
1931		5		2	LARSA	0	9		4
1930		6		3	Naplânûm	1	10		5
1929		7		4	n°1	2	11		6
1928		8		5		3	12		7
1927		9		6		4	n°29		8
1926		10	n°13	7		5	Akia		9
1925		11	Hanun-Dagan	1		6		n°5	10
1924		12				7		Lurrak-luhḫan	1
1923		13	ISIN I	0		8			2
1922		14	Išbi-Erra	1		9			3
1921		15	n°1	2		10			4
1920		16		3		11			5
1919		17		4		12			6
1918		18		5		13			7
1917		19		6		14			8
1916		20		7		15			9
1915		21		8		16			10
1914		22		9		17		Kindadu	1
1913		23		10		18	n°30	n°6	2
1912		24		11		19	Puzur-Aššur I	1	3
1911		25		12		20			4
1910				13	n°2	21			5
1909				14	Iemšium	1			6
1908				15		2			7
1907				16		3			8
1906				17		4			9
1905				18		5		n°7	10
1904				19		6		Idadu I	1
									10
1903				20		7			2
1902				21		8			3
1901				22		9			4
1900				23		10	n°31		5
1899				24		11	Salim-ahum	1	6
1898				25		12			7
1897				26		13			8
1896				27		14			9
1895				28		15			10
1894				29		16			11
1893				30		17			12
1892				31		18			13
1891				32		19			14
1890			n°2	33		20		n°8	15
1889			Šū-ilīšu	1		21		Tan-Ruḫuratir I	1
1888				2		22			2
1887				3		23			3
1886				4		24	n°32		4
1885				5		25	Ilu-šumma	1	5
1884				6		26			6
1883				7		27			7
1882				8	n°3	28			8
1881				9	Sâmium	1			9
1880			n°3	10		2			10
1879			Iddin-Dagān	1		3			11
1878				2		4			12
1877				3		5			13
1876				4		6			14
1875				5		7		EPARTIDS	15
1874				6		8		Ebarti II	1
1873				7		9	n°33		2
1872				8		10	Erišu I	1	3
1871				9		11			4
									3
1870				10		12			4
1869				11		13			5
1868				12		14			6
1867				13		15			7
1866				14		16			8

1865			15		17		9		10
1864			16		18		10		11
1863			17		19		11		12
1862			18		20		12		13
1861			19		21		13		14
1860			20		22		14		15
1859		n°4	21		23		15		16
1858		Išme-Dagān	1		24		16		17
1857			2		25		17		18
1856			3		26		18		19
1855			4		27		19		20
1854			5		28		20	Silḥaḥa	1
1853			6		29		21		2
1852			7		30		22		3
1851			8		31		23		4
1850			9		32		24		5
1849			10		33		25		6
1848			11		34		26		7
1847			12	n°4	35		27		8
1846			13	Zabāia	1		28		9
1845			14		2		29		10
1844			15		3		30		11
1843			16		4		31		12
1842			17		5		32		13
1841			18		6		33		14
1840		n°5	19		7		34		15
1839		Lipit-Eštar	1		8		35		16
1838			2	n°5	9		36		17
							37		
1837			3	Gungunum	1		38		18
1836			4		2		39		19
1835			5		3	n°34	0 40		20
1834			6		4	Ikunum	1 1	Temti-Agum I	1
1833			7		5		2 2		2
1832			8		6		3 3		3
1831			9		7		4 4		4
1830			10		8		5 5		5
1829		n°6	11		9		6 6		6
1828		Ur-Ninurta	1		10		7 7		7
1827			2		11		8 8		8
1826			3		12		9 9		9
1825			4		13		10 10		10
1824			5		14		11 11		11
1823			6		15		12 12		12
1822			7		16		13 13		13
1821			8		17	n°35	14 14		14
1820			9		18	Sargon I	15 1		15
1819			10		19		16 2		16
1818			11		20		17 3		17
1817			12		21		18 4		18
1816			13		22		19 5		19
1815			14		23		20 6		20
1814			15		24		21 7	Pala-iššan	1
1813			16		25		22 8		2
1812			17		26		23 9		3
1811			18	n°6	27		24 10		4
1810			19	Abi-sarê	1		25 11		5
1809			20		2		26 12		6
1808			21		3		27 13		7
1807			22		4		28 14		8
1806			23		5		29 15		9
1805			24		6		30 16		10
							31 17		
1804			25		7		32 18		11
1803			26		8		33 19		12
1802			27		9		34 20		13
1801			28		10		35 21		14
1800		n°7	1	Būr-Sîn	11		36 22		15
1799	BABYLON	0	2	Sumu-El	1		37 23		16
1798	Sumu-abum	1	3		2		38 24		17
1797	n°1	2	4		3		39 25		18
1796		3	5		4		40 26		19
1795		4	6		5		41 27		20
1794		5	7		6		42 28	Kuk-Kirmaš	1
1793		6	8		7		43 29		2
1792		7	9		8		44 30		3
1791		8	10		9		45 31		4

1790		9		11		10		46	32		5
1789		10		12		11		47	33		6
1788		11		13		12		48	34		7
1787		12		14		13		49	35		8
1786		13		15		14		50	36		9
1785	n°2	14		16		15		51	37		10
1784	Sumu-la-Il	1		17		16		52	38		11
1783		2		18		17		53	39		12
1782		3		19		18	n°36	54	40		13
1781		4		20		19	Puzur-Aššur II	55	1		14
1780		5		21		20		56	2		15
1779		6	n°8	22		21		57	3		16
1778		7	Lipit-Enlil	1		22		58	4		17
1777		8		2		23		59	5		18
1776		9		3		24		60	6		19
1775		10		4		25		61	7		20
1774		11	n°9	5		26	n°37	62	8	Kuk-Naḥudi	1
1773		12	Erra-imittī	1		27	Naram-Sîn	63	1		2
1772		13		2		28		64	2		3
								65	3		
1771		14		3	n°8	29		66	4		4
1770		15		4	Nûr-Adad	1		67	5		5
1769		16		5		2		68	6		6
1768		17		6		3		69	7		7
1767		18		7		4		70	8		8
1766		19	n°10	8		5		71	9		9
1765		20	Enlil-Bāni	1		6		72	10		10
1764		21		2		7		73	11		11
1763		22		3		8		74	12		12
1762		23		4		9		75	13		13
1761		24		5		10		76	14		14
1760		25		6		11		77	15		15
1759		26		7		12		78	16		16
1758		27		8		13		79	17		17
1757		28		9		14		80	18		18
1756		29		10		15		81	19		19
1755		30		11	n°9	16		82	20		20
1754		31		12	Sîn-iddinam	1		83	21	Kuk-Našur I	1
1753		32		13		2		84	22		2
1752		33		14		3	Birth of Samsi-Addu	85	23		3
1751		34		15		4	Darkening of the sun	86	24		4
1750		35		16		5		87	25		5
1749	n°3	36		17		6		88	26		6
1748	Sābium	1		18	n°10	7		89	27		7
1747		2		19	Sîn-irībam	1		90	28		8
1746		3		20	n°11	2		91	29		9
1745		4		21	Sîn-iqišam	1		92	30		10
1744		5		22		2		93	31		11
1743		6		23		3		94	32		12
1742		7	n°11	24		4		95	33		13
1741		8	Zambīya	1	n°12	5		96	34		14
1740		9		2	Sili-Adad	1		97	35		15
1739		10		3	n°13	1		98	36		16
			n°12		Warad-Sîn			99	37		
1738		11	Itēr-pīša	1		2		100	38		17
1737		12		2		3		101	39		18
1736		13		3		4	Samsi-Addu	102	40	King of Ekallatum	19
1735	n°4	14	n°13	4		5		103	41		20
1734	Apil-Sîn	1	Urdukuḡa	1		6		104	42	Atta-ḡušu	1
1733		2		2		7		105	43		2
1732		3		3		8		106	44		3
1731		4	n°14	4		9		107	45		4
1730		5	Sîn-māḡir	1		10		108	46		5
1729		6		2		11		109	47		6
1728		7		3		12		110	48		7
1727		8		4	n°14	13		111	49		8
1726		9		5	Rīm-Sîn I	1		112	50		9
1725		10		6		2		113	51		10
1724		11		7		3		114	52		11
1723		12		8		4		115	53		12
1722		13		9		5	n°38	116	54		13
1721		14		10		6	Ērišu II	117	1		14
1720		15	n°15	11		7		118	2		15
1719		16	Damiq-ilišu	1		8		119	3		16
1718		17		2		9		120	4		17

1717	(n°5)	18	HANA	3		10		121	5		18
1716	Sin-muballiṭ	1	Yahdun-Lîm	4		11		122	6		19
1715		2	1	5		12		123	7		20
1714		3	2	6		13		124	8	Širuk-tuḥ	1
1713		4	3	7		14		125	9		2
1712		5	4	8		15	n°39	126	10		3
1711		6	5	9		16	Samšî-Adad I	127	1		4
1710		7	6	10		17		128	2		5
1709		8	7	11		18		129	3		6
1708		9	8	12		19		130	4		7
1707		10	9	13		20		131	5		8
1706		11	10	14		21		132	6		9
								133	7		
1705		12	11	15		22		134	8		10
1704		13	12	16		23		135	9		11
1703		14	13	17		24		136	10		12
1702		15	14	18		25		137	11	(EGYPT Dyn. 13)	13
1701		16	15	19		26		138	12	Neferhotep I	14
1700		17	16	20		27		139	13	1	15
1699		18	17	21		28		140	14	2	16
1698		19	1	22		29		141	15	3	17
1697	n°6	20	MARI	23		30		142	16	4	18
1696	Hammurabi	1	Samsî-Addu	1		31		143	17	5	19
1695	(BYBLOS)	2		2		32		144	18	6	20
1694	Yantin-Ammu	3		3		33		145	19	Siwe-palar-ḥuppak	1
1693	2	4		4		34		146	20	8	2
1692	3	5		5		35		147	21	9	3
1691	4	6		6		36		148	22	10	4
1690	5	7		7		37		149	23	11	5
1689	6	8		8		38		150	24		6
1688	7	9		9		39		151	25		7
1687	8	10		10		40		152	26		8
1686	9	11	Yasmah-Addu	1		41		153	27	(HAZOR)	9
1685	10	12		2		42		154	28	Ibni-Addu	10
1684	11	13		3		43		155	29	1	11
1683	12	14		4		44		156	30	2	12
1682	13	15		5		45		157	31	3	13
1681	14	16		6		46		158	32	4	14
1680	15	17		7		47	n°40	159	33	5	15
1679	16	18	Zimri-Lim	1		48	Išme-Dagan I	1	1	6	16
1678	17	19		2		49		2	2	7	17
1677	18	20		3		50		3	3	8	18
1676	19	21		4		51		4	4	9	19
1675	20	22		5		52		5	5	10	20
1674	21	23		6		53		6	6	11	21
1673	22	24		7		54		7	7	12	22
								8	8		
1672	23	25		8		55		9	9	13	23
1671	24	26		9		56		10	10	14	24
1670	25	27		10		57	n°41	11	11	15	25
1669		28		11		58	Aššur-dugul	12	1	Kudu-zuluš I	1
1668		29		12		59		13	2	17	2
1667		30		13		60		14	3	18	3
1666		31	Yapaḥ-šumu-Abu	1		61		15	4	19	4
1665		32		2		-		16	5	20	5
1664		33		3		-	(42-47) n°48	17	6		6
1663		34				-	Bêlu-bâni	18	1		7
1662		35				-		19	2		8
1661		36				-		20	3		9
1660		37				-		21	4		10
1659		38				-		22	5		11
1658		39				-		23	6		12
1657		40	KASSITE	0		-		24	7		13
1656		41	Gandaš	1		-		25	8		14
1655		42	n°1	2		-		26	9		15
1654	n°7	43		3		-	n°49	27	10		16
1653	Samsu-iluna	1		4		-	Libbaya	28	1		17
1652		2		5		-		29	2		18
1651		3		6		-		30	3		19
1650		4		7		-		31	4		20
1649		5		8		-		32	5		21
1648		6		9		-		33	6		22
1647		7		10		-		34	7		23
1646		8		11	Rîm-Sîn II	0		35	8		24
1645		9		12		1		36	9		25
1644		10		13		2		37	10	Kutir-Naḥḥunte I	1

1643		11		14		3		38	11		2
1642		12		15		4		39	12		3
1641		13		16		5		40	13		4
1640		14		17				41	14		5
					SEALAND			42	15		
1639		15		18	Ilu-ma-ilu	9		43	16		6
1638		16		19		10	n°50	44	17		7
1637		17		20		11	Šarma-Adad I	45	1		8
1636		18		21		12		46	2		9
1635		19		22		13		47	3		10
1634		20		23		14		48	4		11
1633		21		24		15		49	5		12
1632		22		25		16		50	6		13
1631		23	n°2	26		17		51	7		14
1630		24	Agum I	1		18		52	8		15
1629		25		2		19		53	9		16
1628		26		3		20		54	10		17
1627		27		4		21		55	11		18
1626		28		5		22	n°51	56	12		19
1625		29		6		23	Puzur-Sin	57	1		20
1624		30		7		24		58	2		21
1623		31		8		25		59	3		22
1622		32		9		26		60	4		23
1621		33		10		27		61	5		24
1620		34		11		28		62	6		25
1619		35		12		29		63	7	Temti-Agun II	1
1618		36		13		30		64	8		2
1617		37		14		31		65	9		3
1616	n°8	38		15		32		66	10		4
1615	Abi-ešuh	1		16		33		67	11		5
1614		2		17		34	n°52	68	12		6
1613		3		18		35	Bazaya	69	1		7
1612		4		19		36		70	2		8
1611		5		20		37		71	3		9
1610		6		21		38		72	4		10
1609		7	n°3	22		39		73	5		11
1608		8	Kaštiliašu I	1		40		74	6		12
1607		9		2		41		75	7		13
								76	8		
1606		10		3		42		77	9		14
1605		11		4		43		78	10		15
1604		12		5		44		79	11		16
1603		13		6		45		80	12		17
1602		14		7		46		81	13		18
1601		15		8		47		82	14		19
1600		16		9		48		83	15		20
1599		17		10		49		84	16		21
1598		18		11		50		85	17		22
1597		19		12		51		86	18		23
1596		20		13		52		87	19		24
1595		21		14		53		88	20		25
1594		22		15		54		89	21	Kutir-Silḫaḫa	1
1593		23		16		55		90	22		2
1592		24		17		56		91	23		3
1591		25		18		57		92	24		4
1590		26		19		58		93	25		5
1589		27		20		59		94	26		6
1588	n°9	28		21		60		95	27		7
1587	Ammiditana	1	n°4	22	Damiq-ilišu II	1	n°53	96	28		8
1586		2	Kaštiliašu II	1		2	Lullaya	97	1		9
1585		3		2		3		98	2		10
1584		4		3		4		99	3		11
1583		5		4		5		100	4		12
1582		6		5		6		101	5		13
1581		7		6		7	n°54	102	6		14
1580		8		7		8	Šû-Ninûa	103	1		15
1579		9	n°5	8		9		104	2		16
1578		10	Abi-Rattaš	1		10		105	3		17
1577		11		2		11		106	4		18
1576		12		3		12		107	5		19
1575		13		4		13		108	6		20
1574		14		5		14		109	7		21
								110	8		
1573		15		6		15		111	9		22
1572		16		7		16		112	10		23
1571		17		8		17		113	11		24
1570		18		9		18		114	12		25

1569		19		10		19	115	13	Kuk-Našur II	1
1568		20		11		20	n°55	116	14	2
1567		21		12		21	Šarma-Adad II	117	1	3
1566		22		13	Iškibal	22		118	2	4
1565		23		14		23	n°56	119	3	5
1564		24		15		24	Erišu III	120	1	6
1563		25		16		25		121	2	7
1562		26	n°6	17		26		122	3	8
1561		27	Urzigurumaš	1		27		123	4	9
1560		28		2		28		124	5	10
1559		29		3		29		125	6	11
1558		30		4		30		126	7	12
1557		31		5		31		127	8	13
1556		32		6		32		128	9	14
1555		33		7		33		129	10	15
1554		34		8		34		130	11	16
1553		35		9		35		131	12	17
1552		36		10		36	n°57	132	13	18
1551	n°10	37		11		37	Šamši-Adad II	133	1	19
1550	Ammišaduqa	1		12		38		134	2	20
1549		2		13		39		135	3	21
1548		3		14		1		136	4	22
1547		4		15		2		137	5	23
1546		5		16		3	n°58	138	6	24
1545		6	n°7	17		4	Išme-Dagan II	139	1	25
1544		7	Ḫurbaḫ	1		5		140	2	Kudu-zuluš II
1543		8		2		6		141	3	2
								142	4	
1542		9		3		7		143	5	3
1541		10		4		8		144	6	4
1540		11		5		9		145	7	5
1539		12		6		10		146	8	6
1538		13		7		11		147	9	7
1537		14		8		12		148	10	8
1536		15		9		13		149	11	9
1535		16		10		14		150	12	10
1534		17		11		15		151	13	11
1533		18		12		16		152	14	12
1532		19		13		17		153	15	13
1531		20		14		18	n°59	154	16	14
1530	n°11	21		15		19	Šamši-Adad III	155	1	15
1529	Samsuditana	1		16		20		156	2	16
1528		2	n°8	17		21		157	3	17
1527		3	Šipta-ulzi	1		22		158	4	18
1526		4		2		23		159	5	19
1525		5		3		24		160	6	20
1524		6		4		25		161	7	Tan-Uli
1523		7		5		26		162	8	2
1522		8		6		27		163	9	3
1521		9		7		28		164	10	4
1520		10		8		29		165	11	5
1519		11		9		30		166	12	6
1518		12		10		31		167	13	7
1517		13		11		32		168	14	8
1516		14		12	Pešgaldara-meš	33		169	15	9
1515		15		13		34	n°60	170	16	10
1514		16		14		35	Aššur-nêrârî I	171	1	11
1513		17		15		36		172	2	12
1512		18		16		37		173	3	13
1511		19		17		38		174	4	14
			n°9					175	5	
1510		20	Agum II	1		39		176	6	15
1509		21		2		40		177	7	16
1508		22		3		41		178	8	17
1507		23		4		42		179	9	18
1506		24		5		43		180	10	19
1505		25		6		44		181	11	20
1504		26		7		45		182	12	Temti-ḫalki
1503		27		8		46		183	13	2
1502		28		9		47		184	14	3
1501		29		10		48		185	15	4
1500		30		11		49		186	16	5
1499	Fall of Babylon	31	1	12	MITANNI	50		187	17	6
1498	resettling of Babylon	2		13	Akurduana	1		188	18	7
1497		3		14		2		189	19	8
1496		4		15		3		190	20	9
1495		5		16		4		191	21	10
1494		6	n°10	17		5		192	22	11

1493	7	Burna-Burias I	1		6	193	23		12	
1492	8		2		7	194	24		13	
1491	9		3		8	195	25		14	
1490	10		4		9	n°61 196	26		15	
1489	11		5		10	Puzur-Aššur III	197	1	16	
1488	12		6		11		198	2	17	
1487	13		7		12		199	3	18	
1486	14		8		13		200	4	19	
1485	15		9		14		201	5	20	
1484	16		10		15		202	6	Kuk-Našur III	1
1483	17		11		16		203	7		2
1482	18		12		17		204	8		3
1481	19		13		18		205	9		4
1480	20		14		19		206	10		5
1479	21		15		20		207	11		6
							208	12		
1478	22		16		21		209	13		7
1477	23		17		22		210	14		8
1476	24		18		23		211	15		9
1475	25		19		24		212	16		10
1474	26		20		25		213	17		11
1473	27		21		26		214	18		12
1472	28		22	Ea-gamil	1		215	19		13
1471	29		23		2		216	20		14
1470	30		24		3		217	21		15
1469	31		25		4		218	22		16
1468	32		26		5		219	23		17
1467	33		27		6	n°62	220	24		18
1466	34		28		7	Enlil-nâšir I	221	1		19
1465	35		29		8		222	2	KIDINUIDS	20
1464	36	n°12	30	n°13	9		223	3	Kidinu	1
1463	37	Kaštiliašu III	1	Ulam-Burias	1		224	4		2
1462	38		2		2		225	5		3
1461	39		3		3		226	6		4
1460	40		4		4		227	7		5
1459	41		5		5		228	8		6
1458			6		6		229	9		7
1457			7		7		230	10		8
1456			8		8		231	11		9
1455	HANA		9		9		232	12		10
1454	Iddin-Kakka	1	10		10	n°63	233	13		11
1453			11		11	Nûr-ili	234	1		12
1452			12		12		235	2		13
1451			13		13		236	3		14
1450			14		14		237	4		15
1449			15		15		238	5	Inšušinak-sunkir-	1
1448			16		16		239	6	nappipir	2
1447			17		17		240	7		3
							241	8		
1446			18		18		242	9		4
1445			19		19		243	10		5
1444			20		20	n°64	244	11		6
1443		n°14	21		21	Aššur-šadūni	245	12		7
1442		Agum III	1			Aššur-rabi I	246	1		8
1441			2			n°65	247	2		9
1440			3				248	3		10
1439			4				249	4	Tan-Ruḫuratir II	1
1438			5				250	5		2
1437			6				251	6		3
1436			7				252	7		4
1435			8				253	8		5
1434			9				254	9	Šalla	1
1433			10			n°66	255	10		2
1432			11			Aššur-nâdin-aḫḫe I	256	1		3
1431			12				257	2		4
1430			13				258	3		5
1429	Išar-Lim	1	14				259	4		6
1428			15				260	5		7
1427			16				261	6		8
1426		n°15	17				262	7		9
1425		Kadašman-Harbe I	1				263	8		10
1424			2				264	9	Tepti-aḫar	1
1423			3			n°67	265	10		2
1422			4			Enlil-našir II	266	1		3
1421			5				267	2		4
1420			6				268	3		5
1419			7				269	4		6

1418		12		8				270	5		7
1417		13		9				n°68 271	6		8
1416		14		10				Aššur-nêrâri II 272	1		9
								273	2		
1415		15		11				274	3		10
1414		16		12				275	4		11
1413		17		13				276	5		12
1412		18		14				277	6		13
1411		19		15				n°69 278	7		14
1410		20		16				Aššur-bêl-nišešu 279	1		15
1409		21		17				280	2		16
1408		22	n°16	1				281	3		17
1407		23	Kara-indaš	2				282	4		18
1406		24		3				283	5		19
1405		25		4				284	6	IGIHALKIDS	20
1404	Iggid-Lim	1		5				285	7	Igi-halki	1
1403		2		6				286	8		2
1402		3		7				n°70 287	9		3
1401		4		8				Aššur-rê'im-nišešu 288	1		4
1400		5		9				289	2		5
1399		6		10				290	3		6
1398		7		11				291	4		7
1397		8		12				292	5		8
1396		9		13				293	6		9
1395		10		14				294	7		10
1394		11		15				n°71 295	8		11
1393		12		16				Aššur-nâdin-aḥḥe 296	1		12
1392		13		17				II 297	2		13
1391		14	n°17	1				298	3		14
1390		15	Kurigalzu I	2				299	4		15
1389		16		3				300	5		16
1388		17		4				301	6		17
1387		18		5				302	7		18
1386		19		6				303	8		19
1385		20		7				304	9		20
1384		21		8				n°72 305	10	Pahir-iššan	1
					(EGYPT)			Eriḫa-Adad I 306	1		
1383		22		9	n°8 (Dyn. 18)	1		307	2		2
1382		23		10	Amenemhat III	2		308	3		3
1381		24		11		3		309	4		4
1380		25		12		4		310	5		5
1379	Iših-Dagan	1		13		5		311	6		6
1378		2		14		6		312	7		7
1377		3		15		7		313	8		8
1376		4		16		8		314	9		9
1375		5	n°18	17		9		315	10		10
1374		6	Kadašman-Enlil I	1		10		316	11	Attar-Kittaḥ	1
1373		7		2		11		317	12		2
1372		8		3		12		318	13		3
1371		9		4		13		319	14		4
1370		10		5		14		320	15		5
1369		11		6		15		321	16		6
1368		12		7		16		322	17		7
1367		13		8		17		323	18		8
1366		14		9		18		324	19		9
1365		15		10		19		325	20		10
1364		16		11		20		326	21	Unpaḥaš-Napiriša	1
1363		17		12		21		327	22		2
1362		18		13		22		328	23		3
1361		19		14		23		329	24		4
1360		20	n°19	15		24		330	25		5
1359		21	Burna-Buriaš II	1		25		331	26	Kidin-Ḫutran I	1
1358		22		2		26		n°73 332	27		2
1357		23		3		27		Aššur-uballiṭ I 333	1		3
1356		24		4		28		334	2		4
1355		25		5		29		335	3		5
1354	Ahuni	1		6		30		336	4	Ḫumban-numena I	1
1353		2		7	HATTI			337	5		2
					n°21	0		338	6		
1352		3		8	Šuppiluliuma	1		339	7		3
1351		4		9		2		340	8		4
1350		5		10		3		341	9		5
1349		6		11		4		342	10		6
1348		7		12		5		343	11		7
1347		8		13		6		344	12		8
1346		9		14		7		345	13		9
1345		10		15		8		346	14		10

1344	11		16		9	347	15	Untaš-Napiriša	1
1343	12		17		10	348	16		2
1342	13		18		11	349	17		3
1341	14		19		12	350	18		4
1340	15		20		13	351	19		5
1339	16		21		14	352	20		6
1338	17		22		15	353	21		7
1337	18		23		16	354	22		8
1336	19		24		17	355	23		9
1335	20		25		18	356	24		10
1334	21	n°22	26		19	357	25		11
1333	22	Kurigalzu II	27		20	358	26		12
1332	23		1		21	359	27		13
1331	24		2		22	360	28		14
1330	25		3		23	361	29		15
1329	1	Hammurapi	4		24	362	30		16
1328	2		5		25	363	31		17
1327	3		6		26	364	32		18
1326	4		7		27	365	33		19
1325	5		8		28	366	34		20
1324	6		9		29	367	35		21
1323	7		10	n°22-23	30	n°74 368	36		22
1322	8		11	Arnuwanda II	31	Enlil-nênârî	369	1	23
1321	9		12	Muršili II	1		370	2	24
1320	10		13		2		371	3	25
							372	4	
1319	11		14		3		373	5	26
1318	12		15		4		374	6	27
1317	13		16		5		375	7	28
1316	14		17		6		376	8	29
1315	15		18		7		377	9	30
1314	16		19		8	n°75	378	10	31
1313	17		20		9	Arik-dên-ili	379	1	32
1312	18		21		10		380	2	33
1311	19		22		11		381	3	34
1310	20		23		12		382	4	35
1309	21		24		13		383	5	36
1308	22	n°23	25		14		384	6	37
1307	23	Nazi-Maruttaš	1		15		385	7	38
1306	24		2		16		386	8	39
1305	25		3		17		387	9	40
1304	1	Pagiru	4		18		388	10	1
1303	2		5		19		389	11	2
1302	3		6		20	n°76	390	12	3
1301	4		7		21	Adad-nêrârî I	391	1	4
1300	5		8		22		392	2	5
1299	6		9		23		393	3	6
1298	7		10		24		394	4	7
1297	8		11		25		395	5	8
1296	9		12		26		396	6	9
1295	10		13	n°24	27		397	7	10
1294	11		14	Muwataalli II	1		398	8	11
1293	12		15		2		399	9	12
1292	13		16		3		400	10	13
1291	14		17		4		401	11	14
1290	15		18		5		402	12	15
1289	16		19		6		403	13	16
1288	17		20		7		404	14	17
							405	15	
1287	18		21		8		406	16	18
1286	19		22		9		407	17	19
1285	20		23		10		408	18	20
1284	21		24		11		409	19	21
1283	22		25		12		410	20	22
1282	23	n°24	26		13		411	21	23
1281	24	Kadašman-Turgu	1		14		412	22	24
1280	25		2		15		413	23	25
1279			3		16		414	24	26
1278			4		17		415	25	27
1277			5		18		416	26	28
1276			6		19		417	27	29
1275			7	n°25	20		418	28	30
1274			8	Urhi-Teshub	1		419	29	1
1273			9		2		420	30	2
1272			10		3		421	31	3
1271			11		4	n°77	422	32	4
1270			12		5	Shalmaneser I	423	1	5
1269			13		6		424	2	6

1268			14	n°26	7		425	3		7
1267			15	Ḫattušili III	1		426	4		8
1266			16		2		427	5		9
1265			17		3		428	6		10
1264			18		4	Collapse of	429	7		11
1263			1	Kadašman-Enlil II	5	Mitanni	430	8		12
1262			2		6		431	9		13
1261			3		7		432	10		14
1260			4		8		433	11		15
1259			5		9		434	12		16
1258			6		10	580 eponyms	1	13		17
1257			7		11	to Esarhaddon	2	14		18
1256			8		12		3	15		19
1255			9	n°26	13		4	16		20
1254			1	Kudur-Enlil	14		5	17		21
							6	18		
1253			2		15		7	19		22
1252			3		16		8	20		23
1251			4		17		9	21		24
1250			5		18		10	22		25
1249			6		19		11	23		26
1248			7		20		12	24		27
1247			8		21		13	25		28
1246			9	n°27	22		14	26		29
1245			1	Šagarakti-šuriaš	23		15	27		30
1244			2		24		16	28	Kidin-Ḫutran III	1
1243			3		25		17	29		2
1242			4		26	n°78	18	30		3
1241			5	n°27	27	Tukultî-Ninurta I	19	1		4
1240			6	Tuḫaliya IV	1		20	2		5
1239			7		2		21	3		6
1238			8		3		22	4		7
1237			9		4		23	5		8
1236			10		5		24	6		9
1235			11		6		25	7		10
1234			12		7		26	8		11
1233			13	n°28	8		27	9		12
1232			1	Kaštiliašu IV	9		28	10		13
1231			2		10		29	11		14
1230			3		11		30	12		15
1229			4		12		31	13		16
1228			5		13		32	14		17
1227			6		14		33	15		18
1226			7		15		34	16		19
1225			8	n°29	16		35	17		20
1224			1	Enlil-nâdin-šumi	17		36	18		21
1223			1	Kadašman-Harbe II	18		37	19		22
1222	II		1	Adad-šuma-iddina	19		38	20		23
				n°31			39	21		
1221			2		20		40	22		24
1220			3		21		41	23		25
1219			4		22		42	24		26
1218			5		23		43	25		27
1217			6	n°32	24		44	26		28
1216			1	Adad-šuma-ušur	25		45	27		29
1215			2		26		46	28	ŠUTRUKIDS	30
1214			3		27		47	29	Ḫallutaš-Inšušinak	1
1213			4		28		48	30		2
1212			5		29		49	31		3
1211			6		30		50	32		4
1210			7		31		51	33		5
1209			8		32		52	34		6
1208			9				53	35		7
1207			10				54	36		8
1206			11			n°79	55	37		9
1205			12			Aššur-nâdin-apli	56	1		10
1204			13				57	2		11
1203			14				58	3		12
1202			15			n°80	59	4		13
1201			16			Aššur-nêrâri III	60	1		14
1200			17				61	2		15
1199			18				62	3		16
1198			19				63	4		17
1197			20				64	5		18
1196			21			n°81	65	6		19
1195			22			Enlil-kudurri-ušur	66	1		20

1194			23			67	2		21
1193			24			68	3		22
		1st Nisannu		=		1st Šippu	69	4	
1192			25			n°82	70	5	23
1191			26			Ninurta-apil-Ekur	71	1	24
1190			27				72	2	25
1189			28				73	3	Šutruk-Nahhunte I
1188			29				74	4	2
1187		n°33	30				75	5	3
1186		Meli-Šipak	1				76	6	4
1185			2				77	7	5
1184			3				78	8	6
1183			4				79	9	7
1182			5				80	10	8
1181			6				81	11	9
1180			7				82	12	10
1179			8			n°83	83	13	11
1178			9			Aššur-dân I	84	1	12
1177			10				85	2	13
1176			11				86	3	14
1175			12				87	4	15
1174			13				88	5	16
1173			14				89	6	17
1172		n°34	15				90	7	18
1171		Marduk-apla-iddina I	1				91	8	19
1170			2				92	9	20
1169			3				93	10	21
1168			4				94	11	22
1167			5				95	12	23
1166			6				96	13	24
1165			7				97	14	25
1164			8				98	15	26
1163			9				99	16	27
1162			10				100	17	28
1161			11				101	18	29
1160			12	eponym		Aššur-išmâni	102	19	30
1159		n°35	13				103	20	Kutir-Nahhunte II
1158	1	Zababa-šuma-iddina	1				104	21	2
1157	2	Enlil-nâdin-aḫi	1				105	22	3
1156	3	n°36	2				106	23	4
1155	4	n°37	3				107	24	5
1154		Marduk-	5				108	25	Šilhak-Inšušinak
1153		kabit-aḫḫešu	6				109	26	2
1152			7				110	27	3
1151			8				111	28	4
1150			9				112	29	5
1149			10				113	30	6
1148			11				114	31	7
1147			12				115	32	8
1146			13				116	33	9
1145			14				117	34	10
1144			15				118	35	11
1143			16				119	36	12
1142			17				120	37	13
1141		n°38	18				121	38	14
1140		Itti-Marduk-balaṭu	1				122	39	15
1139			2				123	40	16
1138			3				124	41	17
1137			4				125	42	18
1136			5				126	43	19
1135			6				127	44	20
1134			7			n°86	128	45	21
1133		n°39	8	(n°84-85)		Aššur-rêš-iši I	129	46	22
1132		Ninurta-nâdin-šumi	1				130	1	23
1131			2				131	2	24
1130			3				132	3	25
1129			4				133	4	26
1128			5				134	5	27
1127		n°40	6				135	6	28
1126		Nebuchadnezzar I	1	eponym		?	136	7	29
1125			2				137	8	30
1124			3				138	9	Ḫutelutuš-Inšušinak
1123			4				139	10	2
1122			5				140	11	3
1121			6				141	12	4
1120			7				142	13	5
1119			8				143	14	6

1118			9			144	15		7
1117			10			145	16		8
1116			11			146	17		9
1115			12		n°87	146	18		10
1114			13		Tiglath-pileser I	147	1		11
1113			14			148	2		12
1112			15			149	3		13
1111			16			150	4		14
1110			17			151	5		15
1109			18			152	6		16
1108			19			153	7		17
1107			20			154	8		18
1106			21			155	9		19
1105		n°41	22			156	10		20
1104		Enlil-nâdin-apli	1			157	11	Silhina-hamru-	1
1103			2			158	12	Lagamar	2
1102			3			159	13		3
1101		n°42	4			160	14		4
1100		Marduk-nâdin-aḥḥê	1			161	15		5
1099			2			162	16		6
1098			3			163	17		7
1097			4			164	18		8
1096			5			165	19		9
1095			6			166	20		10
1094			7			166	21		11
1093			8	eponym	Adad-apla-iddina	167	22		12
1092			9			168	23		13
1091			10			169	24		14
1090			11			170	25		15
1089			12			171	26		16
1088			13			172	27		17
1087			14			173	28		18
1086			15			174	29		19
1085			16			175	30	?	20
1084			17			176	31	Ḫumban-numena II	1
1083		n°43	18			177	32		2
1082		Marduk-aḥḥê-criba	1			178	33		3
1081			2			179	34		4
1080			3			180	35		5
1079			4			181	36		6
1078			5			182	37		7
1077			6			183	38		8
1076			7		n°88	184	39		9
1075			8		Ašared-apil-Ekur	185	1		10
1074			9		n°89	186	2		11
1073			10		Aššur-bêl-kala	187	1		12
1072			11			188	2		13
1071			12			189	3		14
1070		n°44	13			190	4		15
1069		Adad-apla-	1			191	5		16
1068		iddina	2			192	6		17
1067			3			193	7		18
1066			4			194	8		19
1065			5			195	9	?	20
1064			6			196	10		
1063			7			197	11		
1062			8			198	12		
1061			9			199	13		
1060			10			200	14		
1059			11			201	15		
1058			12			202	16		
1057			13			203	17		
1056			14		n°90	204	18		
1055			15		Eriša-Adad II	205	1		
1054			16		n°91	206	2		
1053			17		Šamši-Adad IV	207	1		
1052			18			208	2		
1051			19			209	3		
1050			20		n°92	210	4		
1049			21		Aššurnaširpal I	211	1		
1048		n°45	22			212	2		
683		n°88	5		n°111	577	21	Ḫumban-haltaš I	5
683		Sennacherib	6		Sennacherib	578	22		6
682			7			579	23		7
681		n°89	8		n°112	580	24		8
680		Esarhaddon	1		Esarhaddon	1		Ḫumban-haltaš II	1

Examination of anachronisms in biblical and Neo-Assyrian chronologies⁸⁵ over the period 1179-539 BCE

The Assyrian chronology of the first millennium BCE is perfectly determined, as the succession of the kings is completely established for the period 1133-609 BCE and anchored on the total solar eclipse dated [30]/III/10 of Aššur-dān III (773-755), 15 June 763 BCE⁸⁶, which makes it possible to establish an absolute chronology from Aššur-rêš-iši I (1133-1115), Assyrian king no. 86, to Aššur-uballit II (612-609), Assyrian king no. 116 (Pruzsinszky: 2009, 17,51-52). The Assyrian King List (AKL) was drawn up by Babylonian scribes who transformed the number of eponyms during Assyrian reigns into the number of years of reign. Unlike Babylonian kings, who counted their reign in number of years, Assyrian kings counted their reign in number of military campaigns. As most Assyrian kings led military campaigns when they were crown princes, the dating of these campaigns was reported during their reign. This assimilation has led to chronological inconsistencies, particularly the synchronisms with the Judean and Israelite reigns. For example, Sennacherib was crown prince (715-705) with King Sargon II (722-705) and captured the city of Lachish during his 3rd military campaign. The dating of this campaign during the 3rd year of his reign (705-691) should be in 702 BCE (= 705 - 3), but this does not correspond to the eponyms which date it in 701 BCE. To resolve this paradox, Assyriologists assume that there were two similar campaigns in Judea, the first dated during the 10th campaign of Sargon II, in 712 BCE (= 722 - 10) and the second during the 3rd campaign of Sennacherib in 701 BCE (= 705 - 3 - 1), assuming that he led a first campaign during his accession (which is unlikely). On the other hand, if this 3rd campaign when he was crown prince (715-705), the capture of Lachish took place in 712 BCE (= 715 - 3) during the 10th campaign of Sargon II in Judea. In addition, this agrees exactly with the biblical account stating that all these events occurred during the 14th regnal year of Judean King Hezekiah (726-697) also dated 712 BCE (= 726 - 14). This explanation is not accepted because it implies that a crown prince was in fact a co-regent. Pierre Briant⁸⁷ explains that Xerxes was crown prince (496-486) during the reign of Darius I (522-486), but that this prestigious status could not be equated with a role as co-regent:

On the date of Xerxes' selection as crown prince by Darius: according to Calmeyer, Xerxes was “king and co-regent” for twelve years beginning in 498; but, aside from the fact that I am skeptical of the author's general thesis of “double kingship” (the king never shares power), the archaeological evidence offered is hardly probative: the Babylonian tablet to which he refers, and which he considers “very seductive” evidence, speaks only of a new palace at Babylon and it has not been directly related to the naming of a “co-regent” at this date; we may note further in passing that it dates to 496 (Dar. 26), not 498 (Briant: 2002, 958-959).

Pierre Briant's two main arguments to prove the absence of co-regency are ideological: “the king never shares power”, this statement reflects Pierre Briant's conception of autocratic power, and: “it has not been directly related to the naming of a “co-regent” at this date”, this is circular reasoning: since he was not named “co-regent” (this term does not exist in Assyrian), he deduces that the crown princes were not co-regents. Contrary to Pierre Briant's ideological assertions, a chronological study of the Achaemenid reigns has shown that co-regencies did exist and were even frequent (Gertoux 2018: 179-206). These lists of kings contain chronological inconsistencies, particularly at the beginning and end of the reign of Artaxerxes I. A study carried out on all the dated Babylonian contracts, as well as on all the astronomical tablets recorded, in order to reconstruct an absolute chronology of the Achaemenid period, gives the following results (the kings who reigned are highlighted in grey and the reigns anchored on astronomical dating are highlighted in sky blue. The period in the list of kings that is incorrect is highlighted in orange):

TABLE 1

King (in King list)	Date min.	Date max.	Death	King as	Reign	King List
Cambyses II	12/VI/00	23/I/08	xx/I/08		530–522	530 -
Bardiya ⁸⁸	14/XII/00			co-regent	523 -	
		20/VIII/01	10/VII/01	“usurper”	-522	
Nebuchadnezzar III	14/VII/00	2/X/00	xx/X/00	“usurper”	522–522	
Nebuchadnezzar IV	27/II/01	26/VII/01	xx/VIII/01	“usurper”	522–522	-522
Darius I	6/X/00	10+/IX/36	[10]/IX/36		522–486	522 -

⁸⁵ A short report of this paper was presented in Oxford, at Wolfson College, on Saturday 25 April 2015 in the Oxford Postgraduate Conference in Assyriology (<https://oxfordassyriology.wordpress.com/opca-2015-programme/>). An abstract has been published (<https://oxfordassyriology.wordpress.com/gerard-gertoux-university-of-lyon-2/>).

⁸⁶ <https://eclipse.gsfc.nasa.gov/5MCSEmap/-0799--0700/-762-06-15.gif>

⁸⁷ Pierre Briant is a French Iranologist, Professor of History and Civilisation of the Achaemenid World and the Empire of Alexander the Great at the Collège de France (1999 onwards), Doctor Honoris Causa at the University of Chicago, and founder of the website achemenet.com.

⁸⁸ Bardiya (birth name) is called Gaumata by Darius I, Mardus by Aeschylus (472 BCE), Smerdis by Herodotus (450 BCE), Tanyoxarkes by Ctesias (400 BCE), Artaxerxes (maybe his throne name) by Esdras (Esd 4:4-24), Mergis by Justinus, etc.

Xerxes I	[-]/III/[00]	[10/IX/10]		co-regent	496 -	-486
Bel-shimanni	14+/V/00	04/VI/00	xx/VI/00	“usurper”	485-485	
Shamash-eriba	04/V/00	11/VIII/00	xx/VIII/00	“usurper”	485-485	
Xerxes I		20/V/21	14/V/21		-475	486 -
Darius A	-	-	[14/V/00]	crown prince	475-475	
Artaban			xx/XII/00	“usurper”	475-475	-465
Artaxerxes I	10/IX/00	20/XII/41			475 -	465 -
Darius B	14/IX/00	6/VII/08	xx/xx/08	co-regent	434-426	
Artaxerxes I		4/VI/50	xx/XI/50		-425	
Xerxes II	-	-	[xx/II/51]		425-424	
Sogdianus			[xx/IX/51]	“usurper”	424-424	-424
Darius II	14/IX/00	2/VI/19	xx/VIII/19		424-405	424-405

The Table 1 shows that the Babylonian king lists have been purged of all co-regencies: Bardiya (523-522), Xerxes I (496-486) and Darius B (434-426), as well as all usurpers including kings who were later considered illegitimate or “usurper” (Bardiya and Xerxes II). These changes forced the Babylonian scribes to rearrange the king lists and to modify certain reigns (Xerxes I and Artaxerxes I). Another recent study has shown that the succession between Aššur-nerari V and Tiglath-pileser III can only be explained by a co-regency between these two Assyrian kings:

With the exception of the Eponym Chronicle, the co-regency which existed between Ashur-nerari V and Tiglath-pileser III during the final two years of Ashur-nerari V’s reign was completely concealed from the official records. It is perhaps as a result of these unique circumstances that such importance was given to recording the date of Tiglath-pileser’s first campaign in his annals: “At the beginning of my reign, in my first *palû*, in the fifth month after I sat in great ness on the throne of kingship...” where no mention is made of these unique political circumstances. Yet, the existence of a co-regency might help explain the contradictory reports we have of Tiglath-pileser’s ancestry. If reports of the co-regency were stricken from the official records in Assyria, it is easy to see how this could give rise to a scribal error. A king’s reign typically came to an end only upon his death, and it is logical to assume that his successor was his son. However, where a co-regency existed there was every chance that the natural succession had been broken and that the king’s successor was not his son. In this case, a co-regency might ensure that the person appointed by a king to succeed him was later accepted as the legitimate ruler by his court (Davenport: 2016, 40-41).

The academic dogma of the absence of Assyrian co-regencies had consequences for the establishment of Mesopotamian chronologies from the 1st millennium BCE. The biblical chronology of the 1st millennium BCE of the kings of Israel and Judah is also perfectly determined but most of the synchronisms with the Assyrian chronology do not work, which led Edwin R. Thiele, in his 1943 thesis on this subject to invent nine artificial co-regencies between the kings of Israel and Judah to make all these synchronisms coincide (imperfectly). Several comprehensive studies of Thiele’s biblical chronology have shown that his nine imaginary co-regencies destroy the great chronological coherence of the biblical (Masoretic) text without any reason, and furthermore that most of the biblical synchronisms with the Assyrian chronology were wrong, and thus that Thiele’s biblical chronology was not reliable, it gives rise to several insoluble inconsistencies. This chronology, which is still used by scholars to calculate the chronology of the kings of Damascus, destroys the biblical synchronisms between the kings of Israel and Judah (Tetley: 2005, 91-185; Jones: 2007, 105-197); the numerous inconsistencies making it unusable in establishing a reliable chronology (Hughes: 1990, 182-232,264-266; Galil: 1996, 1-11, 46-51). The method for establishing the chronology of the kings of Tyre is also erroneous, but the current biblical chronology is still based on Thiele’s (Laato: 2015, 5-13,63-69). It is therefore necessary to check whether the heir princes were co-regents and whether the synchronisms between the Assyrian reigns and the Israelite or Judean reigns are correctly dated.

ASSYRIAN CHRONOLOGY BASED ON THE LIST OF REIGNS (1179–609 BCE)

The chronology of the Assyrian kings for the period 1179-609 BCE is mainly based on three chronological data verifiable by astronomy (Chen: 2020, 197-201):

- 1) The duration (#) of all Assyrian reigns (from nos. 83-116) and Babylonian reigns (from nos. 33-56 and from nos. 72-96) is known exactly through the Assyrian and Babylonian king lists and
- 2) several synchronisms (highlighted in grey) between Assyrian and Babylonian reigns are mentioned in the royal Chronicles (Pruzsinzky: 2009, 17,51-52).
- 3) Several lunar eclipses, precisely dated in a few astronomical tablets (Stephenson: 1997, 540,544), have been back-calculated by astronomy (highlighted in sky blue).

TABLE 2

n°	ASSYRIAN KING	#	Reign	n°	BABYLONIAN KING	#	Reign	Eclipse ref.				
83	Aššur-dân I	46	1179 -	33	Meli-Šipak	15	1187-1172					
				34	Marduk-apla-iddina	13	1172-1159					
				35	Zababa-šuma-iddina	1	1159 -1158					
				36	Enlil-nâdin-aḫi	3	1158-1155					
				37	Marduk-kabit-aḫḫešu	18	1159-1141					
			-1133	38	Itti-Marduk-balaṭu (ISIN II)	8	1141 -					
84	Ninurta-tukultî-Aššur	0	1133-1133									
85	Mutakkil-Nusku	0	1133- 1133									
86	Aššur-rêš-iši I	18	1133 -1115	39	Ninurta-nâdin-šumi	6	1133 -1127					
87	Tiglath-pileser I (Grayson: 2000, 189)	39	1115 -	40	Nebuchadnezzar I	22	1127-1105					
				41	Enlil-nâdin-apli	4	1105-1101					
			-1076	42	Marduk-nâdin-aḫḫê	18	1101-1083					
88	Ašared-apil-Ekur	2	1076-1074	43	Marduk-šapik-zêri	13	1083-1070					
89	Aššur-bêl-kala	18	1074-1056	44	Adad-apla-iddina	22	1070-1048					
90	Erîba-Adad II	2	1056-1054	45	Marduk-aḫḫê-erîba	1	1048-1047					
91	Šamši-Adad IV	4	1054-1050	46	Marduk-zêr- [...]	12	1047-1035					
92	Aššurnasirpal I	19	1050-1031	47	Nabû-šum-libur	8	1035-1027					
93	Shalmaneser II	12	1031-1019	48	Simbar-šipak	18	1027-1009					
94	Aššur-nêrârî IV	6	1019-1013	49	Ea-mukîn-zêri	1	1009-1008					
95	Aššur-rabi II	41	1013 -	50	Kaššu-nâdin-ahi	2	1008-1006					
				51	Eulmaš-šakin-šumi	17	1006-989					
				52	Ninurta-kudurri-ušur I	3	989-986					
				53	Siriki-šuqamuna	1	986-985					
				54	Mâr-bîti-apla-ušur	5	985-980					
				55	Nabû-mukîn-apli	36	980 -					
							-972					
				96	Aššur-rêš-iši II	5	972-967					
				97	Tiglath-pileser II	32	967 -	56	Ninurta-kudurri-ušur II	3	944-941	
								57	Mâr-bîti-aḫḫê-iddîn	20	941-921	
			-935	58	Šamaš-muḏammiq	21	921 -					
98	Aššur-dân II	23	935-912									
99	Adad-nêrârî II	21	912 -891									
100	Tukultî-Ninurta II	7	891-884	59	Nabû-šum-ukîn I	12	900-888					
101	Aššurnasirpal II	25	884-859	60	Nabû-apla-iddina	33	888-855					
102	Shalmaneser III	35	859-824	61	Marduk-zâkir-šumi I	36	855-819					
103	Šamši-Adad V	13	824 -	62	Marduk-balâssu-iqbi	6	819-813					
				63	Bâba-ah-iddina	-	813-812					
			-811	-	no kings	-	812-801					
104	Adad-nêrârî III	28	811 -		5 unknown kings	-	801-800	(nos. 64-68)				
			-783	69	Ninurta-apla- [...]	10	800-790					
105	Shalmaneser IV	10	783-773	70	Marduk-bêl-zêri	10	790-780					
106	Aššur-dân III	18	773-755	71	Marduk-apla-ušur	10	780-770					
107	Aššur-nêrârî V	10	755-745	72	Erîba-Marduk	9	770-761					
108	Tiglath-pileser III	18	745 -	73	Nabû-šum-iškun	13	761-748					
				74	Nabû-našir	14	748-734					
				75	Nabû-nâdin-zêri	2	734-732					
				76	Nabû-šum-ukîn II	0	732-732					
				77	Nabû-mukîn-zêri	3	732-729	BM 35789				
				78	Pûlu	2	729-727					
				79	Ulûlaiu	5	727-722					
				109	Shalmaneser V	5	727-722	80	Merodachbaladan II	12	722-710	Almagest IV:6
110	Sargon II	17	722 -	81	Sargon II	5	710-705					
				82	Sennacherib	2	705-703					
111	Sennacherib	24	705 -	83	Marduk-zâkir-šumi II	0	703-703					
				84	Bêl-ibni	3	703-700					
				85	Aššur-nâdin-šumi	6	700-694					
				86	Nergal-ušeziḫ	1	694-693					
				87	Mušeziḫ-Marduk	4	693-689					
				88	Sennacherib	8	689-681					
				89	Esarhaddon	12	681 -669					
				112	Esarhaddon	12	681 -669					
				113	Aššurbanipal	42	669-627	90	Šamaš-šum-ukîn	20	668-648	BM 45640
				114	Aššur-etel-ilâni	3	630-627	91	Kandalanu	22	648-626	
	Sin-šum-lišir	-	627-626									
115	Sin-šar-iškun	14	626-612	92	Nabopolassar	21	626 -	Almagest V:14				

116	Aššur-uballiṭ II	3	612- 609			-605	
	93	Nebuchadnezzar II	43	605-562	VAT 4956		
	94	Amel-Marduk	2	562-560			
	95	Neriglissar	4	560-556			
	96	Nabonidus	17	556- 539			

Consequently, the Assyrian chronology is well established for the period 1179-609 BCE (Chen: 2020, 197-201) was anchored in astronomical dates through synchronisms with Babylonian chronology⁸⁹, but it is difficult to determine whether there were overlapping reigns due to possible co-regencies⁹⁰ (Hagens: 2005, 23-41). Assyriologists have assumed that there were no co-regencies among the Assyrian reigns. Based on this assumption, Edwin R. Thiele, in his 1943 thesis (published in 1951), established a chronology of the Hebrew kings, relying on the numerous synchronisms with the Assyrian kings. However, he encountered a difficulty because several of the required synchronisms exhibited gaps ranging from 10 to 45 years. He solved this problem by arbitrarily assuming the existence of nine co-regencies among the Hebrew reigns (Thiele: 1983, 173-177). Despite this arbitrary choice, which destroys the chronological coherence of the Hebrew reigns (Hughes: 1990, 264-266), Thiele's chronology still serves as a reference for scholars. However, a careful examination of these synchronisms between Assyrian and biblical chronologies shows that there were several co-regencies among the Assyrian reigns, which they have been correctly dated in the biblical chronology, such as those of Sennacherib and Tiglath-Pileser III. These kings played a crucial role in Israel's history during their co-regencies, such as Sennacherib's campaign in Judah (his third) with the siege of Lachish and Jerusalem, which took place in 712 BCE during the 10th campaign of Sargon II (722-705) with whom he was co-regent during the years 715 to 705 BCE. This agrees exactly with the biblical account stating that all these events occurred during the 14th year of Judean King Hezekiah (726-697) also dated 712 BCE (2Ki 18:13-17; 2Ch 32:9; Is 20:1; 36:1). Similarly, the Israelite king Menahem (771-760) had to pay a tribute (in 765 BCE) to an Assyrian king Pul (2Ki 15:19-20). The Assyrian word *pulu*, from *apil/aplu*, means "the heir i.e., crown prince". King Pul(as) reigned 36 years, according to Josephus (Jewish Antiquities IX: 283-287), which corresponds exactly to the Assyrian king Pulu (co-regent) known by his Aramaic name Bar-Ga'yah "Son of the Majesty" who reigned from 782 to 746 BCE.

Co-regencies are ignored by Assyriologists because the word co-regent does not exist in Hebrew, the biblical text uses the word "king (*melekh*)", nor in Assyrian, the Assyrian inscriptions use the word "crown prince", literally "son of the king (DUMU LUGAL)", and sometimes (rarely) the word "[other] king (MAN)" next to the word "king (LUGAL)". In practice, however, the co-regent was easily recognised because as crown prince he could lead military campaigns, like the king, and he was represented identically to the king, except for the tiara. By having an equivalent role to the king, he was therefore a co-regent. Only a thorough study of the inscriptions makes it possible to determine whether a synchronism occurred during the reign or during the co-regency. The aim of this study is to identify these Assyrian co-regencies and to verify their role in historical synchronisms.

ASSYRIAN CHRONOLOGY BASED ON THE LIST OF EPONYMS (912–609 BCE)

The Assyrian King List (AKL) does not mention any co-regencies because they have been suppressed. For example, there was a 3-year co-regency between Aššurbanipal (669-627) and Aššur-etel-ilâni (630-626). Similarly, there was a 1-year co-regency (virtual?) between Kandalanu (648-626) and Sin-šum-lišir (627-626), considered a usurper. The absence of co-regencies among Assyrian reigns is therefore an erroneous academic dogma. Consequently, the presence of co-regencies modifies the dating of some synchronisms. For example, in the AKL there is a synchronism between Year 1 of Aššur-etel-ilâni and Year 22 of Kandalanu in 626 BCE, but in the list of eponyms this synchronism occurs between Year 1 of Aššur-etel-ilâni and Year 19 of Kandalanu in 629 BCE. The 3-year co-regency between Aššur-etel-ilâni and Aššurbanipal were thus deleted in the AKL (presumably because Aššurbanipal had become senile or had a stroke in 631 BCE?)⁹¹, which modifies the dating of the synchronisms during this period.

The in-depth study of the reign of Aššur-etel-ilâni (Na'aman: 1991, 243-267) revealed two essential points, the AKL eliminated all usurpers and all co-regencies. A close examination of the Assyrian reigns, as well as the synchronisms with the Judean and Israelite reigns during the period of the divided monarchy, shows that co-regencies were almost the rule, not the exception, as Assyriologists believe.

⁸⁹ For example, the astronomical journal BM 38462 lists some lunar eclipses in the years 1 to 27 of Nebuchadnezzar II which are dated from 604 to 578 BCE. Other dated lunar eclipses are these of year 1 and 2 of Merodachbaladan II (19/20 March 721 BCE, 8/9 March and 1/2 September 720 BCE); year 5 of Nabopolassar (21/22 April 621 BCE); year 2 of Šamaš-šuma-ukin (10/11 April 666 BCE) and year 42 of Nebuchadnezzar (2/3 March 562 BCE).

⁹⁰ Although he is not mentioned in the Babylonian king lists, Belshazzar (553-539) was the co-regent of Nabonidus (556-539).

⁹¹ Aššurbanipal did not die in 631 BCE (Year 38), as the accession of Aššur-etel-ilâni is dated in 630 BCE (Year 39).

The title “co-regent” does not exist in Assyrian, but Assyrian texts use the title: DUMU LUGAL (*mār šarri*), literally “[heir] son of the [titular] king”, translated as “crown prince”. Moreover, the crown prince is often represented on bas-reliefs identically to the king, except for the tiara, and facing him. The word LUGAL (*šarru* “king”) is used for the titular king while the word MAN (*šarru[šanu]* “[other] king”) is used for the king in office. The word MAN, written with two nail heads (◀◀ “20” that is “god Shamash”), is read *šarru* “king” in Neo-Assyrian. This word had a former meaning *šanû* “second/other” (Black, George, Postgate: 2000, 355-356), consequently this word MAN can also be understood as: king II, viceroy, or co-regent. The literal translation “son of the king” for “crown prince” is misleading because, as successor of the king, he was above the *tartānu* > *turtānu* “commander-in-chief” (De Rider: 2020, 274-275), the second most important person in the state (*tardennu*). Paradoxically, his title and role rarely appear in Assyrian inscriptions. In fact, the Assyrian monumental art, which frequently depicts the crown prince, clearly indicates his role and power for all to see.

For example, in Sargon II's palace at Dur-Sharrukin (Fig. 1) he is easily identified by his tiara (*agû*). He appears facing his crown prince (Sennacherib) who has three characteristic royal attributes namely: he is depicted the same size as the king, he is depicted as a head above the other high officials and he wears the ornament/diadem (*tiqnu*) with rosette (arrow 3), also owned by the commander-in-chief, which indicated that he was the head of the armies and he wears the headband (*pitûtu*) with tassels (arrow 4), which symbolises royal filiation, the king being himself son of king (*mār šarru*), designated as heir (*apil/aplu*) to the throne (Kertai: 2017, 111–133). The crown prince was thus represented as identical to the king, but without the tiara. When Lachish was taken⁹² (in 712 BCE), the label above the head of Sennacherib (who is facing Sargon), gives him the title of “[other] king (MAN)” (Russell: 1991, 206, 276–277), which corresponds to viceroy/co-regent, and does not name him “[titular] king (LUGAL)” because he has no tiara. From the time of king Aššurnasirpal II (884-859), Assyrian inscriptions (but not Babylonian inscriptions) used the Sumerian word MAN instead of LUGAL to designate kings in office (LUGAL was still used to designate Assyrian kings). In Hebrew, Assyrian king or Assyrian co-regent are referred to by the same word “king (*melekh*)”. Although the words MAN and LUGAL both mean “king” they do not have exactly the same meaning. It is noted that among the 16 bronze weights from the time of Shalmaneser V (727-722) that bear inscriptions in Assyrian and Aramaic, the Assyrian expression: weight “of the king (*šá MAN*)” is translated into Aramaic as: weight “of the king (*zy mlk*)” while the expression: weight “of the King (*šá LUGAL*)” is translated as: weight “of the land (*zy 'rq*)”, which shows that the word LUGAL had the meaning of “King [of the land of Assyria]” (Tadmor, Yamada: 2011, 171-186).



Fig. 1

⁹² The taking of Lachish by Sennacherib (2Ki 18:13-17) was parallel to the taking of Ashdod by Sargon (Is 20:1).

For the Assyrians, the crown prince was therefore a second king without a tiara. The narrative art from Tiglath-pileser's reign consists of the reliefs that were made for his new palace at Kalḫu as well as the royal frescoes in the palace of Til-Barsip. Both show groups of people approaching the king and his high officials. The crown prince, just in front of the beardless commander-in-chief (*turtānu*), is depicted in his typical role of presenting the groups to the king sitting on his throne. As co-regent, he monopolises this position on all known reliefs and wall paintings (Thomas: 2019, 37,120-122,143-149). To examine the synchronisms of the Assyrian reigns with the Judean and Israelite reigns, it is necessary to use a reliable biblical chronology.

CHRONOLOGY OF HEBREW REIGNS OVER THE PERIOD 1533–587 BCE

The biblical chronology was independently transmitted by five documents, those of the Septuagint (LXX), Flavius Josephus (FJ), Masoretic Text (MT), Theophilus of Antioch (TA) and the Seder Olam (SO), the first two (MT and LXX) being considered the most reliable. The numbers in brackets are durations obtained indirectly⁹³ and the numbers with an asterisk indicate an error. The reign lengths expressed as a subtraction (numbers 27 and 29) are calculated by subtracting from the reign length the period of co-regency with their successor. The totals that are given in the biblical text (300, 480 and 390) make it possible to compare them with the sum of the reigns. This biblical chronology is anchored on the death of Josiah which is precisely dated to July 609 BCE. It should be noted that Year 31 of Josiah coincided with Year 17 of Nabopolassar, Year 1 of Necho II and Year 3 of Aššur-uballit II (Galil: 1996, 108-123). The biblical chronology (Table 3) obtained from the Masoretic Text (MT) is extremely coherent and is the only one that contains no errors (asterisk indicate an error).

TABLE 3

N°	Chronology from:	MT	LXX	FJ	TA	SO	Period	reference
	Moses (Exodus)	40	40	40	40	40	1533-1493	Exodus 16:35
1	Joshua	(30)	(30)	(30)	27*	28*	1493 -1463	Joshua 14:10; 24:29
2	Without Judge	(11)	(11)	18*	-	0*	1463-1452	Joshua 24:31
3	Cushan-Rishataim	8	8	8	8	0*	1452-1444	Judges 3:8
4	Othniel	40	40/50*	40	40	40	1444-1404	Judges 3:11
5	Eglon	18	18	18	18	18	1404-1386	Judges 3:14
6	Ehud	80	80	(80)	8*	80	1386-1306	Judges 3:30
7	Madian	7	7	7	7	7	1306-1299	Judges 6:1
8	Gideon	40	40	40	40	40	1299-1259	Judges 8:28
9	Abimelech	3	3	3	3	3	1259-1256	Judges 9:22
10	Tola	23	23	(23)	23	23	1256-1233	Judges 10:2
11	Jair	22	22	22	22	22	1233-1211	Judges 10:3
12	Anarchy	18	18	18	18	18	1211- 1193	Judges 10:8
	Total N° 1-12	300	300	307*	214*	287*		
	Biblical total	300	300	300	300	300	1493-1193	Judges 11:26,30
13	Jephthah	6	6/60*	6	6	6	1193-1187	Judges 12:7
14	Ibzan	7	7	7	7	7	1187-1180	Judges 12:9
15	Elon	10	10	10	10	10	1180-1170	Judges 12:11
16	Abdon	8	8	(8)	8	8	1170-1162	Judges 12:14
17	[Eli] Philistines	40	20*/40	40	40	40	1162-1122	1 Samuel 4:18
18	Samson	20	20	20	20	20	1122-1102	Judges 16:31
19	Samuel's sons	(5)	(5)	12*	12*	10*	1102-1097	1 Samuel 8:1-3
20	Saul	(40)	(40)	20*/40	20*	3*	1097-1057	Acts 13:21
21	David	40	40	40	40	40	1057-1017	1 Kings 2:11
22	Solomon (year 4)	4	4	4	4	4	1017- 1013	1 Kings 6:1
	Total N° 1-22	480	480	467/487	467	448		
	Biblical total	480	440*	480	480	480	1493-1013	1 Kings 6:1
23	Solomon	40	40	80*	40	40	1017 - 977	1 Kings 11:42
24	Rehoboam	17	17	17	17	17	977 -960	1 Kings 14:21
25	Abiyam	3	6*	3	7*	3	960-957	1 Kings 15:2
26	Asa	41	41	41	41	41	957-916	1 Kings 15:10
27	Josaphat	25 - 2	25 - 2	25 - 2	25 - 2	25 - 2	916-893	1 Kings 22:42
28	Joram	8	10*	8	8	8	893-885	2 Kings 8:17
29	[Athaliah]	7 - 1	7 - 1	7 - 1	6	7+1*	885-879	2 Kings 11:4
30	Joash	40	40	40	40	40	879-839	2 Kings 12:2
31	Amasiah	29	29	29	39*	22*	839-810	2 Kings 14:2
32	Uzziah	52	52	52	52	52	810-758	2 Kings 15:2

⁹³ e.g. Joshua entered Canaan at the age of 80 and as he died at the age of 110 he therefore led the Israelites for 30 years.

33	Jotham	16	16	16	16	16	758-742	2 Kings 15:33
34	Ahaz	16	16	16	17*	16	742-726	2 Kings 16:2
35	Hezekiah	29	29	29	29	29	726-697	2 Kings 18:2
36	Manasseh	55	55	55	55	55	697-642	2 Kings 21:1
37	Amon	2	2	2	2	2	642-640	2 Kings 21:19
38	Josiah	31	31	31	31	31	640-609	2 Kings 22:1
39	Joiachim	11	11	11	11	11	609-598	2 Kings 23:36
40	Zedekiah	11	11	11	11	11	598-587	2 Kings 24:18
	Total N° 24-40	390	395	390	405	385		
	Biblical total	390	190*	390	390	390	977-587	Ezekiel 4:5-6

Biblical chronology is based on a complex and highly sophisticated five-date system that allows for the immediate detection of possible copying errors. The five dating systems are as follows: 1) Judean reigns were counted with accession (year 0) from the death of the previous king, the first year beginning on the 1st Nisan, 2) Israelite reigns were counted (year 1) from the death of the previous king, the second year beginning on the 1st Tishri, 3) the beginnings of the Judean reigns were dated in the Israelite reigns and vice versa, 4) the biblical text gives the duration of several chronological periods (**300**, **480**, **390**), and 5) several precise synchronisms with Assyrian, Babylonian and Egyptian chronologies.

The transmission of many historical and chronological data (reigns, lifetimes, long periods, etc.) as well as many proper names, is necessarily flawed, unless one believes in an unlikely infallibility of scribes. The Bible, although it has been exceptionally well transmitted, is no exception. Certain ancient Near Eastern texts develop over time towards a reasonably stable state of transmission. However, the development towards a single 'stabilised' transmitted form that marks the biblical manuscripts between the 2nd century BCE and 2nd century CE is often considered to permit the Hebrew bible to have a unique position in the ancient Near Eastern textual corpus. A study compared the accuracy with which ancient texts of varying genres and languages were transmitted⁹⁴ (Hobson: 2009, 463-495). This study showed that the most stable texts surveyed are those containing ritual instructions, which led, for example, to the exact transmission of the Torah in the late Second Temple period. When one knows the difficulty of establishing a reliable chronology, this agreement proves that the chronological data transmission has been remarkable. However significant discrepancies are found regarding various lengths of reign of several kings during the period of the divided monarchy. The Greek variants came into being because the translator either failed to understand the meaning of the Hebrew or as was the usual occurrence from an effort to "correct" the supposed errors. A careful investigation of these variations reveals that they are not the result of scribal errors, but constitute editorial changes made with the object of correcting what were considered as "errors" in the original Hebrew Text. In no instance is a Greek variation an improvement over the Hebrew. The fallacious nature of the Greek innovations may be proved by the wide divergence of the patterns of reign that they call for from the years of contemporary chronology (Jones: 2007, 12). Three main chronological periods of **300**, **480**, and **390** years in the biblical texts verify the biblical chronology, but the last two periods have been modified in the Septuagint. These changes are not old copyist errors but chronological "corrections" for theological reasons.

- Period of **300 years** from the departure from Egypt to the vow of Jephthah (Jg 11:26,30). The value of 300 years corresponds to the sum of all the reigns⁹⁵. Caleb and Joshua were 40 years old at the beginning of the exodus and therefore 80 afterwards (Jos 14:7). As Joshua died at the age of 110 (Jos 24:29) he must have stayed 30 years in Canaan. The period that followed [11] is not specified but can be estimated. Indeed, the generation that came into Canaan with Joshua had to take possession of the land (Jg 2:6-10). But as the previous generation had lasted 40 years (Nb 32:13), this suggests that: [40] = 30 + x, x = 10. In fact the exact calculation gives x = 11.
- Period of **480 years** since the departure from Egypt to the 4th year of Solomon (1Ki 6:1). The Masoretic text has preserved the exact value of 480 years because the sum of all the reigns is 480 years⁹⁶ which is not the case of the 440 years indicated in the Septuagint. The value of Saul's reign in Acts 13:21, which appeared in 1Samuel 13:1 can be deduced from the biography of Ishbaal, a son of Saul, who was born at the beginning of the reign of his father (1Ch 8:33) since he was 40 years old after the death of Saul (2Sa 2:10). Josephus hesitated between 20 and 40 years (Jewish Antiquities VI:378, X:143) also in the sum of the reigns (Jewish Antiquities VIII:61, XX:230). The Sinai desert belonged to Egypt because it was

⁹⁴ Texts from the Neo-Assyrian, Neo-Babylonian and Late Babylonian periods that range in date from the late 8th century BCE to the 3rd century BCE and Torah scrolls from the Dead Sea area that range in date from the 3rd century BCE to the 2nd century CE. Texts that have been preserved in more than one ancient copy have been compared to determine how much variation occurs between manuscripts of the same text. The accuracy with which the cuneiform texts were transmitted has been then compared with the biblical evidence.

⁹⁵ $300 = (110 - 80) + [11] + 8 + 40 + 18 + 80 + 7 + 40 + 3 + 23 + 22 + 18$.

⁹⁶ $480 = 300 + 6 + 7 + 10 + 8 + 40 + 20 + [5] + (40) + 40 + 4$.

in front the Wadi of Egypt, which marked the border (2Ki 24:7). The Israelites were out of Egypt when they passed this wadi and therefore after 40 years in the desert⁹⁷. According to this scheme, we obtain: $y + 475 = 480$, which gives $y = 5$ years. The translators of the Septuagint who knew this period of 480 years, beginning with the departure from Egypt after 40 years in the desert, subtracted it, instead of adding it, to obtain 440 years ($= 480 - 40$). According to the Talmud (Megilla 72cd), the duration of the conquest of Canaan would have been 7 years and the duration of the sanctuary of Shiloh 369 years, which gives: $480 = (7^* + 369^* + 20 + 40 + 40 + 4)$. In fact: $480 = 5 + 366 + 20 + 5 + 40 + 40 + 4$ ⁹⁸.

- Period of **390 years** (Ezk 4:4-6) from the 1st year of Rehoboam to the 11th of Zedekiah. The Masoretic text has preserved the exact total value (Barthélemy: 1992, 22-23) because the sum of all the reigns is 390 years⁹⁹ which is not the case of the 190 years indicated in the Septuagint. This period begins when the 40-year reign of Solomon (1Ki 11:42) ended by the schism of his kingdom into Israel and Judah. This rebellion (977 BCE) considered as a fault (1Ki 12:19) ended with the destruction of the Temple (587 BCE). Otherwise, the 190 years of the Septuagint would have begun when the northern kingdom disappeared (720 BCE) and would have ended at the beginning of the rebuilding of the Temple (537 BCE). But in this case the calculation is: $720 - 537 = 183$ years, not 190 years. As a result, this duration has been changed in the Greek text for theological reasons. Similarly, the period from Abiyam to Athaliah which is complex because of two co-regencies was also recalculated (Jones: 2007, 12-13). As the books of Ezekiel and Kings were translated during the period 190-160 BCE (Harl, Munnich, Dorival: 1988, 111) this indicates that the Jews of that time were already producing chronological changes and not copy errors.
- Two chronological periods of **70 years** fix the duration of Babylonian dominion (Jr 25:11-12) and the duration of the desolation since the destruction of the temple (Dn 9:2, Zc 7:1-4).

The parallelism of all the reigns of the divided monarchy shows that all the synchronisms, without exception, between the Judaeen and Israelite reigns are verified, which confirms the great consistency of the biblical chronological data. Furthermore, all the synchronisms of the kings of the Bible (names in bold) with the Assyrian and Babylonian chronologies (dates in bold) are also verified:

TABLE 4

King of Judah	Reign	#		King of Israel	Reign	#	Reference
David	1057-1017	40					2Sa 5:4
Solomon	1017-977	40					1Ki 11:42
Rehoboam	977-960	17	000	Jeroboam I	10/977 -		Ezk 4:5-6
Abiyam	960-957	3			-05/955	22	1Ki 14:20-21
Asa	957 -	41		Nadab	06/955-05/954	2	1Ki 15:10,25
				Baasha	06/954-04/931	24	1Ki 15:28,33
				Elah	05/931-04/930	2	1Ki 16:8
				Zimri	05/930	7 d	1Ki 16:10-16
				Omri/	06/930-05/919/	12	1Ki 16:21-23
	-916			[Tibni]	[06/930-01/925]	6	
Jehoshaphat	916 -	25		Ahab	06/919-01/898	22	1Ki 16:29
	-891			Ahaziah I	02/898-01/897	2	1Ki 22:51-52
Jehoram J.	893-885	8		Jehoram A.	02/897 -	12	2Ki 3:1
Ahaziah II	886-885	[1]			-08/885		
Athaliah (Jehoyada)	885 -879	6		Jehu	10/885 -	28	2Ki 10:36
Joash	879 -	40			-03/856		
				Jehoahaz	04/856-09/839	17	2Ki 10:35; 13:1
	-839			Jehoahaz/Jehoash	[01/841-09/839]	2	2Ki 13:10
Amasiah	839 -	29		Jehoash	09/839-01/823	16	2Ki 13:10
	-810			Jeroboam II	01/823-05/782	41	2Ki 14:23
Uzziah	810 -	52		[Zechariah]	06/782-02/771	[11]	2Ki 14:29
[Azariah]	[796 -			Zechariah	03/771-08/771	6 m	2Ki 15:8
				Shallum	09/771	1 m	2Ki 15:13
				Menahem	10/771-03/760	10	2Ki 15:17
	-758			Peqayah	04/760-03/758	2	2Ki 15:23
Jotham	758-742	16		Peqah	04/758-05/738	20	2Ki 15:27
Ahaz	742-726	16		Hosea I	06/738-01/729	9	2Ki 15:27-30
Hezekiah	726-697	29		Hosea II	02/729-09/720	9	2Ki 17:1,3

⁹⁷ The Israelites who died in the wilderness (Nb 26:65) had desired repeatedly to die in Egypt (Ex 14:11; 16:3). This paradoxical desire has been fulfilled.

⁹⁸ The conquest of Canaan lasted 5 years and the sanctuary of Shiloh 366 years ($= 1488 - 1122$) because it is installed just after the conquest of Canaan (Jos 18:1), in 1488 BCE, and disappeared at the death of the high priest Eli (1Sa 4:1-7:1) in 1122 BCE.

⁹⁹ $390 = 17 + 3 + 41 + (25 - 2) + 8 + (7 - 1) + 40 + 29 + 52 + 16 + 16 + 29 + 55 + 2 + 31 + 11 + 11$.

Manasseh	697-642	55				2Ki 21:1	
Amon	642-640	2		King of Babylon	King of Egypt	2Ki 21:19	
Josiah	640-609	31		(Nebuchadnezzar)	Necho II	2Ki 22:1	
Jehoahaz	609-609	<i>3 m</i>				2Ch 36:2	
Jehoiachim	609-598	11				2Ch 36:5	
Jehoiachin	598-598	<i>3 m</i>				2Ch 36:9	
Zedekiah	598-587	11		390		reign	2Ch 36:11
Jehoiachin (exile)	598-561	37			Evil-Merodach	07/562-12/560	2Ki 25:27
Babylonian dominion	609-539	70					Jr 25:11-12
Temple desolation	587-517	70					Zc 7:1-4, Dn 9:2

The quadruple synchronism of Egyptian, Babylonian, Assyrian and Israelite chronologies in 609 BCE confirms the accuracy of all the dates. This quadruple synchronism is very well documented because it occurred at the end of the Assyrian Empire with the fall of Haran just after the battle of Megiddo and 4 years before the battle of Carchemish (in 605 BCE):

In his days Pharaoh Necho (II) the king of Egypt came to meet the king of Assyria (Aššur-uballit II) by the Euphrates River, and King Josiah went out to confront him; but when Necho saw him, he put him to death at Megiddo. So his servants transported his dead body in a chariot from Megiddo and brought him to Jerusalem and buried him in his grave. Then the people of the land took Josiah's son Jehoahaz and anointed him and made him king in place of his father. Jehoahaz was 23 years old when he became king (...) Pharaoh Necho imprisoned him at Riblah in the land of Hamath, to keep him from reigning in Jerusalem, and then imposed on the land a fine of 100 silver talents and a gold talent. Furthermore, Pharaoh Necho made Josiah's son Eliakim king in place of his father Josiah and changed his name to Jehoiakim; but he took Jehoahaz and brought him to Egypt, where he eventually died (2Ki 23:29-34).

The end of Assyrian dominion replaced by the Babylonian dominion had to have occurred at that time: After all of this, when Josiah had prepared the temple, King Necho (II) of Egypt came up to fight at Carchemish by the Euphrates. Then Josiah went out against him. So he sent messengers to him, saying: What does this have to do with you, O king of Judah? I am not coming against you today, but my fight is against another house, and God says that I should hurry. For your own sake, refrain from opposing God, who is with me, or he will bring you to ruin. However, Josiah would not turn away from him, but he disguised himself to fight against him and would not listen to the words of Necho, which were from the mouth of God. So he came to fight in the Plain of Megiddo. And the archers shot King Josiah, and the king said to his servants: Get me out of here, for I am severely wounded. So his servants took him out of the chariot and had him ride in his second war chariot and brought him to Jerusalem. Thus he died and was buried in the tomb of his forefathers, and all Judah and Jerusalem mourned Josiah. And Jeremiah chanted over Josiah, and all the male and female singers keep singing about Josiah in their dirges (not Zedekiah) down to this day (Lm 4:18-20); and a decision was made that they should be sung in Israel, and they are written among the dirges (2Ch 35:20-25).

Herodotus recorded this famous battle and the Egyptian campaign in his writings (The Histories II:159), the Babylonian Chronicles give historical details from Year 10 to Year 21 of Nabopolassar, and Josephus quoted some extracts (Against Apion I:133-137)¹⁰⁰. Combining all the data enables the reconstruction of the following chain of events: after the destruction of Nineveh (August 612 BCE) Nabopolassar appointed his young son Nebuchadnezzar (likely around 20 years old) as Crown Prince (at that same time the king of Assyria, Sin-šar-iškun, died); after the fall of Haran (October 609 BCE) the king of Assyria, Aššur-uballit II, disappeared (and died shortly afterwards), Nabopolassar appointed the defeated Egyptian king (Necho II) as satrap of Egypt¹⁰¹ but the latter rebelled a few years later (June 606 BCE); finally Nebuchadnezzar inflicted a defeat upon the Egyptians at Carchemish and defeated them completely (August 605 BCE).

¹⁰⁰ I will quote Berosus' own words, which are as follows: His father Nabopolassar, hearing of the defection of the satrap in charge of Egypt, Coele-Syria and Phoenicia [Necho II], and being himself unequal to the fatigues of a campaign, committed part of his army to his son Nabuchodonosor, still in the prime of the life, and sent him against the rebel. Nabuchodonosor engaged and defeated the latter in a pitched battle and replaced the district under Babylonian rule. Meanwhile, as it happened, his father Nabopolassar sickened and died in the city of Babylon, after a reign of 21 years. Being informed ere long of his father's death, Nabuchodonosor settled the affairs of Egypt and the other countries. The prisoners —Jews, Phoenicians, Syrians, and those of Egyptian nationality— were consigned to some friends, with orders to conduct them to Babylonia, along with the heavy troops and the rest of the spoils; while he himself, with a small escort, pushed across the desert of Babylon.

¹⁰¹ According to Flavius Josephus, Necho II had come to support Aššur-uballit II, who was under attack from Nebuchadnezzar II, the crown prince of Nabopolassar, hoping to halt the Babylonian army's westward advance. The unexpected presence of the Egyptian army forced Nebuchadnezzar II to negotiate an agreement with Necho II, granting him Judea in compensation for his withdrawal. In wanting to ally himself with Necho II, Josiah was probably hoping to forge an alliance with him so as not to be attacked by the Babylonians (but this was a mistake).

TABLE 5

BCE		[A]	[B]	[C]	[D]	[E]	[F]				
610	1	X	54	1	15	(0)	29	[A] Psamtik I , King of Egypt [B] Aššur-uballiṣ II , King of Assyria [C] Nabopolassar , King of Babylonia [D] Nebuchadnezzar II , Crown Prince [E] Josiah , King of Judah (2Ki 22:1)			
	2	XI									
	3	XII									
	4	I		2	16	(1)	30				
	5	II									
	6	III									
	7	IV									
	8	V									
	9	VI									
	10	VII									
	11	VIII									
	12	IX									
609	1	X	1	3	17	(2)	31	[A] Necho II , King of Egypt <i>Battle of Megiddo</i> (2Ki 23:29-30) [E] Jehoachaz (2ki 23:31-32) <i>End of Assyrian Empire</i>			
	2	XI									
	3	XII									
	4	I									
	5	II									
	6	III							***		
	7	IV							***		
	8	V							0		
	9	VI									
	10	VII							***	0	1
	11	VIII									
	12	IX									
608	1	X	2	18	(3)	1	2	[A] Necho II , Satrap of Egypt (by Nebuchadnezzar II) [E] Jehoiakim (2Ki 23:34-36) appointed by Necho II [F] 70-year period (Jr 25:11-12; 29:10) (70 = October 609 – October 539)			
	2	XI									
	3	XII									
	4	I									
	5	II									
	6	III									
	7	IV									
	8	V									
	9	VI									
	10	VII							3		
	11	VIII									
	12	IX									
607	1	X	3	19	(4)	2	3				
	2	XI									
	3	XII									
	4	I									
	5	II									
	6	III									
	7	IV									
	8	V									
	9	VI									
	10	VII							4		
	11	VIII									
	12	IX									
606	1	X	4	20	(5)	3	4				
	2	XI									
	3	XII									
	4	I									
	5	II									
	6	III									
	7	IV									
	8	V									
	9	VI									
	10	VII							5		
	11	VIII									
	12	IX									
605	1	X	5	21	(6)	4	5	<i>Battle of Carchemish</i> (Jr 46:2) [C] Nebuchadnezzar II , King of Babylonia [D] <i>Egyptian reckoning</i> (2Ki 25:1)			
	2	XI									
	3	XII									
	4	I									
	5	II									
	6	III									
	7	IV									
	8	V									
	9	VI							0	1	
	10	VII									
	11	VIII									
	12	IX									

This sequence of events has consequences on the Judean chronology because the Judean rulers fell under the authority of Babylon for 70 years (Jr 25:11-12, 29:10), first through the satrap of Egypt Necho

(609-605) and directly afterwards (605-539). Consequently, the accession of Nebuchadnezzar, Babylonian year 0, is reckoned as year 1 (Jr 25:1, 46:2) according to the Egyptian reckoning, which explains why Jerusalem was destroyed in the 19th year of Nebuchadnezzar (Jr 52:12) which was in fact his 18th (Jr 52:29). The double counting system was used until the destruction of the temple, thus the 8th year of Nebuchadnezzar (2Ki 24:12), according to the Egyptian reckoning, was also his 7th year of reign (Jr 52:28) according to the Babylonian reckoning (in 598 BCE). There was no ambiguity because the 10th year of Zedekiah (in 588 BCE) was also the 18th year (Egyptian reckoning) of Nebuchadnezzar II (Jr 32:1).

TABLE 6

BCE			[A]	[B]	[C]	[D]	[E]	
588	1	X	6	16	17	9		[A] Psamtik II , King of Egypt
	2	XI	1					[389] [A] Hophra (Apries) , King of Egypt (Jr 44:30)
	3	XII						
	4	I		17	18	10		[B] Nebuchadnezzar II , King of Babylonia
	5	II						[C] Nebuchadnezzar II (<i>Egyptian reckoning</i>)
	6	III						[D] Zedekiah , King of Judah (Jr 32:1)
	7	IV						
	8	V						
	9	VI						
	10	VII						
	11	VIII						{39}
	12	IX						
587	1	X						
	2	XI	2					[390]
	3	XII						
	4	I		18	19	11		[D] Zedekiah , King of Judah (Jr 39:2-7, 52:12)
	5	II						
	6	III						
	7	IV						[E] <i>The Temple is burnt</i> . 40-year period (Ezk 4:6)
	8	V						(40 = October 627 – October 587)
	9	VI						{40}
	10	VII					***	[1] [E] 70-year period of desolation (Dn 9:2; Zk 7:1-7)
	11	VIII						(70 = October 587 – October 517)
	12	IX						
586	1	X						[D] Second deportation of the Jews to Babylon (Jr 52:29)
	2	XI	3					
	3	XII						

The preceding chronological reconstruction of the Judean and Israelite reigns (from 977 to 561 BCE) is correct because there is no chronological contradiction between the Judean and Israelite reigns and there is no contradiction between the sum of Judean reigns going from n°24 to n°40, from the split of the Judean kingdom in October 977 BCE to the destruction of Jerusalem in October 587 BCE, and their total given in Ezekiel 4:4-6 of 390 years¹⁰², from Year 1 of Rehoboam to Year 11 of Zedekiah, is indeed 390 years. This period began when the 40-year reign of Solomon (1Ki 11:42) broke apart in two rival entities: Israel and Judah. This revolt (in October 977 BCE), considered as a major fault (1Ki 12:19), ended after the destruction of the Temple when the Jews of the exile (Jr 25:8-12) arrived in Babylon c. October 587 BCE. Similarly, the Babylonian world domination of that era lasted exactly 70 years (Jr 25:11-12; 29:10; Is 23:13-17), started in the beginning of the kingdom of Jehoiakim (Jr 27:1-7), in October 609 BCE, and ended in October 539 BCE when Cyrus subdued all nations, including Babylon, and freed the Jews (Is 45:1-7). A 70-year period of desolation (Dn 9:6), without worship at the Temple (Mt 24:15), began in October 587 BCE and ended in October 517 BCE when the worship at the Temple restarted after the 4th year of Darius I (Zk 7:1-7).

TABLE 7

BCE			[A]	[B]	[C]	[D]	[E]	
977	1	X		35	2	39		[A] Sheshonq I , King of Egypt (1Ki 11:40)
	2	XI	4					[B] Aššur-reš-iši II , King of Assyria
	3	XII						[C] Nabû-mukîn-apli , King of Babylonia
	4	I		36	3	40		[D] Solomon , King of Judah and Israel (1Ki 11:42)
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII					0	[1] [D] Rehoboam , King of Judah (1Ki 14:20,25)
	11	VIII						[E] Jeroboam I , King of Israel (1Ki 14:20)
	12	IX						
976	1	X						[E] 390-year period (Ezk 4:5-6)
	2	XI	5					(390 = October 977 – October 587)
	3	XII						

¹⁰² The second period of 40 years is from Year 13 of Josiah (Jr 25:3,11), in 627 BCE, to the destruction of the Temple in 587 BCE.

4	I	37	4	1	2
5	II				
6	III				
7	IV				
8	V				
9	VI				
10	VII				
11	VIII				
12	IX				

The chronological data concerning all the synchronisms between the kings of Judah and Israel and those of Babylon are therefore perfectly coherent. On the other hand, the other synchronisms with the kings of Egypt and Assyria are controversial for the following two reasons: 1) the reign of Sheshonq I has been anchored to the reign of Rehoboam (930-913) on the basis of Thiele's biblical chronology (which is wrong by about 45 years); 2) Assyriologists assume that there were no co-regencies between Assyrian reigns, so that the military campaigns waged by crown princes are ignored and only counted and dated when they have become established kings. The ten or so precisely dated synchronisms between the Assyrian reigns and the Israelite or Judean reigns make it possible to verify the accuracy of the biblical chronology. Synchronisms with Assyrian reigns without co-regency are the easiest to verify.

TEN SYNCHRONISMS BETWEEN ASSYRIAN REIGNS AND JUDEAN OR ISRAELITE REIGNS

The siege of the city of Samaria and its final fall after 3 years are precisely dated both in the biblical text and in the Assyrian annals. The siege of Samaria began in the 4th year of King Hezekiah (726-697), which was the 7th year of Hosea II (729-720), when **Shalmaneser V** (727-722) the king of Assyria came against Samaria and began to lay siege to it, which lasted 3 years (2Ki 18:9-11).

TABLE 8

BCE		[A]	[B]	[C]	[D]	[E]		
722	1	X	4		4	3	7	
	2	XI					[16]	
	3	XII						
	4	I	5	1	5	4	***	[A] Shalmaneser V , King of Assyria
	5	II						[B] <i>Siege of Samaria</i>
	6	III						[C] Ulûlaiu , King of Babylonia
	7	IV						[D] Hezekiah , King of Judah (2Ki 18:9)
	8	V						[E] Hosea II , King of Israel (2Ki 17:3-4)
	9	VI						
	10	VII					8	
	11	VIII					[17]	
	12	IX						
721	1	X	0	***	0			[A] Sargon II , King of Assyria, <i>Samaria is annexed.</i>
	2	XI						[C] Merodachbaladan II , King of Babylonia
	3	XII						
	4	I	1	2	1	5		
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII					9	
	11	VIII					[18]	
	12	IX						
720	1	X						
	2	XI						
	3	XII						
	4	I	2	3	2	6		
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII						
	11	VIII						[D] Hezekiah , King of Judah (2KI 18:10-11)
	12	IX					[19]	
719	1	X						
	2	XI						
	3	XII		***		***		[B] <i>Samaria is captured</i>
	4	I	3		3	7		
	5	II						
	6	III						

This chronological reconstruction of the Judean and Israelite reigns fits in perfectly with the Assyrian reigns but is not accepted because it disagrees with the reign of Hosea (732-723) according to Thiele's biblical chronology. Assyriologists propose various chronological solutions, such as the following:

The sixth theory supposes that Samaria was conquered first by Shalmaneser, and a few years later by Sargon. This reconstruction appears to be the best way of understanding the data. Shalmaneser decided to subdue the rebellion of king Hoshea by besieging Samaria, his capital city, possibly over a three-year period (725, 724, 723) according to the Eponym Lists. The city fell in 722, possibly in autumn (Elul/Tishri) because he was not able to deport the people of Samaria in the very short span of time between the conquest and his death. Shalmaneser died shortly after the fall of Samaria in the month of Tebet 722. Sargon defeated the western coalition in 720, his second year of reign, and proceeded to recapture Samaria because this city had participated in Iaûbidi's coalition which "gathered together (the people of) Arpad and Samerina (Samaria) and brought them to his side" (Elayi: 2017, 45-50).

This chronological reconstruction contradicts both the Assyrian Chronicles and the biblical account, since the Eponym Lists do not mention the siege of the city of Samaria and the annals of Sargon clearly mention the final conquest of this city in 720 BCE. According to a Babylonian chronicle: *He ravaged Samaria. The fifth year (in 722 BCE): Shalmaneser (V) died in the month Tebet* (Grayson: 2000, 73). The annals of Sargon II describing his first two years of reign are very incomplete¹⁰³ (parts in italics), but they show that he annexed the city of Samaria at the beginning of his reign, took booty and deported 27,290 people. In the second year of his reign, he destroyed all the rebellious cities by fire.

At the be[ginning of my reign (January 721 BCE), *having ascended the royal throne and been crowned with the crown of lordship, ... (as for) the peo]ple [of the city **Samar]ia [who had come to an agreement with a king hostile to me not to do obeisance (to me) or to bring tribute (to me) and (who) had offered battle, with the might of the god Aššur, my lord, who ma]kes me triumph, [I fought them and brought about their defeat ... I] carried off as booty 27,290 people who lived there. [I conscripted] 50 chariot(s) from [among them] into my royal (military) contingent [and (re)settled the remainder of them in Assyria ... I res]tored [the city **Samaria**] and made (it) greater than before. [I brought there] people from the lands that [I had] conquer[ed. I set a eunuch of mine as provincial governor over them and imposed upon them (the same) tribute] (and) payment(s) as if (they were) Assyrians.***

In my second regnal year (April 720 BCE), Ilu-b[i'di of the land Hamath ...] assembled [*the troops of the] wide [land Amurru] in the city Qarqar and [*transgressed against] the oath [(sworn) by the great gods ...] he inc[ited the cities Arpad, Šimirra], Damascus, (and) **Samaria** [to rebel against me and ... est]ablished [...], he gave him Rē'e, his field marshal, to he[lp] him, and he rose up against me to do war [and] battle. At the command of the god Aššur, my lord, I inflicted a defeat on them. [R]ē'e then fled off by himself, like a shepherd whose flock had been stolen, and got away. I captured [H]anūnu (Hanno) and brought him in bondage to my city Aššur; I then destroyed, demolished, (and) burned down with fire [the city Rap]hia. I carried off as booty 9,033 people together with their numerous possessions.**

According to the biblical account, Assyrian king Shalmaneser (V) began the siege of Samaria around April 722 BCE and the city was captured around March 720 BCE (by Sargon II) exactly 3 years later:

And it came about in the 4th year of King Hezekiah (April 722 BCE), that is, the 7th year of Hosea the son of Elah the king of Israel, that **Shalmaneser (V)** the king of Assyria came up against Samaria and began to lay siege to it. And they got to capture it at the end of 3 years; in the 6th year of Hezekiah (in 720 BCE), that is, the 9th year of Hosea the king of Israel, Samaria was captured. After that the king of Assyria (**Sargon II**) took Israel into exile in Assyria and set them down in Halah and in Habor at the river Gozan and in the cities of the Medes (2Ki 18:9-11).

These precisely dated synchronisms between the Assyrian kings (Shalmaneser V & Sargon II) and the Israelite and Judean kings (Hosea II & Hezekiah), concerning the siege and capture of the city of Samaria, mean that the Assyrian, Judean and Israelite chronologies are rigorously accurate. A second synchronism, precisely dated between the beginning of the reign of Jeroboam II (2Ki 14:23-25), in 823 BCE, and the king of Nineveh (Jon 3:6-7), once again confirms the accuracy of Assyrian and biblical chronologies.

According to the Assyrian King List, Shamshi-Adad V (824-811) was king of Assyria in 823 BCE, but according to the Assyrian Chronicles, this king was not officially recognised until 822 BCE because his elder brother, Aššur-danin-pal, who had been co-regent of Shalmaneser III (859-824) since 846 BCE, had been deposed in 826 BCE when he revolted against his father, leading Shalmaneser III to appoint his younger brother Shamshi-Adad (V) as the new crown prince. Consequently, when Shalmaneser III died, Shamshi-Adad (V) was unable to succeed him immediately as Aššur-danin-pal remained co-regent.

¹⁰³ <http://oracc.museum.upenn.edu/rinap/rinap2/corpus/>

When Aššur-da''in-apla (**Aššur-danin-pal**), at the time of Shalmaneser (III), his father, acted treacherously by inciting insurrection, uprising, and criminal acts, caused the land to rebel and prepared for battle; (at that time) the people of Assyria, above and below, he won over to his side, and made them take binding oaths. He caused the cities to revolt and made ready to wage battle and war. The cities **Nineveh**, Adia, Šibaniba, Imgur-Enlil, Iššabri, Bit-Šašširia, Šimu, Šibhiniš, Tamnuna, Kipšuna, Kurbail, Tīdu, Nabulu, Kahat, Aššur, Urakka, Sallat, Ḥuzirina, Dūr-balāti, Dariga, Zaban, Lubdu, Arrapha, (and) Arbail, together with the cities Amedu, Til-abni, (and) Ḥindānu, — altogether 27 towns with their fortresses which had rebelled against Shalmaneser (III), king of the four quarters, my father, sided with Aššur-da''in-apla. By the command of the great gods, my lords, I subdued (them) (Grayson: 2002, 183).

TABLE 9

BCE			[A]	[B]	[C]	[D]	[E]	[F]		
824	1	X	34	[21]	[1]	30	14	15	[A] Shalmaneser III, King of Assyria	
	2	XI							[B] Aššur-danin-pal, Co-regent	
	3	XII							[C] Šamshi-Adad (V), new Crown prince	
	4	I	35	[22]	[2]	31	15	16	[D] Marduk-zākir-šumi I, King of Babylon	
	5	II							[E] Amaziah, King of Judah (2Ki 14:1-2)	
	6	III							[F] Jehoash, King of Israel	
	7	IV								
	8	V								
	9	VI								
	10	VII							[0]	
	11	VIII								
	12	IX								
823	1	X					***	0	[F] Jeroboam II, King of Israel (2Ki 14:23-25)	
	2	XI								
	3	XII								
	4	I	[1]	[23]	[3]	32	16	***		
	5	II								
	6	III								
	7	IV		***					[B] King of Nineveh (Jonah 3:6-7)	
	8	V								
	9	VI								
	10	VII						1		
	11	VIII								
	12	IX								
822	1	X								
	2	XI								
	3	XII								
	4	I	2	[24]		33	17		[A] Šamshi-Adad V, King of Assyria	
	5	II								
	6	III								
	7	IV								
	8	V								
	9	VI								
	10	VII								
	11	VIII						2		
	12	IX								

The Eponyms List (Glassner: 1993, 161-170; Millard: 1994, 55-62) enables us to reconstruct the Assyrian reigns as well as the careers of the commanders-in-chief during the period 858-726 BCE. From the 9th century BCE, the conventional order of eponyms for a new reign was as follows: the king (*šarru*) was the eponym in the 2nd year of his reign, the commander-in-chief (*turtānu*) in the 3rd, the chief butler (*rab šaqê*) in the 4th and the palace herald (*nāgir ekalli*) in the 5th. This conventional order was abolished by Shalmaneser V. Aššurnasirpal II had moved the capital of the Assyrian empire to Kalhu (instead of Aššur) and Tel Barsip (north-eastern Syria) became the military capital, Nineveh remaining a religious capital where the worship of Ishtar, a warrior goddess, was celebrated. The transition in 824 BCE from Shalmaneser III to Šamši-Adad V took place during the revolt of Aššur-danin-pal, king of Nineveh (826-820):

TABLE 10

Assyrian King (Kalhu)	Reign	Crown prince (Kalhu)	(Nineveh)	Commander-in-chief (Tel Barsip)	Period
Aššurnasirpal II	884-877 877-859	Shalmaneser III		[Aššur-iddin]	883 - -858
Shalmaneser III	859 - -846			Aššur-bēlu-ka''in Dayyān-Aššur	858-854 854 -
	846-826	Aššur-danin-pal (A)	826 -		
	826-824	Šamši-Adad V. (B)	-823		-823
Šamši-Adad V	824-816		-821	Yaḥālu	823-815
	816-811	Adad-nīrārī III ?		Bēlu-lū-balāt	815-810

The compilation of Assyrian inscriptions makes it possible to complete the missing title of the eponyms in the fragmentary part of the Eponyms List (Table 11). Several anomalies appear: the chief butler of 825 BCE is followed in 824 BCE by Yaḥālu another chief butler who is appointed, in 821 BCE, commander-in-chief and followed by a palace herald instead of a chief butler. There is almost no doubt that Aššur-danin-pal (“Aššur has strengthened the heir”) was the heir (*aplu*) to the throne, the fact that this rebel prince was in charge of 27 cities, including Aššur, Arbail and Nineveh, is enough to conclude that the ancient Assyrian nobles joined Aššur-danin-pal's revolt and that he could be the heir to the throne can also be attested by a letter-report written by the scribe Kabtî : *The scribe Kabtî, servant of Aššur-danin-pal, son of Shalmaneser (III), who gave me the Aramaic letter which I delivered to the king, my lord.* Aššur-danin-pal, who had been crown prince since 846 BCE and had led at least one military campaign, was in fact the co-regent of Shalmaneser III and therefore his legitimate successor (A), so his revolt in 826 BCE, when his father was old and ill, was very surprising (Ferguson: 1996, 301-314).

TABLE 11

BCE		A	B	Eponym	Title of the Eponym ¹⁰⁴	Military campaign
828	31	(18)		Ilu-mukin-ahi	Governor of [...]ha	to Ulluba/Habhu
827	32	(19)		Shalmaneser (III)	King of Assyria	to Mannai
826	33	(20)	(0)	Dayyān-Aššur	Commander-in-chief	to Parsua, Namri, revolt
825	34	(21)	(1)	Aššur-būnāya-ušur	Chief butler	revolt
824	35	(22)	(2)	Yaḥālu	[Chief butler]	revolt
823	[1]	(23)	(3)	Bēl-būnāya	Palace herald	revolt
822	2	(24)		Šamšī-Adad (V)	King of Assyria	revolt
821	3	(25)		Yaḥālu	Commander-in-chief	revolt
820	4			Bēl-dān	Palace herald	revolt suppressed
819	5			Ninurta-ubla	Governor of [...]	to Mannai

One key element explains the Aššur-danin-pal revolt. When Shalmaneser III again appointed Dayyān-Aššur his commander-in-chief as eponym in 826 BCE, as he had done in 854 BCE, this implicitly meant a new preparation for war to conquer the Levant and consequently involved new sacrifices in men and resources for the Assyrian provinces, which presumably caused much discontent among the Assyrian aristocracy who had to finance these major war efforts. Normally, the commander-in-chief was under the direct authority of the king or co-regent. Around 832 BCE Shalmaneser III, while remaining in the capital city of Kalhu, transferred the leadership of the Assyrian military invasions to the commander-in-chief Dayyān-Aššur, who held this position from 854 BCE. Consequently, when Dayyān-Aššur began his military campaigns towards the Levant, he was under the authority of the co-regent Aššur-danin-pal who, in accordance with Assyrian aristocracy, was at odds with his father Shalmaneser III, who appointed his younger son Shamshi-Adad (V) as the new crown prince, in 826 BCE (B), to quell the revolt and continue the military campaigns. In accordance with protocol, Shalmaneser III established Aššur-būnāya-ušur as chief butler in 825 BCE, but as co-regent, Aššur-danin-pal established Yaḥālu as chief butler in 824 BCE. On the death of Shalmaneser III, Šamšī-Adad (V), designated as crown prince, was unable to succeed him because the commander-in-chief Dayyān-Aššur remained under the authority of Aššur-danin-pal. In order to exercise his kingship, Šamšī-Adad (V) had to negotiate an alliance with the Babylonian king Marduk-zākir-šumi I in 823 BCE. In the treaty after the name of Marduk-zākir-šumi I the title “LUGAL” was put –the king, while the ruler of Assyria acted without the title of king. This reality of disproportionate relations in the sphere of diplomatic etiquette of the Ancient World clearly shows the subordinate status of Šamšī-Adad V in political and legal relations to Marduk-zākir-šumi I. And finally, its indirect expression can be seen in the final part of the treaty. It contains the traditional curse against crime: *[Whoever] sins [against this treaty and does not [carry out] his duty, may ...*, and the treaty oath is sworn by Babylonian gods alone. It can be concluded that Šamšī-Adad V has gained the support of Babylonia at a rather high price. Šamšī-Adad V, in addition to humiliating for him etiquette manifestations, apparently was forced to make some territorial concessions to Babylonia (Tsakanyan: 2020, 111-128). As a result of this alliance with the Babylonian king, Šamšī-Adad V was recognised as king of Assyria and consequently became eponym in 822 BCE. He was able to appoint Yaḥālu, the former chief butler, as the new commander-in-chief who became eponym in 821 BCE. It is not known how the Aššur-danin-pal revolt ended, but it is likely that when Bēl-dān was appointed palace herald in 820 BCE, the Assyrian aristocracy who had supported him agreed to support Šamšī-Adad V.

It is difficult to date Jonah's mission in 823 BCE exactly, but we can assume that it ended on the summer solstice (1 July at the time), as it is mentioned: *When the sun rose, God provided a scorching east wind, and the sun blazed on Jonah's head so that he grew faint* (Jon 4:8). The phrase “king of Nineveh” (Jon 3:6-7), which is unique in the Bible, the usual title being “king of Assyria” (92 times), designates a high

¹⁰⁴ <https://www.livius.org/articles/concept/limmu/limmu-list-858-699-bce/>

representative of the King, as a co-regent (Ferguson: 1996, 301-314). The Biblical text is generally accurate with regard to titles: *All the princes [sarim] of the provinces, the satraps [ahshdarpenim], the governors [pahot] and the king's [melek] administrators [o'sim] helped the Jews* (Est 9:3). However, some Assyrian crown princes, not governors (2K 18:23-24), are also called kings (Is 10:8). For example, the king of Assyria and his crown prince are both described as “kings of Assyria” (Is 31:18). Consequently, the expression “king of Nineveh” correctly refers (in July 823 BCE) to the former co-regent Aššur-danin-pal, who remained king of Nineveh but was not Shalmaneser III's successor. On the other hand, Shamshi-Adad (V), who had been designated crown prince, was not yet recognised as king of Assyria. This period of crisis, in addition, was marked by a total solar eclipse (visible at Tel Barsip and Nineveh on 3 April 824 BCE)¹⁰⁵ just at the beginning (1st Nisan) of the final year of the reign of Shalmaneser III. It is understandable that in such a dramatic context: repeated insurrections, sinister total eclipse of the sun over Tel Barsip, the military capital, and Nineveh, the religious capital, death of King Shalmaneser III, a ferocious conqueror, Jonah's fateful prediction was taken seriously by the Assyrian kings (superstitious for the most part), including those of Nineveh, the religious capital of the empire (Na 3:1,4). The fact that a “national mourning” was decreed to ward off bad luck was not implausible, on the contrary. Even the strange “animals mourning” (Jon 3:8) is confirmed by Herodotus (The Histories IX:24). The repentance of the Ninevites has only delayed its fulfilment of around two centuries (Na 3:7-8). Jonah's mission was a success since Assyrian expansionism to the Mediterranean coast would cease, at least for 80 years. Indeed, it appears that large Mediterranean expeditions of earlier reign disappeared and that the Assyrian threat against Israel reappeared only with Tiglat-pileser III. Consequently, the biblical description of Jonah's arrival in Assyria is extremely rigorous: in July 823 BCE, the crown prince Šamši-Adad (V), who was staying at Kalhu, was not yet recognised as king of Assyria and the former co-regent Aššur-danin-pal, who had been deposed by Shalmaneser III in 826 BCE, remained king over 27 cities, including Nineveh, the religious capital of the empire.

Contrary to Thiele 's claim, most of the synchronisms between conventional Assyrian chronology and biblical chronology, unmodified by (nine) hypothetical co-regencies, are in perfect agreement. For example:

- King Jehoiachin (598-561) was released on day 25, month 12 of the 37th year of exile when Evil-Merodach became king (Jr 52:31). As the 12th year of exile (Ezk 33:21) corresponds to the 11th year of Zedekiah (Jer 39:2), so the 37th year of exile (2Ki 25:27) corresponds to the “36th year of Zedekiah”. Consequently, the end of the 37th year of exile in March **561 BCE** corresponds exactly to the accession of Evil-Merodach (07/562-03/561), since his 1st regnal year began in April 561 BCE.
- The destruction of the temple of Jerusalem took place in Year 11 of Zedekiah (Jr 39:2) and in Year 18 of Nebuchadnezzar (Jr 52:5,29), in **587 BCE**.
- A 70-year period of desolation (Dn 9:6), without worship at the Temple (Mt 24:15), began in October **587 BCE** and ended in October 517 BCE when the worship at the Temple started anew after the 4th year of Darius I (Zk 7:1-7), in **517 BCE**.
- King Josiah (640-609) died during the battle of Megiddo just before the fall of the city of Harran which took place in the last year of King Aššur-uballiṭ II (2Ki 23:29-34; La 4:18-20; 2Ch 35:25) which is dated to the 17th of Nabopolassar, in **609 BCE**, the year marking the definitive end of the Assyrian empire. Babylon's world domination lasted exactly 70 years (Jr 25:11-12; 29:10; Is 23:13-17). It started in the beginning of the reign of Jehoiachin (Jr 27:1-7), in October 609 BCE, and ended when Cyrus subdued all nations in October **539 BCE** and freed the Jews (Is 45:1-7).
- King Hosea II (729-720) died in the fall of Samaria in Year 2 of Sargon II in **720 BCE** (Briend, Seux: 1977, 105-111). Tiglath-pileser III overthrew Peqah, king of Israel, and replaced him by Hosea I, according to his annals when he annexed Hatarikka in **738 BCE** (Yamada: 2014, 31-50).
- King Esarhaddon (681-669) and his co-regent Aššurbanipal, came in 673 BCE to take into exile some foreigners to settle them in the cities of Samaria (Hasegawa, Levin, Radner: 2019, 105-117). They also brought back King Manasseh (697-642) to put him in jail, but they released him rapidly during the eponymy of Atarilu in **673 BCE** (Briend, Seux: 1977, 99-102,128-129), which marked the end of the 65-year period (**738 BCE = 673 BCE + 65**) of Assyrian persecution (Is 7:8-9).
- According to the account of Šamši-Adad V (823-811), his brother Aššur-danin-pal was King of Nineveh during a short period of rebellion (823-820) after the death of Shalmaneser III, in 824 BCE, exactly at the time when Jonah met the king of Nineveh (Jon 3:6) at the beginning of Jeroboam II's reign (823-782), in **823 BCE** as King of Israel (2Ki 14:23-25). The mention of “king of Nineveh”, instead of “king of Assyria”, is unique in the Bible as well as in Assyrian records.
- The 390-year period (390 = 977 - 587), mentioned in Ezekiel 4:5-6, began with the wrongful division of the kingdom of Solomon in October **977 BCE** and ended with the destruction of the kingdom of Zedekiah in October **587 BCE**.

¹⁰⁵ <https://eclipse.gsfc.nasa.gov/SEatlas/SEatlas-1/SEatlas-0839.GIF>

To make Sennacherib's attack on Jerusalem during his 3rd campaign coincide with Sennacherib's 4th year (705-681) in 701 BCE (= 705 - 4), instead of his 3rd campaign during his co-regency (715-705), in 712 BCE (= 715 - 3), Thiele lowered King Hezekiah's reign by 11 years from 726-697 BCE to 715-688 BCE, thus destroying all the biblical synchronisms (Galil: 1996, 156-157). Thiele's chronological inconsistencies are obvious (highlighted in orange). For example, the conquest of Samaria is dated 720 BCE, not 723 BCE, Peqah's death is dated 738 BCE, not 732 BCE, Menachem (771-760) could not have paid tribute in 738 BCE even in Thiele's chronology (752-742), which shows the absurdity of this chronology. Finally, the tributes of Ahab and Jehu are not mentioned in the Bible (the tribute of Jehu mentioned by Shalmaneser III is anachronistic). Consequently, all these dates from Thiele are wrong.

TABLE 12

King of Judah	reign	Thiele	King of Israel	reign	Thiele	According to Thiele's chronology
Asa	957 -	910 -	Nadab	955-954	909-908	
			Baasha	954-931	908-886	
	-916	-869	Omri	930-919	885-874	
Jehoshaphat	916 -	872 -	Ahab	919-898	874-853	In 853 BCE, Shalmaneser III is said to have fought against Ahab.
	-891	-848	Ahaziah I	898-897	853-852	
Jehoram J.	893-885	853-841	Jehoram A.	897 -	852 -	
Ahaziah II	886-885	841-841		-885	-841	
Athaliah	885-879	841-835	Jehu	885-856	841-814	In 841 BCE, Jehu is said to have paid tribute to Shalmaneser III.
Joash	879 -	835 -	Jehoahaz	856 -	814 -	
	-839	-796		-839	-798	
Amasiah	839 -	796 -	Jehoash	841-823	798-782	
	-810	-767	Jeroboam II	823-782	793-753	In 793 BCE, Jonah met the "king of Nineveh" (Adad-nêrârî III*)
Uzziah	810 -	792 -	[Zechariah]	782-771	753-752	
[Azariah]	[796 -		Menahem	771-760	752-742	In 738 BCE Menahem is said to have paid tribute to Tiglath-pileser III.
	-758	-740	Peqayah	760-758	742-740	
Jotham	758-742	750-732	Peqah	758-738	752-732	In 732 BCE Peqah is murdered.
Ahaz	742-726	735 -	Hosea I	738-729	732 -	
Hezekiah	726 -	-715	Hosea II	729-720	-723	In 723 BCE Samaria is captured
	697	715-686				
Manasseh	697-642	697-642				In 701 BCE 3rd campaign of Sennacherib.
Amon	642-640	642-640				
Josiah	640-609	640-609				
Jehoahaz	609-609	609-609				
Jehoiachim	609-598	609-598				
Jehoiachin	598-598	598-597				
Zedekiah	598- 587	597-586				

Despite its many errors, Thiele's work and those who followed in his steps has achieved acceptance across a wider spectrum than that of any comparable chronology, so that Assyriologist Donald J. Wiseman, biblical scholar and archaeologist (he was Professor of Assyriology at the University of London) wrote (in 1993): *The chronology most widely accepted today is one based on the meticulous study by Thiele*, and, more recently, Leslie McFall, former lecturer in Hebrew and Old Testament and now researcher in Biblical Studies, wrote (in 2010): *Thiele's chronology is fast becoming the consensus view among Old Testament scholars, if it has not already reached that point*. In his book¹⁰⁶: *Secrets of the Times. Myth and History in Biblical Chronology* (1990), biblical scholar Jeremy Hugues explained why:

841 BC (Nis.) is in fact the date of a key synchronism between Assyrian and Israelite chronology, corresponding to the 18th year of the reign of Shalmaneser III, when the latter conducted an inconclusive campaign against 'Hazeal of Aram' and received tribute from various rulers including 'Jehu the Omrite'. Since Assyrian campaigns almost invariably began in the spring it is probable that Jehu's payment of tribute occurred in the late summer of 841 BC, in which case he must presumably have come to the throne either during or before the Israelite year 842 BC (...) A major part of this study has been concerned with the task of reconstructing the original pre-schematic chronology of the book of Kings and using this to construct a historical chronology of the Israelite and Judean kingdoms (...) the chronology of Kings is historically inaccurate, but it is not corrupt. The reason it is inaccurate is that the Biblical writers were more interested in chronological schematism than in historical accuracy. Biblical chronology is essentially mythical (...) The mythical purpose of chronological schematism is that it serves to express a belief that history is governed by a divine plan (...) There are fundamentalist groups which see history as a succession of 'dispensations' or ages, and there are others who believe that events

¹⁰⁶ This book is a revised version of his doctoral thesis which was submitted to the Faculty of Oriental Studies of Oxford University.

are controlled by stars or planets, and that we are currently living in the age 'age of Aquarius'. These are fringe beliefs which are not taken seriously by most people (Hugues: 1990, 183-184,264-266).

Hugues' remarks are typical of academic inconsistencies on Thiele's biblical chronology, on one hand he wrote that "841 BC is the date of a key synchronism between Assyrian and Israelite chronology" and on the other "biblical chronology is essentially mythical". How did Thiele calculate this key date of 841 BC? Firstly, he noted that according to biblical chronology, the reigns of Jehu and Hazael began at the same time.

TABLE 13

BCE		[A]	[B]	[C]	[D]	[E]	[F]		
886	1	X	6		11	(34)		4	[A] Joram (J) , King of Judah (2Ki 8:16-17)
	2	XI							[C] Joram (A) , King of Israel (2Ki 3:1)
	3	XII							
	4	I	7					5	[D] Ben-Hadad II , King of Syria (1Ki 20:1-2)
	5	II							[E] Hazael , Commander-in-chief of Syria (1Ki 19:15-17)
	6	III							[F] Tukultî-Ninurta II , King of Assyria
	7	IV							[B] Ahaziah , King of Judah (2Ki 9:29)
	8	V		0					
	9	VI							
	10	VII			12	(35)			
	11	VIII							
	12	IX							
885	1	X							
	2	XI							
	3	XII							
	4	I	8	1		(0)		6	[D] Hazael , King of Syria (2Ki 8:15)
	5	II							
	6	III	1						[B] Ahaziah , King of Judah (2Ki 8:25-26)
	7	IV							[A] Ahaziah , [C] Joram (J) (2Ki 8:28-9:3)
	8	V							
	9	VI							
	10	VII	0		0	(1)			[A] Athaliah , reigning over the land (2Ki 11:1-3)
	11	VIII							[C] Jehu , King of Israel (2Ki 10:36)
	12	IX							
884	1	X							
	2	XI							
	3	XII							
	4	I	[1]					7	[A] [Jehoiadah] King of Judah (2Ch 23:1; 24:15,16)
	5	II							
	6	III							
	7	IV							
	7	IV							
	8	V							
	9	VI							
	10	VII			1	(2)			
	11	VIII						0	[F] Aššurnasirpal II , King of Assyria
12	IX								

Thiele assumed that this date of 885 BCE was wrong and should be replaced by 841 BCE for the following reasons: 1) according to the annals of Shalmaneser III, Hadad-ezer was the Syrian leader of the coalition that led the military operations against Assyria between 853 and 845 BCE; 2) then in 841 BCE Shalmaneser III destroyed Hazael's army and, 3) according to the Black Obelisk, King Jehu paid him tribute. Campaigns were usually led by kings, but in practice these military operations were actually led by army chiefs. For example, Naaman was a former army chief of Ben-Hadad II (2Ki 5:1). Hazael himself had been army chief of Bar-Hadad II (900-885) before becoming king. Army chiefs were as powerful as kings, some of them, like Omri (1Ki 16:16) or Hazael (2Ki 8:15), even murdering their king to rule in his place. If Hazael was appointed chief of Bar-Hadad II's armies c. 890 BCE, since he was probably at least 20 years old at the time, he was 57 years old in 853 BCE. This is perhaps what led him to choose his own army commander-in-chief: Hadad-ezer ("Hadad is my helper"). Hadad-ezer was considered king (in 853 BCE) by the Assyrians for the following reasons: he led military campaigns with other Aramaic kings and, in the Assyrian annals, Hazael (who was king) was called "son of nobody" at that time because he was considered a usurper. Since Hadad-ezer played no significant role in the history of Israel during this period (853-845), he is not mentioned. Although the coming to power of Hazael occurred in a very complex context (a king is murdered other dies and two are killed) all the chronological data coming from the Bible is absolutely consistent. Consequently, it is more logical to conclude that the destruction of Hazael's army in 841 BCE marked the end of his reign, not the beginning, and that the tribute paid by Jehu was in fact the plundering of Hazael's cities carried out by Shalmaneser III, which he transformed by propaganda into the tribute paid by Jehu. According to the Bible, in the latter part of Jehu's reign (885-856), Hazael began to cut Israel's territory piece by piece (2Ki 10:31-34) and amassed a rich booty. In conclusion, the Assyrian annals are historical facts that have been skilfully transformed by propaganda. It is therefore necessary to analyse them more precisely.

THE SIEGE OF LACHISH (& JERUSALEM) BY SENNACHERIB: 712 BCE OR 701 BCE?

The traditional date of 701 BCE for Sennacherib's campaign in Judea is accepted by all historians without any significant controversy. During this campaign, there was the siege of Lachish, depicted on the walls of his palace (now visible in the British Museum) as well as the siege of Jerusalem and the battle of Eltekeh, which are described in his annals and dated during his 3rd campaign, in 701 BCE because it is assumed that Sennacherib (705-681) did not campaign during his first year of reign, in 704 BCE (Villard: 2001, 767-769). However, this calculated date is hypothetical as it does not appear in any Assyrian document and the capture of Lachish is not even mentioned in the annals of Sennacherib. Moreover, this hypothetical date is contradicted by several documents that fix this famous campaign in 712 BCE: for example, in the chronicle of Sargon II (722-705) the capture of Ashdod and the battle of Eltekeh are dated during the 10th year of his reign, in 712 BCE. This campaign is described in the Bible. For example, the capture of Lachish by Sennacherib (during his 3rd campaign) and the siege of Jerusalem are both dated in the 14th year of Judean King Hezekiah (726-697), in 712 BCE (= 726 - 14). Similarly, the battle of Eltekeh led by Nubian co-regent Taharqa under the leadership of King Shabataka (712-689), with the probable disappearance of the Egyptian king Osorkon IV (Segor in the LXX), is dated during his 1st year of reign in 712 BCE. The biblical account states that all these events occurred during the 14th year of King Hezekiah dated 712 BCE (2Ki 18:13-17, 19:9; 2Ch 32:9; Is 20:1, 36:1, 37:9).

This paradox has been masked because Assyriologists use the biblical chronology of Edwin R. Thiele who shifted the reign of Hezekiah (715-686) to coincide with his 14th year occurring in 701 BCE (= 715 - 14). Although he was a competent religious man, Thiele believed that the biblical text was imbued with Babylonian myths and that its chronology needed to be revised on the Assyrian chronicles. To date the many synchronisms between the biblical and Assyrian chronologies he arbitrarily invented nine co-regencies among the Judean and Israelite reigns because he believed in the dogma of the absence of co-regencies in the Assyrian reigns (Thiele: 1983, 173-177). The calculated reign of Hezekiah (715-686), according to Thiele's biblical chronology, gives rise to several insoluble inconsistencies: this chronology destroys the biblical synchronisms between the kings of Israel and Judah (Tetley: 2005, 91-185); the numerous inconsistencies make it unusable to establish a reliable chronology (Hughes: 1990, 264-266).

The oldest letter from Sennacherib as crown prince is dated 715 BCE (accession year, he was probably 20 years old) when the Urartians were defeated by the Cimmerians (Reade: 2013, XXV). That means he reigned 10 years as co-regent (715-705), then 24 years as king (705-681), and consequently his 3rd campaign as co-regent must be dated 712 BCE (= 715 - 3) and his 3rd campaign as king should be dated 702 BCE (= 705 - 3). According to most scholars there were two campaigns to Judah (Goldberg: 1999, 360-390): one in 712 BCE led by Sargon II and a second led by Sennacherib dated 701 BCE (Ussishkin: 1977, 28-60). This assertion is illogical: first because the capture of Lachish can be dated 712 BCE according to the annals of Sargon —and, therefore, during the 3rd campaign of Sennacherib as co-regent— but especially because of the detailed representations of the capture of Lachish depicted in the palace of Sennacherib which clearly show that it was him that led this campaign as co-regent (shown as king but without tiara) of King Sargon II (shown with his tiara). According to Assyrian annals (Briand, Seux: 1977, 113-121), the city of Ashdod was captured by Sargon II during his 10th campaign and Lachish was taken by Sennacherib during his 3rd campaign into Judea, but there is a paradox. Whereas Sennacherib gives many details of his 3rd campaign into Judea he never mentions Lachish:

On my 3rd campaign, I marched to the land Ḫatti (Syria-Palestine). Fear of my lordly brilliance overwhelmed Luḫi, the king of the city Sidon, and he fled afar into the midst of the sea. The awesome terror of the weapon of the god Aššur, my lord, overwhelmed the cities Great Sidon, Lesser Sidon, Bīt-Zitti, Šarepta, Maḫalliba, Ušû, Akzibu, (and) Acco, his fortified cities (and) fortresses, an area of pasture(s) and water-place(s), resources upon which he relied, and they bowed down at my feet. I placed Tu-Ba'lu on his royal throne over them and imposed upon him tribute (and) payment (in recognition) of my overlordship (to be delivered) yearly (and) without interruption. As for Minuḫimmu of the city Samsimuruna, Tu-Ba'lu of the city Sidon, Abdi-Li'ti of the city Arwad, Ūru-Milki of the city Byblos, Mitinti of the city Ashdod (...) and imposed upon him the payment of tribute (and) gifts (in recognition) of my overlordship so that he (now) pulls my yoke. In the course of my campaign, I surrounded, conquered, (and) plundered the cities Bīt-Daganna, Joppa, Banayabarqa, (and) Azuru, the cities of Šidqâ that had not submitted to me quickly. (As for) the governors, the nobles, and the people of the city Ekron who had thrown Padî, their king who was bound by treaty and oaths to Assyria, into iron fetters and who had handed him over to Hezekiah of the land Judah in a hostile manner, they became frightened on account of the villainous acts they had committed. They formed a confederation with the kings of Egypt (and) the archers, chariots, (and) horses of the king of the land Meluhha (Ethiopia),

forces without number, and they came to their aid. In the plain of the city Eltekeh, they sharpened their weapons while drawing up in battleline before me. With the support of (the god) Aššur, my lord, I fought with them and defeated them. In the thick of battle, I captured alive the Egyptian charioteers (and) crown princes, together with the charioteers of the king of the land Meluḥḥa. I surrounded, conquered, (and) plundered the cities Eltekeh (and) Tamnâ. I approached the city Ekron and I killed the governors (and) nobles who had committed crime(s) and hung their corpses on towers around the city; I counted the citizens who had committed the criminal acts as booty; (and) I commanded that the rest of them, (those) who were not guilty of crimes or wrongdoing, (to) whom no penalty was due, be allowed to go free. I brought out Pađî, their king, from the city Jerusalem and placed (him) on the lordly throne over them, then I imposed upon him payment (in recognition) of my overlordship. (As for) Hezekiah of the land Judah, I surrounded (and) conquered 46 of his fortified walled cities and small(er) settlements in their environs, which were without number, by having ramps trodden down and battering rams brought up, the assault of foot soldiers, sapping, breaching, and siege engines. I brought out of them 200,150 people, young (and) old, male and female, horses, mules, donkeys, camels, oxen, and sheep and goats, which were without number, and I counted (them) as booty. As for him (Hezekiah), I confined him inside the city Jerusalem, his royal city, like a bird in a cage. I set up blockades against him and made him dread exiting his city gate. I detached from his land the cities of his that I had plundered and I gave (them) to Mitinti, the king of the city Ashdod, and Pađî, the king of the city Ekron, (and) Šilli-Bêl, the king of the land Gaza, (and thereby) made his land smaller. To the former tribute, their annual giving, I added the payment (of) gifts (in recognition) of my overlordship and imposed (it) upon them. As for him, Hezekiah, fear of my lordly brilliance overwhelmed him and, after my (departure), he had the auxiliary forces (and) his elite troops whom he had brought inside to strengthen the city Jerusalem, his royal city, thereby gaining reinforcements, (along with) 30 talents of gold, 800 talents of silver, ... (Grayson, Novotny: 2012, 114-116).

Consequently, the 3rd campaign of Sennacherib thus coincided with the siege of Jerusalem, dated as the 14th year of Hezekiah (726-697), in 712 BCE, the conquest of Ashdod, dated as the 10th year of Sargon (722-705), in 712 BCE, and the Battle of Eltekeh (Jos 21:23) which can also be dated in 712 BCE. According to the two stelae of Kawa (Macadam, 1949, 14-32; Török: 1997, 169-171), after the death of Shabaka, his successor Shabataka immediately summoned an army which he placed under the command of his brother Taharqa, a young son of Piye age 20 to repel an Assyrian attack which was threatening. In addition, Taharqa states explicitly on these stelae that he was designated as heir by Shabataka even though Shabataka had his other brothers and all their children. The campaign of Sennacherib thus corresponds to the first year of Shabataka, which is anchored to Sennacherib's 3rd campaign in 712 BCE. The more usual dating of this campaign in 702/701 BCE leads to several contradictions (Gallagher: 1999, 2-14). The inscription of Sargon II, found at Tang-i Var, requires dating this campaign as 712 BCE and not as 702/701 BCE. One reads along the lines 16-36 (Frame: 1999, 31-60):

- 11) Sargon (II), great king, mighty king, king of the world, king of Assyria, viceroy of Babylon, king of the land of [Sumer and Ak]kad, favourite of the great gods,
- 16) I dispersed *the army* of the Elamite Ḫumbanigaš (*Ḫumba-nikaš*) (in 717 BCE). I destroyed the land of K[aral]la, the land of Šurda, the city of Ki[šes]im, the city of Ḫarḫar, [the Me]dian [land], (and) the land of Elli[pi (...)].
- 17) I laid waste to the land of Urartu (in 714 BCE)¹⁰⁷, plundered the city of [Muša]jr (and) the Mannean land, crushed the land[s].
- 18) I conquered the rulers of the land of Amattu (Hamath), the city of Carche[mish, the city of Kummu]ḫi, (and) the land of Kammanu; over their lands [...] I se[t] officials.
- 19) I plundered the city of Ashdod (in 712 BCE). Iamani, its king, feared [my weapons] and ... He fled to the region of the land of Meluḥḥa (Nubia) and lived (there) stealthfully (literally: like a thief).
- 20) Šapataku' (Shabataka), king of the land of Meluḥḥa, heard of the mig[ht] of the gods Aššur, *Nabu*, (and) Marduk which I had [demonstrated] over all lands, ...
- 21) He put (Iamani) in manacles and handcuffs ... he had him brought captive into my presence.
- 22) [I depopulated] all the lands of Tabâlu, Kasku, (and) Ḫilakku; I took away settlements belonging to Metâ (Midas), king of the land of [Mu]sku, and reduced (the size of) his land.
- 23) At the city of Rapiḫu (Raphia) I defeated *the vanguard* of the army of Egypt and counted as booty the king of the city of Ḫâzutu (Gaza) who had not submitted to my [yo]ke.

¹⁰⁷ In one of his letters, Sargon II (722-705) mentions a total eclipse of the moon (24 October 714 BCE) during his 8th campaign in Urartu against King Rusa (733-714), which he interprets as a bad omen for Urartu (Oppenheim: 1960, 137-138).

- 24) I subdued seven kings of the land of Iâ', a region of the l[and of] Iadnâna (Cyprus) — whose home is situated at a distance of... [in the mid]dle of the Western Sea.
- 25) Moreover, (in 710 BCE) I personally (literally: my great *hands*) defeated Marduk-apla-iddina (**Merodach-Baladan II**), king of the land of Chaldea, who dwelled on the shore of the sea (and) who *ex[erc]ised* kingship over Babylon against the wi[ll of the gods].
- 26) Moreover, all the land of Bît-Iakîn ... *I fixed* ...
- 27) Aḥundari, king of Dilmun [Upêri in the Annals], whose lair [*is situated*] at a distance of... *leagues [in the middle] of the sea like that of a fish*, heard of my [royal] mig[ht] and brought me (in 709 BCE) [his] gre[eting gift].
- 28) With the power and strength (granted me) by the great gods, (my) lords], who [raised up my weapons, I cut] down al[l my enemies].
- 29) From the land of Iadnâna (Cyprus), which is (situated) in the middle of the [Western] Sea, [as far as the border(s) of Egypt (and) the land of M]usk[u, the wide land of Amurru], the land of Ḥ[atti (in its entirety)],
- 30) all of the land of Gutium, the land of the distant Medes [by Mount Bikni, the land of El]lipi, (and) the land of Râši on the border [of the land of Elam,
- 31) those who (live) beside the Tigris river —the (tribes of) Itu'u, Ru[bu'u, Ḥatal]lu, labdudu, Ḥamranu, Ubulu, [Ru']ûa, (and) Li['tâu]—
- 32) those who (live) beside the the Surappu river (and) the Uqnû river —the (tribes of) Gam[bûlu], Ḥindaru, (and) Puqûdu— the Suteans, people of the steppe of the land of Iadburu, as many as [there are],
- 33) from the city of Sam'ûna as far as the city of Bubê (and) Til-Ḥumba(n), which are on the border of Elam,
- 34) the land of Karduniaš from the end to end, the land of Bît-Amukâni, Bît-Dakkûri, Bît-Šilani, Bît-Sa'alli,
- 35) all the land of Chaldea, as much as there is (of it), the land of Bît-Ia[k]în, which is situated on the shore of the sea, as far far as the territory of Dilmun,
- 36) I ruled (it) all. I s[et] eunuchs of mine as governors over them and I imposed my royal yoke *upon them* (in 709 BCE)
- 37) At that time the people of the land of Karalla ... *who* ... and were not used to respecting (any) rulership,
- 38) trusted in the steep mountains and ... *a eunuch of mine, the governor* ... all the land ...
- 39) ... they established and *prepared for battle* ... *became angry* and slew *their people*.
- 40) Horses, mules, ... and ... their presence ... turned and
- 41) They made the *paths through* his land *desolate* and ... blocked the *trails*.
- 42) My *rêdû*-soldiers ... to inaccessible mountain clefts like eagles.
- 43) ... they established ... their warriors ... mountains.
- 44) The *remainder* of them ... and they (*sic*) counted them as booty.
- 45) I had a commemorative monument made and engraved upon it image(s) of the *great* gods, [my lords]. I placed before them (in 707 BCE) *my royal image [(in an attitude of) pr]aying* to their great divine majesties.

The last inscription (line 45) refers to gods having been installed in the new city and an eponym chronicles states that that took place in 707 BCE (Frame: 1999, 51). This inscription, written in chronological order (Luckenbill: 1927, 1-25), from 717 to 707 BCE, situates the battle against Shabataka during the capture of Ashdod in 712 BCE, thus confirming the coincidence of Sennacherib's 3rd campaign during his co-regency (715-705) and Sargon's 10th campaign during his reign (722-705). The two Assyrian kings thus campaigned together, but Sennacherib had his third campaign engraved only when he was king, after the death of his father, and not during his co-regency¹⁰⁸, which began in 715 BCE. Some authors have also noted an anomaly (underlined) in line 44 of the inscription: "They counted (them) as booty," although one would expect more logically from Sargon the sentence: "I have counted (them) as booty" (there is no anomaly with the co-regency). Consequently, the first campaign of Sennacherib was in 714 BCE.

On the carved relief (Fig. 2) representing the siege of Lachish in Sennacherib's palace at Nineveh (Russel: 1991, 3, 125, 143, 206-207), the central element is the king (Sargon II) seated on his throne clearly identified by his tiara and sceptre and facing the crown prince (Sennacherib), who is as tall as the king (Sargon II) and wearing a turban with two ribbons behind his head, facing the king wearing the tiara, who also bore the two ribbons behind the head.

¹⁰⁸ As the co-regency between Sargon and Sennacherib is not considered, some Egyptologists have suggested the following explanation (Kahn: 2001, 1-18): the inscription ending with the installation of the gods in the new city, dated 707 BCE, owing to the eponym of Sargon's Chronicle, the attack against Egypt had to have been shifted by error and should be dated 707 BCE instead of 712 BCE. This amazing assumption is unlikely, because the chronological order of the inscription is obvious, moreover, the dating is in perfect agreement with the 10 years of co-regency of Sennacherib.

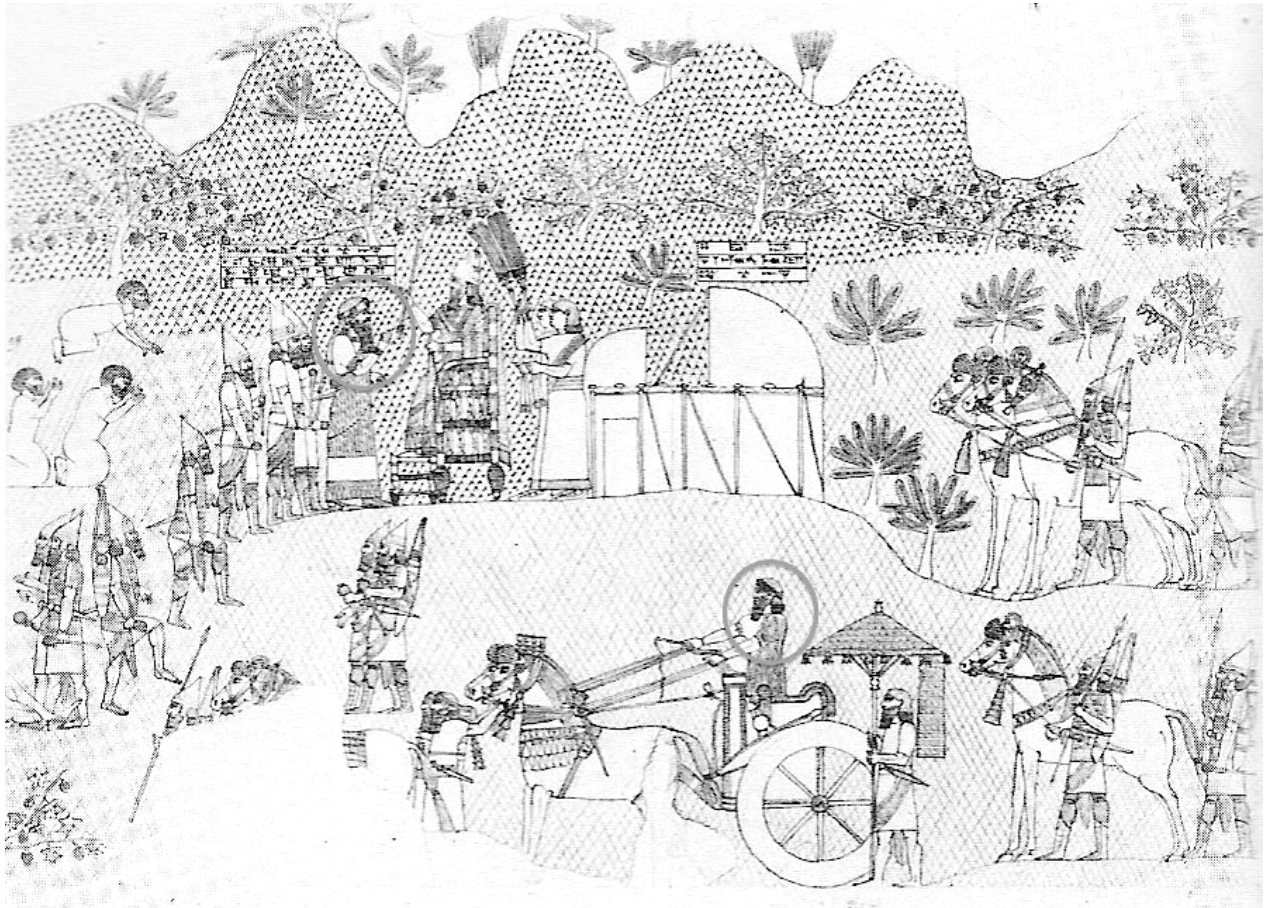


Fig. 2 The siege of Lachish, drawing of Slabs 11-12, Room XXXVI, Southwest Palace, Nineveh

The identification of the two main characters —king and co-regent— is denied (Goldberg: 1999, 360-390). In the lower part (bottom right), Sennacherib (surrounded by a circle on the drawing above) is depicted driving his chariot as commander-in-chief. He is wearing only a diadem/turban on his head, and in the upper part (Fig. 2 left) he is depicted facing the king and is wearing two ribbons behind his head as co-regent, in addition to the diadem. It is noteworthy that the siege of Lachish is depicted with great accuracy but with very little text (one above Sennacherib and another above a tent). Indeed, the scene which depicted Sennacherib's victory had to be understood by as many people as possible because at that time very few high officials (except scribes) were able to read inscriptions. On the other hand, it was easy to see that the king and his co-regent were the same height and that they were a head above the other characters in the scene.



Co-regent Sennacherib with his diadem of commander-in-chief

The main characters, king, co-regent, soldiers, and commandant-in-chief were easily recognizable by virtue of a conventional representation. The character mounted on a war chariot arriving at Lachish is Sennacherib as commander-in-chief (he has the army chief's diadem on his head). After conquering the city, he is represented in front of the king (Sargon II) to dedicate his victory to him and offer him the loot as indicated in the signpost above his head. The co-regent facing the king seated on the throne cannot be Ardu-Mulissu, because he was designated crown prince only from 699 BCE, three years after the third campaign of Sennacherib as king (not co-regent) in 702 BCE. The absence of a tiara upon Sennacherib's head is obviously not an oversight because in other scenes he wears a tiara (as king) when he is depicted as driving his chariot (Slab 2, Room XLV).



Co-regent Sennacherib (left) with royal two ribbons facing King Sargon II

On the throne the king wearing the tiara is Sargon II. In front of him stands the co-regent, represented with the same size, with on his head the diadem of the commander-in-chief of the armies as well as the two ribbons, symbol of royal power, this co-regent is therefore Sennacherib. Such representations are also found in the palace of Khorsabad (Caubet: 1995: 123, Fig.4, 15), where the co-regent Sennacherib is facing king Sargon. It is easy to see that this relief looks like the siege of Lachish. When Sargon took Ashdod (in 712 BCE) he was king and Sennacherib his son was his co-regent, whereas in 702/701 BCE Sennacherib was king but he had no co-regent. Consequently, the king sitting on the throne at Lachish is king Sargon facing Sennacherib. On the relief of the siege of Lachish, Sennacherib (as co-regent) is in front of Sargon (as king) as on the relief in the palace of Khorsabad¹⁰⁹ (André-Salvini: 2012, 62). The epigraph of four lines over Sennacherib (Russel: 1991, 206, 276-277), in a label, confirms this identification because he is presented as co-regent (MAN) and not as King (LUGAL) and the other epigraph of three lines over the tent of Sennacherib describes him as king:

Epigraph over Sennacherib

^{md}30-PAP.MEŠ-SU MAN ŠU₂ MAN KUR aš+šur
ina GIŠ.GU.ZA ne₂-me-di u₂-šib-ma
sal-la-at URU la-ki-su
ma-ha-ar-šu e-ti-iq

Sennacherib, **viceroy** of the world, **viceroy** of Assyria
Sat in a pedestal-throne and
the booty of Lachish
passed in review before him [i.e. King Sargon].

Epigraph over the tent of Sennacherib

za-ra-tum Tent
ša ^{md}30-PAP.MEŠ-SU of Sennacherib
LUGAL KUR aš+šur King of Assyria

¹⁰⁹ On the relief of Khorsabad (British Museum ME 118822) the commander-in chief (*turtānu*) is behind Sennacherib. The name of this commander-in-chief is not given but it could be Ninurta-ilāya (Yamada: 2014, 48 n. 49).

The word MAN is written on the label with two nail heads (𐎠 “20” that is “god Shamash”), is read *šarru* “king” in Neo-Assyrian. This word had a former meaning *šanû* “second/other” (Labat, Malbran-Labat: 1999, 211; Black, George, Postgate: 2000, 355-356), consequently the word MAN means “King II”, Viceroy or Co-regent. The usual word used for titular king is not MAN but LUGAL, literally “man-big” in Sumerian (both terms are used in Sennacherib's inscriptions). Sennacherib could not bear the title of King (LUGAL) during Sargon's lifetime, because the latter was “without rival”, but only the title of viceroy (double or replica of the king). In addition, the term *-ma* meaning “and” connects one who sits to the one passing booty reviewed (who was king Sargon). In the Biblical text the military campaigns of Sennacherib and Sargon are clearly identified as parallel and dated 712 BCE (2Ki 18:13-17; 2Ch 32:9, Is 20:1). When Sennacherib comes to Jerusalem, it is stated: “the kings (*malkhê*) of Assyria did to all the lands by devoting them to destruction” (2Ki 19:10-17), implying two kings: Sennacherib and Sargon. After Hezekiah had paid a tribute of 300 talents of silver and 30 talents of gold, Sennacherib sent his commander-in-chief (*turtānu*), chief officer (*rab-ša-reš*) and cupbearer (*rab-šaqu*) to accept his surrender. During the same time Sargon sent the commander-in-chief (*turtānu*) to Ashdod before seizing it.

According to the annals of Sargon (Frame: 2020, 367-368): In my 9th regnal year (*palû*) I marched to [the city Ashdod which is (situated) on the shore of the] great [s]ea. [... the city] Ashdod [...]. Because of [the evil he (Azuri) had done ... I brought him out] from the city A[shdod], elevated Ahī-Mīti [...], his favorite brother, o[ver the people of the city Ashdod], and [set him on the throne of his father]. I established for him (the same) tribute, payment(s), [labor duty, (and) military service] as the kings, [my ancestors, had imposed]. However, [those] evil [Hittites] with/in ... [...] plotted evil [in their heart(s)] (so as) to no longer (have to) bring tribute (to me). [They made] an insurrection (and) up[rising against] their ruler, [and] drove him out [of the city Ashdod] as if he was one who had committed bloodshed. ... [... They made] king over them Iāmānī, a member of the low[er class who had no right to the throne], (and) they sat [him on the throne] of his lord. [...] their city ... [...] of batt[le [... in] its environs [its/their] moats [... they dug] twenty cubits deep [until] they reached groundwater. <They sent> mendacious messages (and) malicious words to the ki[ngs] of the lands Philistia, Judah, Ed[om], (and) Moab, (as well as to) those who live on the sea(coast), (all) those who brought tribute [and] audience gift(s) to the god Aššur, my lord, in order to make (them) hostile to me. They took gift(s) to Pir'û (Pharaoh), king of Egypt, a ruler who could not save them, and they repeatedly asked him for (military) aid.

According to the annals of Sennacherib (Grayson, Novotny: 2012, 114-116): On my 3rd campaign (*palû*), I marched to the land Ḫatti (Syria-Palestine) (...) who had handed him over to Hezekiah of the land Judah in a hostile manner, they became frightened on account of the villainous acts they had committed. They formed a confederation with the kings of Egypt (...) As for Hezekiah of the land Judah, I surrounded (and) conquered 46 of his fortified walled cities and small(er) settlements in their environs (...) As for him, Hezekiah, fear of my lordly brilliance overwhelmed him and, after my (departure), he had the auxiliary forces (and) his elite troops whom he had brought inside to strengthen the city Jerusalem, his royal city, thereby gaining reinforcements, (along with) 30 talents of gold, 800 talents of silver

The presence of “the kings of Egypt and king of Ethiopia” must be in 712 BCE, or before, when several pharaohs ruled in parallel with the Theban priests (Kitchen: 2004, 592-593). The tribute paid by Hezekiah during Sennacherib's 3rd campaign is almost identical to that of the Bible (2 Ki 18:14).

TABLE 14

EGYPT	Reign	JUDAH	Reign	ISRAËL	Reign	ASSYRIA	Reign	BABYLONIA	Reign
Shabaka	730 -	Hezekiah	726 -	Hosea II	729 -	Šalmaneser V	727-722	Ulûlaiu	727-722
					-720	Sargon II	722 -	Merodach-	722 -
	-712		712			Sennacherib	715-712	baladan II	-710
Shabatak	712 -						-705	Sargon II	710-705
/Taharqa			-697			Sennacherib	705 -	Sennacherib	705-703
	-689	Manasseh	697 -						
Taharqa	689 -						-681	Sennacherib	689-681
	-663					Esarhaddon	681-669	Esarhaddon	681-669
Psamtik I	663-609		-642			Aššurbanipal	669-627	Šamašumaukīn	668-648

An inscription of Sargon mentions his campaign against Hezekiah, king of Judah, along with the capture of Ekron and Azeqah (Galil: 1995, 321-329) near Lachish (Jr 34:7), which are all dated in 712 BCE. But as the capture of Lachish and Jerusalem are currently dated in 701 BCE that would imply a hypothetical second campaign around 688 BCE (Evans: 2009, 15-18) which leads to a new chronological impossibility (Becking:

2000, 46-72; Ben Zvi: 2000, 168-200). Similarly, the attempted alliance between Merodach-baladan II (722-710) and Hezekiah (726-697) is plausible only in 712 BCE because in 700 or in 703 BCE the Babylonian king was in a position of weakness (the only support mentioned in neo-Babylonian chronicles is that of the king of Elam) and Hezekiah had no interest to ally with him, whereas in 712 BCE Merodach-baladan II was in a position of strength and the purpose of his alliance with Hezekiah, which miraculously repelled Sennacherib's army, was to counterbalance Assyrian influence. Sargon's Chronicle supports this reconstruction because the king was perpetually at war against Merodach-baladan II except in 712 BCE (because of his campaign to Judah), but for no apparent reason¹¹⁰:

From the accession ye[ar of] Merodach-baladan until the 10th year [Assyria] was belligerent towards Merodach-baladan. The 10th year (in 712 BCE): Merodach-baladan ravaged Bit-[...]ri (and) plundered it. The 12th year of Merodach-baladan: Sargon went down [to Akkad] and did battle against [Merodach-bala]dan. Merodach-baladan [retreated] before [him] (and) fled to Elam. For 12 years [Merodach-balad]an ruled Babylon. Sargon ascended the throne in Babylon (...) The 2nd year [Sennacherib went down to Akkad and did battle against Merodach-baladan before him] Merodach-baladan retreated (and) fled to Guzummanu [...] he (Sennacherib) plundered his land [...] and took] Larak and Sarrabanu. When he withdrew he (Sennacherib) put Bel-ibni on the throne in Babylon. The 1st year of Bel-ibni [702 BCE]: Sennacherib ravaged Hirimma and Hararatum. The 3rd year of Bel-ibni: Sennacherib went down to Akkad and plundered Akkad (Grayson: 2000, 73-77).

Amalgams between the three campaigns of Sennacherib during his co-regency with Sargon (714-712) and those carried out at the beginning of his reign (704-702) cause the sequence of events to become deeply confused. An accurate chronological reconstitution of the reign of Sargon is impossible because the equation "campaign = year" is not always true, because a campaign could take several years, and a year could be without a campaign. Tadmor noted, for example, that the dating of these campaigns in the annals of Khorsabad is inconsistent with the data from the Nineveh fragmentary prisms (Tadmor: 1958, 22-40). Similarly, the annals of Sennacherib date the campaign against Merodach-baladan II during the accession year of Sennacherib (705 BCE) whereas the first campaign of Sennacherib is dated the eponymy of Nabule'u (702 BCE). Tadmor concludes that historians of Sargon had to have recounted his campaigns in Palestine and Egypt in geographical terms rather than in chronological order. The reign of Ashurbanipal has the same problems of chronology (Grayson: 1980, 227-245), the arrangement of campaigns is more geographical than chronological and differs from years of reign. Given that Sennacherib's earliest accounts of his first campaigns, from 1st to 3rd, waged against Merodach-baladan II and his southern Babylonian allies occurred in 704-702 BCE, there is no room for a campaign to Judah which was in the far west during this period. To solve this puzzle, most scholars assume that the chronological inconsistencies of the first campaigns of Sennacherib could be explained by the fact that the main goal of Assyrian records was ideological (Frahm: 2003, 129-164) rather than chronological (Janse van Rensburg: 2004, 560-579), but this explanation is unacceptable. Merodach-baladan II, for example, was dethroned in 710 BCE, then would try to take back his throne in 703 BCE and again in 700 BCE, with a brief success. This unlikely event may have been distorted. It is possible that the vassal king Bel-ibni, who did not properly repulse Merodach-baladan's attacks for taking his throne back, was removed from office and replaced by his eldest son, Aššur-nadin-šumi II (Brinkman: 1973, 89-95). Anyway, the dating of the 2nd reign of Merodach-baladan creates an unsolvable problem (Levine: 1982, 28-58). In addition, the tribute brought by the Medes and received by Sennacherib during his 2nd campaign looked like the one received by Sargon during his 8th campaign. Concerning the failed capture of Jerusalem performed during the reign of his father and reported on briefly in his own annals (written during his reign) he only mentions the taking of a tribute. But the fact that Sennacherib did not capture Jerusalem remains incomprehensible and indirectly confirms the Biblical version. This chronological imbroglio comes from the mixing of Sennacherib's campaigns with those mentioned during the reign of Sargon. These first three campaigns of Sennacherib are placed before three other ones which are not detailed. Some reliefs of the first campaign recall details of the 4th campaign (Russel: 1991, 152-165). This mix up has been developed for the purpose of propaganda (Laato: 1995, 198-226).

Chronological reconstitution of the reigns of Sargon II and Sennacherib differ depending on official versions consulted. For example, according to a Neo-Babylonian chronicle (Glassner: 2004, 180-182), Sennacherib was king of Babylon during 704-703 BCE, then the following period 688-681 BCE it would have been without a king, but according to the Canon of Ptolemy (Depuydt: 1995, 98), these two periods were without a king. This contradiction is surprising since the Babylonian reign of Sargon has been considered in the Canon of Ptolemy and, in the case of Sennacherib, there are at least two contracts dated Years 3 and 4 of his Babylonian reign during the period 688-681 BCE (Brinkman, Kennedy: 1983, 14.).

¹¹⁰ If Sennacherib's troops were decimated in 712 BCE, as confirmed by Herodotus (The Histories II:137,141) and Josephus (Jewish Antiquities X:21), one can assume that the following year Sargon was busy reorganizing his army.

These disagreements show that the reigns of Sargon and Sennacherib were already subject to interpretations very early in the past. Moreover, some dating by eponyms differs from dating by years of reign. Levine tried to reconstruct the whole campaigns of Sennacherib while recognizing that the period 705-702 BCE was particularly confusing. Indeed, according to a King list, the period 704-703 BCE is assigned to Sennacherib, then Marduk-zakir-šumi II reigned one month, Merodach-baladan II reigned nine months (without regnal year) and the years 702 to 700 BCE are assigned to Bel-ibni (Levine: 1982, 28-58). The second rule of Merodach-baladan II is set during the first campaign, in 703 BCE, because the second campaign is dated in the eponymy of Nabu-le'i in 702 BCE¹¹¹.

TABLE 15

BCE		[A]	[B]	[C]	[D]	[E]	[F]	King
712	1	X	9	(2)	9	13	1	[26] [A] Sargon II , King of Assyria (Is 20:1, 36:1)
	2	XI						[B] Sennacherib , Crown Prince (2Ki 18:13-17)
	3	XII						[C] Merodachbaladan II , King of Babylonia (Is 39:1)
	4	I	10	(3)	10	14		[D] Hezekiah , King of Judah
	5	II						[E] Shabataka , King of Egypt
	6	III						/ Taharqa , Co-regent of Egypt (2Ki 19:8-9)
	7	IV						
	8	V						
	9	VI						
	10	VII						[27] [F] 65-year period (Is 7:8-9) from 738 BCE to 673 BCE
	11	VIII						
	12	IX						
711	1	X					2	
	2	XI						

Rezin (755-732), the powerful king of Damascus, formed a coalition to resist Tiglath-pileser III's attack, Peqah (758-738), the king of Israel, joined the coalition but not Jotham, the king of Judah:

Hosea the son of Elah formed a conspiracy against Peqah the son of Remaliah, and he struck him and put him to death; and he became king in his place in the 20th year of Jotham (in 738 BCE) the son of Uzziah (2Ki 15:30). Now in the days of Ahaz son of Jotham son of Uzziah, the king of Judah, King Rezin of Syria and Peqah son of Remaliah, the king of Israel, came up to wage war against Jerusalem, but he could not capture it (...) This is what the Sovereign Lord Jehovah says: It will not succeed, nor will it take place. For the head of Syria is Damascus, and the head of Damascus is Rezin. Within just 65 years Ephraim will be completely shattered and cease to be a people. The head of Ephraim is Samaria, and the head of Samaria is the son of Remaliah (Is 7:1,7-9).

Given that the head of Samaria (Ephraim/Israel) was Peqah who died in 738 BCE, the "shattering" of Ephraim (inhabitants of Samaria) had to have occurred in 673 BCE (= 738 - 65):

TABLE 16

BCE		[A]	[B]	[C]	[D]	[E]	[F]	
674	1	X	6		6		22	[A] Esarhaddon , King of Assyria
	2	XI						[64] [C] Esarhaddon , King of Babylonia
	3	XII						[B] Sin-nâdin-apli , Crown Prince
	4	I	7	(0)	7		23	
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII						
	11	VIII						[65]
	12	IX						

¹¹¹ According to a Babylonian chronicle, this campaign is assigned to the second year of Sennacherib (705-681) in 703 BCE, but the canon of eponyms mentions the capture of Larak and Sarabanu under the eponym of Nabu-dîni-epuš in 704 BCE. And finally, in his various inscriptions Sennacherib put his first campaign "at the beginning of his kingship". All these facts are irreconcilable. Levine chose to put the reigns of Marduk-zakir-šumi II and Merodach-baladan II in 703 BCE, but this solution is contradicted by the dates of economic contracts dated: 26/XI/00, 7/XII/00, 13/XII/00, 26/VI/02, 29/XI/02, 29/I/03. Contracts under Bel-ibni require placing the accession, not Year 1, of Bel-ibni in 703 BCE (at least on 26/XI/00) because he reigned 3 years. This new solution is contradicted once again by another contract (BM 17310) dated paradoxically [-]/III/19 under Sargon II, which is a posthumous date referring to 703 BCE. Likewise, another contract dated posthumously 11/IX/22 to Merodach-baladan II in 700 BCE. The first three campaigns mentioned at the beginning of the reign of Sennacherib, whose story was recorded in the palace of Khorsabad, during the eponyms dated 703 to 701 BCE, are regarded to be the first three years of his reign but this assumption leads to inconsistencies. The equivalence between the years of reign and number of campaigns is contradictory and the timeline of events is impossible to reconstruct exactly (Ford: 1969, 83-84). Several events occur identically. Moreover, information in letters is diametrically opposed to what one reads in royal inscriptions and the time required for the realization of all these events is impossible to enforce, mainly the duration between the first and second campaigns (Parpola: 2001, XIV,XXII,XXXVI,LI notes 5,41). Prosopography of important characters, such as scribes and governors, allows one to dissociate two seemingly identical events, but as the duration between these events is relatively short (10 years) it is impossible to decide because the same characters appear at the end of Sargon's reign and the beginning of Sennacherib's (Dietrich: 2003, XVI-XXI).

Given that the first campaign of Aššurbanipal (669-627) as King is dated 668 BCE, the events relate rather to his first campaign as a co-regent in 673 BCE. A cross-checking of all the documents concerning Aššurbanipal, Annals and Chronicles, shows that some have been modified. For example, an unknown son of Esarhaddon named Sin-nâdin-apli was appointed as crown prince in 674 BCE, then in 672 BCE two others were appointed as crown princes: Šamaš-šuma-ukîn, his eldest son, for Babylonia and Aššurbanipal for Assyria. On the other hand, Esarhaddon's Chronicles show that the campaign against Egypt is dated 3/VII/10 (October 671 BCE), which corresponds to the first year of Aššurbanipal as co-regent but dated the 2nd year in his annals (Upper Egypt is dated to his 1st year). This 1-year discrepancy is troubling but could be explained by the fact that Sin-nâdin-apli "Sin has given the heir" and Aššur-bani-apli "Aššur has created the heir" were the same person. The former name represented the prince's original name (birth name) and the second the throne name¹¹², which could explain that Aššurbanipal was chosen twice, once in 674 BCE as crown prince and again in 672 BCE as crown prince but for Assyria only (Šamaš-šuma-ukîn for Babylonia). Unfortunately, Ashurbanipal's Chronicles for events of his Year 8 are broken at this location and his Year 9 was omitted (bad omen?). We just learned that Esarhaddon's first wife Ešarra-ḥamat died the 5/XII/8 (March 672 BCE) and there were seven substitute kings¹¹³ between 679 and 669 BCE. As a result, Year 8 of Esarhaddon, in 672 BCE, when Manasseh was released, was damaging for the Assyrians but they did not give any reason why. On the contrary Year 10 of Esarhaddon is better known because of the victory over Taharqa in 671 BCE, commemorated on the Nahr El Kelb Stele, near Beirut. Lines 31-35 of the fragmentary inscription read as follows: "Ashkelon ... which **Taharqa** to their fortress ... Tyre ... **22 kings**" (Mitchell: 1992, 375-377), exactly the same expression of the Prism B of Esarhaddon dated 673 BCE.

CROWN PRINCE OR CO-REGENT ?

The previous examples of Sennacherib and Aššurbanipal show that these crown princes functioned as kings to lead military campaigns but without the royal title. The title of crown prince, designating the approved successor of the king, is rarely mentioned in inscriptions and gives no indication of his role. On the other hand, iconographic representations on the occasion of the enthronement of the crown prince, or the presentation of the spoils of a campaign in honour of the king, clearly indicate his status as co-regent. For example, the text of an inscription from Calah (IM 65574) on various parts of the throne base above the scene (Fig. 5) describes several events and campaigns of Shalmaneser III, the last of which is dated to Year 13, 846 BCE (Yamada: 2000, 32-34).



Fig. 5 King Shalmaneser III (right) facing co-regent Aššur-danin-pal with royal two ribbons

The interpretation of this image is simple: the main character on the right of the scene (Fig. 5), who wears a two-tiered conical tiara, is the Assyrian king Shalmaneser III (859-824). He also wears a diadem,

¹¹² For example, the throne name of Esarhaddon (Aššur-aḥa-iddina "Aššur has given a brother") was Aššur-etel-ilâni-mukîn-apli "Aššur prince of the gods, is establishing an heir" but he never used it.

¹¹³ A substitute king was a false king appointed to neutralize a bad omen.

symbol of his military authority, and two ribbons at back, the second symbol of his royalty. In front of him there is a very similar figure but only without the tiara who is thus the co-regent (Aššur-danin-pal in 846 BCE). Behind him there is a eunuch (his *turtānu* “commander-in-chief” Dayyān-Aššur, according to the list of eponyms) who is smaller than him (one head less) because his rank is just after him, but he wears a diadem, symbol of his military authority. Just behind the commander-in-chief, according to the protocol rank¹¹⁴ (Yamada: 2018, 75-96), the first high official (bearded eunuch) is the chief cupbearer (*rab šāqē* Aššur-bunaya-ušur) and the next one is the palace herald (*nāgir ekalli* Abi-ina-ekalli-lilbur). The four figures on the left each carry a sword at their side to show that they are dedicating a military campaign (in 846 BCE according to the inscription) to the king. As the annals of the 13th year of Shalmaneser III's reign does not mention any military campaigns, the purpose of the engraving was to show that his son Aššur-danin-pal had been enthroned as crown prince.

The official status of the crown prince: *mār šarri ša bēt rēdūti* “of the house of succession”, is not defined in inscriptions, apart from the fact that he is the designated successor to the throne and can conduct campaigns under the auspices of the king, as it is sufficiently explicit in the depictions engraved on the walls of the royal palaces. Indeed, diplomatic visitors and royal court staff who were invited to the royal palaces immediately saw the co-regent in front of the king, as this figure was the same height as the king and had two ribbons at back. Even illiterate visitors (of which there were many at the time) could immediately see it and identify it as a co-regent. For example, in the Palace of Assurnasirpal II (884-859) one can see the king (Fig. 6 left) with two servants wears a fez with conical top, and two ribbons at back and a crown prince (right) wearing diadem and two ribbons at back, followed by eunuch with diadem (commander-in-chief). All three also wear tassels as necklace counterweights (Reade: 2009, 249). As in 871 BCE the crown prince was Shalmaneser (III), the engraving represents his enthronement, and the commander-in-chief was *turtānu* Aššur-iddin.



Fig. 6 King Assurnasirpal II (left) facing co-regent Shalmaneser (III) with royal two ribbons

Assyriologists generally refuse to identify the crown princes with co-regents because no text explicitly says so, but this refusal is unreasonable because Assyrian and Babylonian representations were conventional so as to be understood by all: the gods were depicted first with an immense waist and wearing the divine tiara with horns, the kings were depicted second, one head below the gods and wearing the royal tiara, conical with two tiers for the Assyrian kings or conical and domed for the Babylonian kings, and finally the high court officials were depicted, one head below the kings. For example, the Babylonian king (Fig. 7 left) can be identified by his conical domed tiara and the Assyrian king by his conical two-tiered tiara. Both kings, wearing diadems, each with two ribbons at the back, are of the same height and are shown one head above their commander-in-chief.

¹¹⁴ From the beginning of the Neo-Assyrian period to the reign of Tiglath-pileser III (745-728).



Fig. 7 Babylonian King Marduk-zakir-šumi I (left) facing Assyrian King Shalmaneser III

Although the representation does not include an explanatory text, the two kings are immediately identifiable icon-graphically thanks to the two conventional criteria of royalty: the tiara and the two ribbons at the back. It is noticeable that the eunuch behind the Babylonian king, Marduk-zakir-šumi I (855-819), wears the diadem of the command of armies but not the one behind the Assyrian king, Shalmaneser III (859-824). The explanation is easy to see, the Assyrian king came to his aid, symbolised by the handshake with the Babylonian king, to support him against the revolt fomented by his brother, as the inscription on the Black Obelisk clearly explains (Black Obelisk, lines 73–84):

In the 8th year of my reign (in 851 BCE), Marduk-bēl-ušati, the younger brother, revolted against Marduk-zākir-šumi, king of Karduniaš (Babylon), and they divided the land in its entirety. In order to avenge Marduk-zākir-šumi, I marched out and captured Mē-Turnat. In the 9th year of my reign (850 BCE), I marched against Akkad a second time. I besieged Ganannate. As for Marduk-bēl-ušati, the terrifying splendour of Aššur and Marduk overcame him and he went up into the mountains to save his life. I pursued him. I cut down with the sword Marduk-bēl-ušati and the rebel army officers who were with him.

The conventional representation of crown princes as kings, except for their tiara, proves that they had a royal status of co-regent, but not king. Since the term co-regent does not exist in Hebrew, the literal translation of the Assyrian expression *mār šarri* as “son of the king” would have been misleading (Hussein: 2020, 59-88), since only one son of the king inherited a status equivalent to that of the king. The translation of *mār šarri* as “king” therefore corresponds to the function of the character and not to his official title of crown prince [of the house of succession]. The translation or transcription of the Assyrian titles in the Bible is therefore remarkably accurate:

In the 14th year of King Hezekiah (in 712 BCE), Sennacherib the king (*mār šarri*) of Assyria came up against all the fortified cities of Judah and captured them. So King Hezekiah of Judah sent word to the king of Assyria at Lachish: I am at fault. Withdraw from against me, and I will give whatever you may impose on me. The king of Assyria imposed on King Hezekiah of Judah a fine of 300 silver talents and 30 gold talents (...) The king of Assyria then sent the Tartan (*turtānu*), the Rabsaris (*rab ša reš*), and the Rabshakeh (*rab šāqu*) with a vast army from Lachish to King Hezekiah in Jerusalem (2Ki 18:13-17). In the year that King (*šarru*) Sargon of Assyria sent the Tartan to Ashdod (in 712 BCE), he fought against Ashdod and captured it (Is 20:1).

The translation of the two Assyrian terms *mār šarri* (co-regent) and *šarru* (king) into a single Hebrew word 'king' creates an ambiguity which is easily removed since the Bible gives the precise date of the events, making it possible to know whether it is a king or a co-regent. For example, Nabonidus (556-539) was king of Babylon, but in 553 BCE established his son Belshazzar (553-539) as co-regent before moving to the Syrian city of Teima. Although all the contracts dated to this period are in the name of Nabonidus, it was Belshazzar, as the Bible says, who was in Babylon when Cyrus took the city and installed Darius the Mede, his co-regent, as king of Babylon (named Ugbaru in the Babylonian chronicles). For example:

In the 3rd year of the kingship of King (*mār šarri*) Belshazzar (in 550 BCE), a vision appeared to me, Daniel (...) As I raised my eyes, look! there was a ram standing before the watercourse, and it had two horns. The two horns were tall, but one was higher than the other, and the higher one came up later (...)

The two-horned ram that you saw stands for the kings of Media (Astyages) and Persia (Cyrus II) (...) Then Belshazzar gave the command, and they clothed Daniel with purple and placed a gold necklace around his neck; and they heralded concerning him that he was to become the third ruler (*turtānu*) in the kingdom. That very night (11 October 539 BCE) Belshazzar the Chaldean king was killed. And Darius the Mede received the kingdom; he was about 62 years old. It seemed good to Darius to appoint 120 satraps over the whole kingdom (...) In the 1st year of Darius the son of Ahasuerus—a descendant of the Medes who had been made king over the kingdom of the Chaldeans—in the 1st year of his reign (in 538 BCE) I, Daniel (Dn 8:1-3,20; 5:29-6:1; 7:1; 9:1-2).

According to Herodotus, Astyages the king of Media was defeated by Cyrus who thus became the king of Persia and Media, Harpagus (550-539), the new king of Media, becoming his co-regent (The Histories I:127-130, 162, 177-178). He is called “Lieutenant of Cyrus” by Strabo (Geography VI:1) or “Commandant of Cyrus” by Diodorus Siculus (Historical Library IX:31:1). When Harpagus, Cyrus' commander-in-chief, took Babylon, Cyrus became for the Babylonians “King of the Lands (Persia and Media)” and appointed Harpagus King of Babylon. This appointment posed a problem to the Babylonians because Harpagus had not been enthroned by Marduk during the festival of Akitu. In the Nabonidus Chronicle (BM 35382), Harpagus is called: Ugbaru, governor of Gutium (former name of Media) and the troops of Cyrus. According to this Chronicle, he ruled Babylon from October 539 BCE until his death in November 538 BCE, and was succeeded in January 537 BCE, by Cambyses, the son of Cyrus, who was enthroned as “King of Babylon”, Cyrus becoming “King of the Lands and Babylon”. Ugbaru¹¹⁵ was actually a king (co-regent), as he appointed the governors of the new kingdom, which was a royal prerogative. In addition, when his wife died in March 537 BCE, the Chronicle states that she was the king (*šarru*)'s wife. Finally, he was replaced by Cambyses, who had appointed king (*šarru*) of Babylon.

BIOGRAPHY OF KING TIGLATH-PILESER III (745-727) & CO-REGENT PULU (782-746)

The reign of Tiglath-pileser III marked the end of a period of turmoil (783-745 BCE) during the reigns of the three successors of Adad-nīrārī III (811-783). His accession to the throne coincided with a revolt in Kalhu, the Assyrian capital, and came about as a result of a coup (in 746 BCE) orchestrated by his predecessor's senior officials because they legitimately continued to serve the new king. At least three inscriptions show that Tiglath-pileser was crown prince (DUMU LUGAL) between 792 and 782 BCE and according to an inscribed brick from Aššur he was a son of Adad-nīrārī III, however, as the annals of the three successors of Adad-nīrārī III have not been found it is difficult to reconstruct his career as crown prince (Villard: 2001, 849-851). We only know that Tiglath-pileser was the co-regent of Aššur-nīrārī V before he took power (Davenport: 2016, 38-39) and the name Tiglath-pileser Pu'al (𐎶𐎢𐎺) appears several times on a Phoenician stela dated 743-742 BCE (Na'aman: 2019, 79-82).

For chronological reasons, the mysterious Assyrian king, named Bar Ga'yah (“Son of Majesty” in Aramaic) king of KTK, can be identified with Tiglath-pileser while he was crown prince (“Son of the King” in Assyrian). The annals of Tiglath-pileser III are biased because they sometimes include ancient tributes of his predecessors, but they can be completed and corrected by means of the eponymous Chronicle. For example, Hatarikka was annexed in 738 BCE (Yamada: 2014, 31-50). The word *palû* (BAL) literally means “period of office” and could be translated by “(year of) reign” but as Tiglath-pileser's accession took place at the beginning of the year, this would have allowed him to conduct a military campaign. Thus, it is preferable to translate *palû* by “campaign (*gerru*)”, because there is a difference of one year between the years of reign and the number of campaigns:

TABLE 17

BCE	year/ <i>palû</i>	Campaign according to:	
		Eponym Chronicle	Annals of Tiglath-pileser III
745	0/ <i>palû</i> 1	To Mesopotamia	Campaign in northern and eastern Babylonia; defeat of the Aramean tribes near Dûr-Kurigalzu.
744	1/ <i>palû</i> 2	Against the land of Namri	First Median Campaign: Parsua and Bît-Hamban are annexed; the submission of the Maneans.
743	2/ <i>palû</i> 3	Urartu defeated in Arpad	Sarduri (II), king of Urartu, and his Anatolian allies are defeated (Pu'al as Tiglath-pileser III).
742	3/ <i>palû</i> 4	Against Arpad	Arpad besieged.
741	4/ <i>palû</i> 5	Against Arpad	Arpad besieged.
740	5/ <i>palû</i> 6	Against Arpad	Fall and annexation of Arpad.

¹¹⁵ Ugbaru (# Gubaru “neck”) was a nickname. UG-ba-ru or PIRIG₃-ba-ru can be read *šar-bārû* “king of the diviner (Daniel?)” (Labat, Malbran-Labat: 1999, 43,97). Darius was probably a Persian throne name given to Harpagus by Cyrus, but this name was not used by the Babylonians. Harpagus is called Oibaras by Ctesias (Persica §13,36,45) and by Tzetzes (Chiliades I:93).

739	6/ palû 7	Against the land of Ulluba	Campaign to Ulluba.
738	7/ palû 8	Kullani conquered	Unqi and Hatarikka annexed; tribute received from all vassal kings of the West, including Rezin of Damascus and Menahem of Samaria .
737	8/ palû 9	Against the Medes	Second Median campaign deep into Media. Territories around Parsua and Bît-Humban are annexed.
736	9/ palû 10	To the foot of Mount Nal	-
735	10/ palû 11	Against Urartu	Campaign into the heart of Urartu as far as Turušpa.
734	11/ palû 12	Against Philistia	Campaign to Philistia and the Egyptian border.
733	12/ palû 13	Against Damascus	Siege of Damascus. Campaigns against the Arabs and to Gilead and Galilee.
732	13/ palû 14	Against Damascus	Conquest and annexation of Damascus. Campaigns against the Arabs and to Gilead, Galilee, and Transjordan.
731	14/ palû 15	Against Šapia	Defeat of the Chaldean tribes of central and southern Babylonia; siege of Šapia.
730	15/ palû 16	The king stayed in the land	-
729	16/ palû 17	The king took hand's Bel	Defeat of (Nabû-)Mukîn-zêri, king of Babylon. Tiglath-pileser III ascends the Babylonian throne (Pulu II).
728	17/ palû 18	Hi[. was conquered]	Tiglath-pileser III on the Babylonian throne
727	18/ palû 19	Against [...]	Tiglath-pileser III dies in the month of Tebetu (X).

We notice that, during his 18-year reign, Tiglath-pileser III made many conquests and annexations and conducted many sieges, but that he received tributes only during his 8th campaign, in 738 BCE, including the one of Menahem, but this conclusion contradicts the rest of the inscription:

(In 738 BCE) I exercised authority over [..., ...] ..., which [...], the city Hatarikka, as far as Mount Sau[e, ...] (...) I annexed to Assyria [..., the city Kaš]pūna, which is on the shore of the Upper (text: “Lower”) Sea, the cities [...]nīte, Gil[e]ad, and] Abil-šitī, which are the border of the land Bît-Hūmri[a] (Israel), the extensive [land of Bît-Hāza’i]li (Damascus) in [its] en[tirety, (and) I pla]ced [... eunuch]s of mine as provincial governors [over them]. (As for) Hānūnu of the city Gaza, [who] fle[d before] my weapons [and] escaped [to] Egypt — [I conquered] the city Gaza, [his royal city, (and) I carried off] his property (and) [his] gods (...) (As for) the land Bît-Hūmria (Israel), I brought [to] Assyria [..., its “au]xiliary [army” ...] (and) all of its people, [...]. [I/they] killed Peqah, their king, and I placed Hosea [as king o]ver them. I received from them ten talents of gold, ... talents of silver, [together with] their [proper]ty, and [I brou]ght them [to Assyria]¹¹⁶.

Accordingly, Tiglath-pileser III overthrew King Peqah (758-738) in 738 BCE and placed Hosea (738-729) as king over the inhabitants of Samaria, which fits perfectly with the biblical text:

In the days of Peqah (758-738) the king of Israel, Tiglath-pileser (745-727) the king of Assyria came in and proceeded to take Ijon and Abel-beth-maacah and Janoah and Kedesh and Hazor and Gilead and Galilee, all the land of Naphtali, and to carry them into exile in Assyria. Finally, Hosea (738-729) the son of Elah formed a conspiracy against Peqah the son of Remaliah and struck him and put him to death; and he began to reign in place of him in the 20th year of Jotham (in 738 BCE) the son of Uzziah (2Ki 15:27-30).

Furthermore, in 738 BCE, the king of Judah was indeed Ahaz (742-726), written *Ia-ú-ḥa-zi* in Tiglath-pileser’s annals, and according to the biblical text (Jones: 2007, 173–181, 330):

It was then that King Rezin (750-732) of Syria and Peqah (758-738) son of Remalah the king of Israel came up to wage war against Jerusalem. They laid siege against Ahaz (742-726) but were not able to capture the city. At that time King Rezin of Syria restored Elath to Edom, after which he drove the Jews out of Elath. And the Edomites entered Elath, and they have occupied it down to this day. So, Ahaz sent messengers to King Tiglath-pileser (745-727) of Assyria, saying: I am your servant and your son. Come up and save me from the hand of the king of Syria and the hand of the king of Israel, who are attacking me. Ahaz then took the silver and the gold that was to be found at the house of Jehovah and in the treasuries of the king’s house and sent the king of Assyria a bribe. The king of Assyria responded to his request, and he went up to Damascus and captured it and led its people into exile to Kir, and he put Rezin to death (in 732 BCE). Then King Ahaz went to meet King Tiglath-pileser of Assyria at Damascus (2Ki 16:5-10).

The chronological agreement is perfect except for the tribute of Menahem (771-760), a former king of Israel who had been dead for 22 years. In fact, Menahem actually paid tribute to Tiglath-pileser, not during his reign, but when he was co-regent under the name Pulu, a hypocoristic use of the word *aplū* “heir” (Villard: 2001, 850). Tiglath-pileser reused this name when he was vice-regent of Babylon (729-727). The

¹¹⁶ <http://oracc.museum.upenn.edu/rinap/rinap1/Q003455/html> (Tadmor: 2011, 105-106).

term vice-regent/co-regent (MAN)¹¹⁷ in Assyrian is sometimes used to designate the crown prince, literally “son of the king (DUMU LUGAL, *mār šarri*)”. In Hebrew, Assyrian king or Assyrian co-regent are referred to by the same word “king (*melekh*)”.

Consequently, the God of Israel stirred up the spirit of Pul the king of Assyria and the spirit of Tiglath-pileser (745-727) the king of Assyria (1Ch 5:26). Pul the king of Assyria came into the land. Consequently, Menahem (771-760) gave Pul 1000 talents of silver, that his hand might prove to be with him to strengthen the kingdom in his own hand. So Menahem brought forth the silver at the expense of Israel, at the expense of all the valiant, mighty men, to give to the king of Assyria 50 silver shekels for each man. At that the king of Assyria turned back, and he did not stay there in the land (2Ki 15:19-20).

The Assyrian chronicles and the biblical account agree that in 712 BCE, Rezin (750-732), the powerful king of Damascus, whose reign is well documented (Na'aman: 1995, 105-117; Bryce: 2012, 302-309), formed a coalition to resist Tiglath-pileser III's attack, Peqah (758-738), the king of Israel, joined the coalition but not Jotham (758-742), the king of Judah. This led to a retaliation against Jotham who died at the end of the year (2Ki 15:37-38). In 740 BCE, the kingdom of Bit-Agusi (Arpad) was defeated by Tiglath-pileser III during his 6th campaign in Syria and was definitively annexed to the Assyrian empire. To defeat Peqah, Ahaz (742-726), the new king of Judah: “asked the kings of Assyria (*malkhê aššur*) for help” (2Ch 28:16 NIV). The Assyrian “king (*melekh*)” accompanying Tiglath-pileser III (2Ch 18:20) must have been Shalmaneser V as co-regent. Hosea I formed a conspiracy against Peqah. He put him to death and began to reign in place of him (2Ki 15:27-30). In 734 BCE, Tiglath-pileser III invaded and immediately conquered the Philistine territories. The reconstruction of this troubled period highlights several synchronisms among the Assyrian, Israelite (Samaria) and Judean reigns.

TABLE 18

BCE		[A]	[B]	[C]	[D]	[E]		
742	1	X	2	(1)	5	15	16	[A] Tiglath-pileser III , King of Assyria
	2	XI						[B] Shalmaneser (V) , Crown prince/co-regent of Assyria
	3	XII						[C] Nabû-nasir , King of Babylonia
	4	I	3	(2)	6	16	16	[D] Jotham , King of Judah (2Ki 15:32-33)
	5	II						[E] Peqah , King of Israel (2Ki 15:27)
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII		***	17	[E] Peqah against Jotham (2Ki 15:37-38)		
	11	VIII						
	12	IX						
741	1	X				0	***	[D] Ahaz , King of Judah (2Ki 16:1)
	2	XI						
	3	XII						
	4	I	4	(3)	7	1	[17]	
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII				18		
	11	VIII						
	12	IX						
740	1	X						
	2	XI						
	3	XII						
	4	I	5	(4)	8	2	***	[D] Ahaz sent to the kings of Assyria (Tiglath-pileser III and co-regent Shalmaneser V) for them to help him (2Ch 28:16-20) and asked to be a vassal of Tiglath-pileser III (2Ki 16:7).
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						
	10	VII				19		
	11	VIII						
	12	IX						
739	1	X						
	2	XI						
	3	XII						
	4	I	6	(5)	9	(3)	[19]	
	5	II						
	6	III						
	7	IV						
	8	V						
	9	VI						

¹¹⁷ MAN sign, written with two nail heads (<<), later translated *šarru* “king” into Neo-Assyrian, literally means *šanû* “second/duplicate”.

738	10	VII	7	(6)	10	(4) [20]	20	[E] Peqah , King of Israel died (2Ki 15:27)		
	11	VIII								
	12	IX								
	1	X								
	2	XI								
	3	XII								
	4	I								
	5	II								
	6	III								
	7	IV						***	0	[E] Hosea I , King of Israel (2Ki 15:30) vassal of Tiglath-pileser III
	8	V								
	9	VI								
10	VII	1	1	[E] Beginning of the 65-year period (Is 7:8-9) until 673 BCE when Manasseh was freed (2Ch 33:13; Ezr 4:2).						
11	VIII	[1]								
12	IX									

Consequently, Hosea II became king in the 12th year of Ahaz the king of Judah in 729 BCE, but he was already king from the 20th year of Jotham (2Ki 15:30) who only reigned 16 years (2Ki 15:32-33)! In fact, given that Hosea I was appointed by Tiglath-pileser III as his vassal in 738 BCE, consequently his reign became valid only after his anointing as king of Judah in 729 BCE. Similarly, Ahaz became the vassal of Tiglath-pileser III in 740 BCE until his departure in 732 BCE. Therefore, when Hosea I was appointed king in 738 BCE, which was the 4th year of Ahaz (742-726), the Hebrew scribe chose to count his reign from the 20th year of Jotham¹¹⁸ (758-742) because Jotham had been a legitimate king, not a vassal, although he was dead at that time (not a co-regent). The oddity of these double reigns stems from the absence of the word “co-regent” in Hebrew¹¹⁹, thus Hosea I became the vassal king (738-729) of Tiglath-pileser III before becoming legitimate king of Israel Hosea II (729-720).

The case is made that the biblical accounts are historically accurate (Siddall: 2006, 93-106) and agree with the Assyrian sources (Dubovský: 2006, 153-170).

TABLE 19

BCE		[A]	[B]	[C]	[D]	[E]				
730	1	X	14	(13)	1	11	[8]	[A] Tiglath-pileser III , King of Assyria		
	2	XI						[B] Shalmaneser (V) , Crown prince (co-regent)		
	3	XII						[C] Nabû-mukîn-zêri , King of Babylonia		
	4	I						[D] Ahaz , King of Judah		
	5	II						[E] Hosea I , King of Israel (2Ki 15:30) vassal of Tiglath-pileser III		
	6	III								
	7	IV								
	8	V								
	9	VI								
	10	VII						[9]		
	11	VIII								
	12	IX								
729	1	X	16	(15)	3	13	0	[E] Hosea II , King of Israel (2Ki 17:1)		
	2	XI								
	3	XII								
	4	I								
	5	II								
	6	III						***	0	[C] Pulu II , King of Babylonia
	7	IV								
	8	V								
	9	VI								
	10	VII						1		
	11	VIII						[10]		
	12	IX								
728	1	X								
	2	XI								

Very often Assyrian kings chose their co-regent a few years after the beginning of their reign, but Tiglath-pileser III chose his son Shalmaneser V as co-regent from the first year of his reign. The wall panel (BM 118933) describes some of the campaigns of Tiglath Pileser III in Iran in 744 BCE (Fig. 8). The inscription on this slab deals with Tiglath-pileser III's campaigns against the provinces of Media. The Annals of the king report two campaigns against Media, one in his 2nd, the other in his 9th *palû* (Yamada: 2014, 31-50). The part of the inscription preserved on this slab belongs to Year 1, the campaign of the 2nd *palû* (Yamada: 2014, 36 n 18), in 744 BCE.

¹¹⁸ The 20th year of Jotham, in 738 BCE, did not exist since Jotham only reigned for 16 years.

¹¹⁹ For example, High Priest Azariah (796-758) replaced King Uzziah (810-758) who had been afflicted with leprosy in the 14th year of his reign and was therefore no longer able to exercise his kingship. Similarly, Tibni (930-925) was king at the same time as Omri (930-919); Jehoash (941-939) was the co-regent of Jehoachaz (856-839) before becoming king of Israel (839-823); Jehoram (893-885) was the co-regent of Jehoshaphat for two years (916-891) before becoming king of Judah; Ahaziah (886-885) was the co-regent of Jehoram (893-885) in his last year of reign.



Fig. 8 King Tiglath-pileser III (right) facing his co-regent Shalmaneser (V)

This enthronement ceremony of Shalmaneser V is also shown in Til Barsip with two eunuchs behind Tiglath-pileser III (Villard: 2001, 312). It is interesting to note that this event took place shortly after he led a revolt (in 746 BCE) against his brother Aššur-nīrārī V (Siddall: 2013, 126). His reign is extremely unusual in many ways. He was the 4th and youngest son of Aššur-nīrārī III¹²⁰ (Tadmor, Yamaha: 2011, 148). At the death of King Adad-nīrārī III, in 783 BCE, his eldest son (Shalmaneser IV) succeeded him on the throne, but what is paradoxical is that his youngest son, Tiglath-pileser, who was nevertheless the crown prince did not begin to rule, probably because of his young age. As he was only c. 10 years old in 792 BCE, he was not invested with the command of the armies and therefore did not receive the ornament/diadem that the commander-in-chief already had. It is also worth noting that the commander-in-chief, Šamšī-ilu, who had been appointed by Adad-nīrārī III around 800 BCE¹²¹ (Villard: 2001, 817-818), remained in place during the

¹²⁰ However, the edition of the Assyrian King List from Sargon II's reign, known as the SDAS List, ascribes his parentage to Aššur-nīrārī V instead of Aššur-nīrārī III. One must give preference to the contemporary brick inscriptions from Aššur over the later composed text of the SDAS edition of the Assyrian King List. Sargon II, who was the second son of Tiglath-pileser III, not the son of the previous king (Shalmaneser V), wanted to legitimize the reign of his father who had overthrown his own brother, Aššur-nīrārī V, through a normal father/son succession.

¹²¹ Before the reign of Sargon II (722-705) Assyrian kings chose their commander-in-chief in the first year of their reign and then appointed him to the eponymy in the third year. If the commander-in-chief was chosen during the reign, he was named the following year. Although Adad-nīrārī III appointed Šamšī-ilu commander-in-chief, around 797 BCE, he did not designate him as eponym. The previous commander-in-chief, Nergal-ilāya (810-797), had been appointed as eponym in 808 BCE. Šamšī-ilu describes himself in his inscription as "the governor of Namri", not as "the conqueror of Namri", in 797 BCE (Younger: 2016, 355-362).

reigns of his three sons, while the privilege of appointing the commander-in-chief was a royal prerogative of the king in office. There are three inscriptions which show that Tiglath-pileser was crown prince at least from 792 BCE (Kataja, Whiting: 1995, XII,10-15), so from years before Adad-nīrārī III's death:

[Adad-nerari (III), overseer (PA-*lum* = *waklum*), [son of Šamš]î-Adad (V), [over]seer, [son of Sha]lmanes[er (III), likewise, overseer] An estate [.. of x] hectar[es of land ... under the authority of] Bel-[ta]rši-[ilum]ma, [pre]fect of Kalhu, Adad-nerari (III), king (LUGAL) of Assyria, exempted (from taxes) and gave to [Nabû-d]ur-beliya, his eunuch. The corn taxes of this field shall not be collected, the straw taxes shall not be gathered. [The gov]ernor (and) the pr[efe]ct [shall not] e[xercise authority] over [them ..., eponymy of¹²²].

Adad-nerari (III), king (LUGAL) of Assyria, overseer, son of Šamšî-Adad (V), king of Assyria, overseer, son of Shalmaneser (III), king of Assyria, overseer [...] And Bel-[Harran ...] from the king (LUGAL) and the crown prince (DUMU LUGAL) before the gods for [...] as a good deed and favour [has received] for future da[ys]. By Aššur, Šamaš and [Enlil], the Assyrian Ištar, Adad, Nergal, Ninurta and the Sebetti (Pleiades), all these gods of Assyria, a future prince shall not cast aside the wording of this document. Month Ab, 26th day, eponymy of Mušalli-Inurta (in 792 BCE).

Kid[... In the fu]ture, at any time, [neither] the descendents of Renti-[... nor] the men of the household of the crown prince (DUMU LUGAL) shall dispute anything with Abi-ul-idi, high priest, or his descendents. Future prince: do not cast aside the wording of this tablet. Month March[esvan (VIII) in 792-782 BCE]¹²³

Adad-nerari (III), overseer, [son of Šamš]î-Adad (V), [over]seer, [son of Sha]lmanes[er (III), likewise, overseer ...] [the cor]n taxes [of this village] shall not be collected, its [straw taxes] shall not be gathered. [... T]iglath-pileser (III) ...] In the future, [of t]his vi[llage] and all of its possessions, nothing shall be taken away [f]rom Sabu son of Ahi-Nanaya and his [desc]endents. [By Ašš]ur, Adad, Ber and the Assyrian [Ištar]: Future prince: do not cast aside the wording of this tablet [... eponym year of] Tab-Bel [the governor of Bi]t Zamani (in 762 BCE).

These inscriptions mention the presence of a “son of the king” (DUMU LUGAL) in 792 BCE, whose name, Tiglath-pileser, appears in the inscription dated 762 BCE during Aššur-dân III's reign. In addition, the name of Tiglath-pileser is written TUKUL-ti-A-É.ŠĀR.RA *Tukulti-apil-éšarra* when he was crown prince, then TUKUL-ti-DUMU.UŠ-É.ŠĀR.RA *Tukulti-mār-éšarra* when he was king (LUGAL). The difference in meaning is minimal since -A- is read *apil* “heir” and DUMU is read *mār* “son”. Since Tiglath-Pileser III died in 727 BC and was probably 70-75 years old, he must have been born around 800 BCE and must have been about 10 years old when he was appointed royal heir (in 792 BCE). He must have been less than 20 years old when his father died (in 783 BCE). It was his young age that prevented him from exercising royal authority because he had to be able to lead military campaigns, which were then entrusted to the commander-in-chief. This unusual situation had already occurred with his father (Adad-nīrārī III) who had exercised his royal authority under the regency of his mother, Queen Semiramis (Sammu-ramāt), who had held the co-regency function for 5 years (Siddall: 2013, 13-17,129-132). This complex situation created a paradox: the reigning king did not actually exercise royal authority. If Šamšî-Adad (V) was around 20 when he was appointed crown prince (827-824) his son Adad-nīrārī (III) had to have been around 17 in 810 BCE. Two objects — a carved container (Fig. 9), found at Tarbišu (near Nineveh), autographed by the commander-in-chief Bēlū-lū-balāt (815-810), and a cylinder seal found at Nimrud (ancient Kalhu), which belonged to a royal official of Adad-nīrārī III— shed light on the position of these two kings during this period (Reade: 2009, 252-254).



Fig. 9 King Šamšî-Adad V with a tiara (right) facing his co-regent Adad-nīrārī (III) without a tiara

¹²² Bel-tarši-ilumma, prefect of Kalhu, was eponym in 797 BCE.

¹²³ The eponym of this inscription is not legible, but as in 792 BCE, Tiglath-pileser is only mentioned by his title of crown prince while he is designated by his name in 762 BCE, it can be assumed that this inscription which designates him by his title of crown prince was written before he began his co-regency in 782 BCE after the death of Adad-nīrārī III.



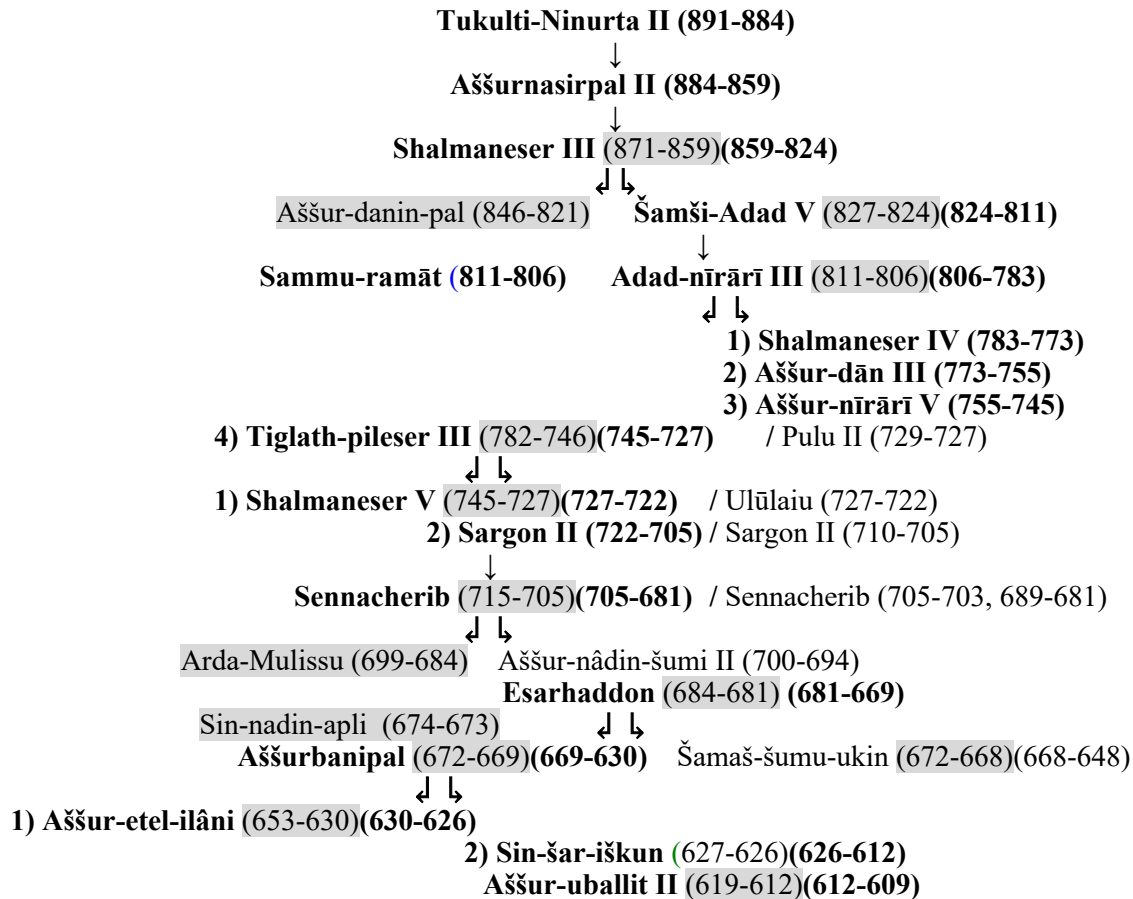
Fig. 10 Queen Sammu-ramāt (left) facing the king before the co-regent (Adad-nīrārī III)

On the cylinder seal (Fig. 10) there is a king (who wears the tiara with two royal ribbons in his back) kneeling before his (young) co-regent (who wears a diadem with also two royal ribbons). As the object belonged to Bēlū-lū-balāt (815-810), the governor of Balīḫu, the anonymous king must be Šamšī-Adad V (who had just died) and crown prince Adad-nīrārī (III). The queen, with a 5-spike crown and two royal ribbons, faces the king (her husband), himself before the co-regent (beardless young man who wears the two royal ribbons). This representation (Reade: 2009, 252-254) is doubly outstanding because it is the only depiction of an Assyrian queen and the only depiction of a crown prince without a beard. However, it fits perfectly with the 5-year co-regency of Sammu-ramāt (811-806) with his son Adad-nīrārī III who was around 20 years old in 806 BCE at the end of his co-regency. Herodotus mentioned the existence of this exceptional queen (The Histories I:184). The representation of this queen being unique it is controversial (Gansell: 2018, 83), but as the seal belonged to Bēlū-lū-balaṭ (815-810), the governor of Balīḫu, it imposes the choice of Semiramis (811-807). Bēlū-lū-balaṭ, was commander-in-chief (*turtānu*) under Šamšī-Adad V (824-811) and was eponym in 814 BCE. The seal must be dated 811-810 BCE.

The Assyrian empire experienced several co-regencies that began at the same time as the king's reign, such as Sammu-ramāt/Adad-nīrārī III (811-806); Shalmaneser IV/Tiglath-pileser III (783-773); Tiglath-pileser III/ Shalmaneser V (745-727). Tiglath-pileser III did not become king at the death of Shalmaneser IV presumably because he had been appointed as co-regent by Adad-nīrārī III, next to his elder brother who was the natural successor to the throne. King Tiglath-pileser III's career is, therefore, in accordance with Middle Eastern protocol, which never gives the name of the co-regent in official royal inscriptions, but only his title of *mār šarri* ("son of the king"), which is different from *mār šarru* ("son of king"). The situation was different with vassal or foreign kingdoms since in this case the ruler had a royal status and could use the title of king. The two-headed leadership of the Assyrian empire caused a problem for the commander-in-chief and other chiefs of staff who were leading military campaigns on behalf of the king. The problem was solved in a simple way: military campaigns in the name of the king were registered in his name, those in the co-regent's name were registered in the name of the commander-in-chief, or in the name of the chief of staff, who led the campaign (or who completed the construction of a temple) giving the impression that these high-ranking officials had granted themselves royal powers.

The office of the *turtānu* differed from the office of the other high officials in one very important respect: his role was primarily a military one, as he was the military commander of the Assyrian army for a long period, until the Assyrian kings divided the army into two: a provincial army commanded by the *turtānu*, and a central standing army (royal corps) commander by the *rab ša-rēšē* (Chief Eunuch). A *turtānu*'s army might have been partly recruited from the armies of local governors, vassals, and local population. The military role of Šamšī-īlu (797-747) to the west of the empire was counterbalanced by the military role of Chief Eunuch to the east (Dezsó: 2012, 218-227). As Šamšī-īlu had played a key role in the military campaigns to the west when Tiglath-pileser III was co-regent (782-746), not when he was designated as royal heir (792-782). His death¹²⁴, around 747 BCE, caused a policy change in the Assyrian empire, as it was only the king (Aššur-nīrārī V) who appointed this key figure to head the army. This death pushed Tiglath-pileser III, who was the co-regent of Aššur-nīrārī V (Davenport: 2016, 38-39), to take power to appoint a new *turtānu*. Such a complex situation was not exceptional as shown by the genealogy of Assyrian kings (Kalimi, Richardson: 2014, 173-181; May: 2017, 153; Chen: 2020, 199-201) given that it occurred (i.e. 2 successors 𐎠 𐎡) with Adad-nīrārī III, Tiglath-pileser III, Sennacherib and Ashurbanipal.

¹²⁴ As Šamšī-īlu was governor of Namri in 797 BCE he must have been at least 20 years old at that date, so he must have been born around 820 BCE and must have been around 73 years old in 747 BCE.

King of Assyria, Crown Prince/Co-regent, King of Babylon


Sennacherib appointed Aššur-nādin-šumi II (700-694) as king of Babylon, Arda-Mulissu (699-684) and later also Esarhaddon as Crown Prince (684-681). The succession of Ashurbanipal is poorly documented, but he seems to have appointed Aššur-etel-ilāni as crown prince in 653 BCE and the latter seized power in 630 BCE (Villard: 2001, 105-107). However, the crown prince was not named in 653 BCE and then never appeared on the sculptures (Reade: 1972, 93). That would explain why his short reign (630-626) is not mentioned in the Babylonian King lists because the legitimate king remained Ashurbanipal (669-626). The case of Shalmaneser V is simpler: because of his short reign (727-722) he had no time to appoint a crown prince; consequently, when he died, one of his two brothers, later called Sargon (*Šarru-kīn* “the legitimate king”), took over the kingship. All these examples show that crown princes acted as co-regents (when they were over 20 years old).

Previous chronological reconstructions show that all synchronisms between the Israelite and Assyrian reigns from Tiglath-pileser III to Sargon are in perfect agreement with absolute dates. According to the biblical text, Menahem (771-760) paid a tribute to Pūl (פול), the Assyrian king who preceded Tiglath-pileser III. An inscription of Awarikku, King of the Danunites, referred to the rebellion of western states led by Mati'-El against Tiglath-Pileser III in 743-742 BCE. It reads: *This frontier region is the gift of Tiglath-Pileser, Pu'al, King of Assyria (תכליתאפלט פאל מלך אשור) to the king and dynasty of the king of the Danunites* (Kaufman: 2007, 7-26). This inscription shows that Tiglath-pileser III was previously known as Pulu. According to Menander of Ephesus (c. 200 BCE), the author of a book of Annals and translator of the Tyrian archives in Phoenician (destroyed in 146 BCE) into the Greek language, the Assyrian king named Pul(as) reigned 36 years:

The king of Assyria invaded all Syria and Phoenicia in a hostile manner (in 773 BCE). The name of this king is also set down in the archives of Tyre, for he made an expedition against Tyre in the reign of Elulaios¹²⁵ (Luli I). This is also attested by Menander, the author of a book of Annals and translator of the Tyrian archives into the Greek language, who has given the following account: And Elulaios (?), to whom they gave the name of Pulas, reigned 36 years; this king, upon the revolt of the Kitieis (Cyprians), put out to sea and again reduced them to a submission (Jewish Antiquities IX:283-284).

¹²⁵ This king of Tyre cannot be Luli II (729-694) because according to Assyrian records he was king of Sidon during the 3rd Sennacherib campaign (702 BCE) and fled from Tyre to Cyprus where he “died” shortly afterwards. This information is incompatible with the length of his reign, implying that he was already king in 736 BCE at the time of Hiram III (739-730).

Given that Tiglath-pileser III revolted against his brother, Adad-nīrārī V, in 746 BCE, his effective co-regency must have begun 36 years earlier in 782 BCE, which fits exactly the time period (782-746). Since the Assyrian king who ruled during the reign of Menahem was Aššur-dān III, it was not this king, but an Assyrian co-regent named Pulu in Assyrian (or “Son of Majesty” in Aramaic), which is in excellent agreement with the period during which the first three sons of Adad-nīrārī III reigned:

TABLE 20

JUDAH	reign	ISRAEL	reign	KING OF ASSYRIA	reign	CO-REGENT	reign
Uzziah (Azariah)	810 - [796 -	Jeroboam II	823 - -782	Šamši-Adad V	824-811	Aššurdanin-pal	824-821
				Adad-nīrārī III	811-783	Sammu-ramāt	811-806
		Zechariah	782-771	Shalmaneser IV	783-773	Pulu I	782 -
	-758	Menahem	771-760	Aššur-dān III	773-755		
Jotham	758 - -742	Peqah	758 - -738	Aššur-nīrārī V	755-745		-746
Ahaz	742 - -726	Hosea I	738-729	Tiglath-pileser III	745 - -727	Shalmaneser V	744 - -729
		Hosea II	729 -			(Pulu II)	729-727
Hezekiah	726 - -697		-720	Shalmaneser V	727-722	(Ulūlaiu)	727-722
				Sargon II	722-705	Sennacherib	715-705
				Sennacherib	705 - -681	Arda-Mulissu	699-684
Manasseh	697 - -669			Esarhaddon	681-669	Esarhaddon	684-681
						Aššurbanipal	672-669

As the Assyrian records before Tiglath-pileser III were lost, the events that took place during all this period (highlighted in grey) can only be reconstructed from the eponymous list and inscriptions. The period of time between the reigns of Adad-nīrārī III and Tiglath-pileser III is known only by the Eponym List (Millard: 1994, 70–71) and by some inscriptions.

TABLE 21

King (at Nineveh)	Reign	Co-regent (at Kalhu)		Commander-in-chief	Period
Aššurnasirpal II	884-871			[Aššur-iddin]	883 -
	871-859	Shalmaneser III	son 1		-858
Shalmaneser III	859 - -846			Aššur-bēlu-ka'in	858-854
	846-821	Aššur-danin-pal	son 1	Dayyān-Aššur	854 -
	826-824	Šamši-Adad V	son 2		-824
Šamši-Adad V	824 - -811			Yaḥālu	824-815
				Bēlu-lū-balāt	815-810
Adad-nīrārī III	811-806	Sammu-ramāt	mother	Nergal-ilāya	810-797
	806-792			Šamši-ilu	797 -
	792-783	Pulu I (heir)			
Shalmaneser IV	783-773	(crown prince)	son 1		
Aššur-dān III	773-755		son 2		
Aššur-nīrārī V	755 - -745		son 3		-747
			son 4		
Tiglath-pileser III	745-744			-	747-744
	744-727	Shalmaneser V	son 1	Nabū-da'inanni	744 - -726
Shalmaneser V	727-722		-	Ninurta-ilaya	726 -
Sargon II (at Nineveh)	722-715		son 2		
	715-705	Sennacherib	son 1		-710
Sennacherib	705-699			Sennacherib	710-686
	699-684	Arda-Mulissu	son 1	Bēl-emuranni	686 -
	684-681	Esarhaddon	son 2	(<i>turtānu of the East</i>)	-680
Esarhaddon	681-674			(Esarhaddon?)	680 -
	674-672	Sin-nādin-apli	son 1		
	672-669	Aššurbanipal			-669
Aššurbanipal	669-653			Mār-larīm (<i>West</i>)	669-630
	653-627	Aššur-etel-ilāni	son 1	Šalam-šarru-iqbi (<i>West</i>)	630 -
Aššur-etel-ilāni	627-626	Sin-šar-iškun	son 2		
Sin-šar-iškun	626-619				-615
	619-612	Aššur-uballit II?	son 2	Šamaš-šarru-iqbi	615-612
Aššur-uballit II	612-609			Nabū-mār-šarri-ušur	612-609

The co-regency of Tiglath-pileser III is, therefore, not exceptional, since 9 out of 16 Assyrian kings during the period 884-609 BCE had a period of co-regency before reigning. However, this time period (811-727 BCE) includes several oddities:

- Adad-nīrārī III started his reign with a 5-year co-regency with his mother, Semiramis (Sammu-ramāt “Heavens-beloved”). It was indeed a co-regency since Semiramis led a military campaign alongside her son (Siddall: 2013, 86-100). As the king had to be able to conduct military campaigns personally, as a soldier he had to be at least 20 years old (Herodotus I:136,209). As Adad-nīrārī III's father was Šamši-Adad V (824-811), he was probably born around 825 BCE. When his father died in 811 BCE, Adad-nīrārī III was therefore 14 years old when he was enthroned, which obliged his mother, Semiramis, to assume the regency (811-806) until her son reached the age of 20, when he could personally lead military campaigns and found a dynasty.
- Instead of the usual transition father/son, four brothers succeeded one another on the throne of Assyria: 1) Shalmaneser IV, 2) Aššur-dān III, 3) Aššur-nīrārī V and 4) Tiglath-pileser III.
- Usually the commander-in-chief (*turtānu*) was chosen in the first year of the new Assyrian king, but Šamši-ilu was appointed by Adad-nīrārī III around 800 BCE (presumably to replace Nergal-ilāya who must have died¹²⁶), but without being named to eponym (unique case). However, he was reappointed to office by the three successors of Adad-nīrārī III (in 780, 770 and 752 BCE).
- The eponym list for the reign of Aššur-dān III (773-755) is anomalous, as only the king himself and the commander-in-chief, in regnal years 2 and 3, are inserted to break the sequence of provincial governors, who otherwise continue on from the reign of the preceding king (Finkel, Reade: 1995, 167-172).

Kalhu (Nimrud) was one of the great neo-Assyrian capitals. The expansion of the city into becoming the capital was the result of the activity of Aššurnasirpal II (884-878) who started the works in 878 BCE. He began the construction of the 7.5 km long quadrangular defensive wall, probably completed by Shalmaneser III (859-824). The palace of Aššurnasirpal II remained an important royal building which was surpassed by the “Central Palace” built by Adad-nīrārī III (811-783). This royal palace, the residence of the Assyrian kings, was redesigned by Tiglath-pileser III. The governor of this city thus had a special relationship with the king, his superior next to the commander-in-chief. The archives of the governor's palace shed light on the relationship between all these high-ranking figures of the kingdom.

TABLE 22

King (at Nineveh)	Reign	Co-regent (at Kalhu)	Governor of Kalhu	Period
Aššurnasirpal II	884-871			
	871-859	Shalmaneser III	Nergal-āpil-kūmūa	873 -
Shalmaneser III	859 -			-851
	-846		Šamaš-bēlu-ušur	851 -
	846-821	Aššur-danin-pal		844
	826-824	Šamši-Adad V		-?
Šamši-Adad V	824 -		Mušēzib-ninurta	? -
	-811			817
Adad-nīrārī III	811-806	Sammu-ramāt		-808
	806-792		Bēl-tarši-iluma	808-791
	792-783	(Heir)	Aššur-bēlu-ušur	791 -
Shalmaneser IV	783-773			-772
Aššur-dān III	773-755	(The King my lord)	Šarru-dūrī	772 -
Aššur-nīrārī V	755 -	(Governor of the land)		-744
	-745			
Tiglath-pileser III	745-744		Bēl-dān	744 -
	744-727	Shalmaneser V		-728
Shalmaneser V	727-722		Marduk-rēmāni	728 -
Sargon II (at Nineveh)	722-715			-713
	715-705	Sennacherib	Aššur-bāni	713-705

Three important points should be noted: the governor of Kalhu often began his office in the year following the king's accession to the throne; he was an important figure because he is often eponym; among all these letters, Šamši-ilu (797-747) is never cited by name but always by his title of *turtānu* commander-in-chief (Postgate: 1973, 8-11). When we place the co-regents in parallel with the kings, we notice that the reconstitution of the governors contains anomalies: either they seem to disappear, like those who officiated under Aššur-danin-pal and Šamši-Adad V (846-824 BCE) or the letters are no longer precisely dated, like those under Shalmaneser IV, Aššur-dān III and Aššur-nīrārī V (783-745 BCE). The most surprising period is

¹²⁶ As Nergal-ilāya had been appointed eponym in 830 and 817 BCE, as governor, he had a long career of 33 years in 797 BCE.

during the governorate of Šarru-dūrī (772-744) because he did not hold the eponymy office and among the six letters, written c. 750 BCE according to script and phraseology, that the king addressed to him as Governor (LÚ.EN.NAM) Šarru-dūrī, he never presents himself by name, contrary to protocol, but only by the title of “King, my lord (LUGAL EN-ia)” in four letters (No. 185 to 187) or by the title of “Governor of the land, my lord (LÚ.GAR.KUR EN-ia read: *šakin māti belia*)” in two letters (No. 188 and 189). The latter title was only used by governors of Assyria because provincial governors, or prefects, used the title *šakin iēmi*. In a letter (No. 201) Governor Bēl-dān mentions that “his family is from kings (*šar-e-e*) of Kalku” (Postgate: 1973, 11,22,199-200). These letters are difficult to decipher because according to official protocol there was only one king of Assyria wearing the tiara, but in practice there could be a co-regent, or vice-regent, who had the same power as the king without having either the title (LUGAL) or the tiara (MEN read: *agū*). So, the Assyrian scribes of Kalhu respected these contradictory requirements by mentioning an anonymous king (LUGAL) or by using a title reserved for the governor of Assyria (LÚ.GAR.KUR KUR AŠ), a sort of co-regent of the king of Assyria. The tomb of Queen Yabā, who was the (favourite) wife of Tiglath-pileser, and who was buried in Kulhu, confirms that her husband was co-regent. Queen Yabā probably died before 760 BCE¹²⁷ when Šarru-dūrī (772-744) was Governor of Kalhu. The name of Yabā was inscribed on two gold bowls in the Tomb II. On two inscriptions and a stone funerary tablet read as follows:

ša₂ **ia-ba-a MI₂.E₂.GAL** al-ti ^mgišTUKUL-A-E₂.ŠAR₂.RA MAN KUR AŠ
Belonging to Queen Yabā, wife of Tiglath-Pileser, Vice-regent of Assyria

ša₂ **ia-ba-a MI₂.E₂.GAL** ša₂ ^mTUKUL-A-E₂.ŠAR₂.RA MAN KUR AŠ
Belonging to Yabā, queen of Tiglath-Pileser, Vice-regent of Assyria

1. MU ^dUTU ^dereš-ki-gal ^da-nun-a-ki /2. DINGIR.MEŠ GAL.MEŠ ša₂ KI-ti **ia-ba-a** /3. **MI₂.E₂.GAL**
ina mu-te NAM ZI-ti 4/- /14.

By the command of Šamaš, Ereškigal and Anunnaki, the great gods of the netherworld, mortal destiny caught up with Queen Yabā in death

We notice that Tiglath-pileser's name is spelled with the word -A- (*aplu*) inside, when he was co-regent, not with the word -DUMU- (*māru*) when he was king (LUGAL), moreover, the title MAN “Co-regent” is used instead of LUGAL “king”, as when Sennacherib was Co-regent (MAN) of king (LUGAL) Sargon II. The study of Tiglath-pileser III's campaigns enables us to understand the aim of his conquests and his strategy (Garelli: 1991, 46-51). Under Shalmaneser IV and Aššur-dan III, military expeditions were directed to Damascus, but without great consequences, and twice against Hazrak (Hatarikka), a strategic position on the way to the river Orontes. But the kingdoms continued to exist. Assyria was then threatened by Urartu, whose power was then on the ascent, and its own interest dictated a comparatively moderate attitude towards the Aramaean kingdoms. The solution was to maintain Assyrian control of Arpad, the close neighbour who dominated the whole area between the land of Euphrates and the river Orontes. The best thing for this purpose was to induce this neighbour to conclude agreements with Assyrian Ruler Bar Ga'yah (“Son of Majesty” in Aramaic), who was king of KTK, an unknown kingdom (Fitzmyer: 1995, 167-174). Paradoxically, this powerful Assyrian ruler, who dominated the Levant during the period 785-745 BCE from a region located near the kingdom of Hamath, has still not been identified despite nearly 90 years of research (Na'aman: 1978, 220-239). Since 1931, there have been 17 attempts to identify the mysterious Bar Ga'yah “king of KTK”, all of which have failed. We only know that KTK must be a powerful Aramean entity in northern Syria that bordered Arpad and it was ruled by an Assyrian or “philo-Assyrian” ruler (Younger: 2016, 537-547).

In almost all the royal frescoes in the palace of Til-Barsip (Tell Ahmar), the anonymous Assyrian king is depicted facing his co-regent before the beardless commander-in-chief. The oldest representations were painted in the time of Tiglath-Pileser III but were probably commissioned by Šamšī-ilu (797-747), because this powerful commander-in-chief, who acted in the name of the co-regent Pulu (hypocoristic of Tiglath-Pileser), never mentions the names of the three kings of his time who had appointed him to his post. The only inscriptions from this period are those dated around 780 BCE, one of Ninurta-bēlu-ušur, the governor of Til-Barsip (Younger: 2016, 362-365), and another of Šamšī-ilu (inscription engraved on a stone lion) which mentions his victory over Argišti I, the king of Urartu, without mentioning Shalmaneser IV because Šamšī-ilu usually operated for co-regent Pulu (Thomas: 2019, 120-122,143-149).

¹²⁷ In the Northwest Palace of Nimrud (Kalhu), there were recovered graves and objects of the queens Yabā (Tiglath-Pileser III), Banītu (Shalmaneser V) and Ataliya (Sargon II) in Tomb II. The skeletons of Yabā and Atalia were found in the same sarcophagus. Paleopathological work on the skeletons indicates that both women died at approximately the same age, that of 30 to 35. But they were not buried at the same time, as there were 20 to 50 years between the interments: “Hamā, Yabā - Banītu, and Ataliya” (Yamada, Yamada: 2017, 389-396). If Tiglath-pileser was born around 802 BCE and married at the age of 20, c. 782 BCE to a princess aged c. 15, this woman must have been born c. 797 BCE and must have died c. 765-760 BCE.

A key chronological fact identifies the powerful Assyrian ruler, king of KTK, who imposed four treaties on Mati'-El, king of Arpad, during the period 783-754 BCE (Lemaire, Durand: 1984, 58). Assyrian domination depended on the respect of such treaties by independent sovereigns. The 746 coup changed the whole affair. Mati'-El was no longer bound by his oath of allegiance to Aššur-nīrārī V. Since the king had been eliminated and the commander-in-chief Šamši-ilu (797-747) had disappeared, the attitude of the king of Arpad can be even better explained¹²⁸. Until 738 BCE, Tiglath-Pileser III had adopted a flexible policy, like that of Shalmaneser III who had begun his Syrian campaigns in 858 BCE by annexing the territory of his closest neighbour, Bit-Adini, turning Til-Barsip into Kar-Shalmaneser, but he could not carry this annexation policy further because his opponents were too powerful, as the battle of Qarqar in 853 BCE clearly showed. Tiglath-pileser III followed the same plans, but the balance of forces in his favour enabled him immediately to annex the territories adjoining Bit-Adini, where he posted permanent garrisons to launch faster counter strokes in case of need. This did not always prove possible because of the Medes and Urartu. That is why he unfolded his annexation plan of the Syro-Palestinian war: Rezin of Damascus, Peqah of Israel (2Ki 16:5-9) and the Philistine cities formed a coalition which Ahaz refused to join, calling Tiglath-pileser III to his aid (2Ch 28:16-20). While no Aramaic inscriptions mention the existence of an Assyrian king named Pul in the Bible (Tiglath-pileser as co-regent), to whom Menahem (771-760) paid tribute, Zukkur King of Hamath (810-785) made an alliance (in 805 BCE) with an anonymous Assyrian king named Ba(r) Gawah ("Son of Majesty" in Aramaic) and Mati'-El, King of Arpad (785-740), concluded four treaties of alliance over the period 783-754 BCE with another anonymous Assyrian king also named Bar Ga'yah ("Son of Majesty" in Aramaic). The chronology of the Aramaic kingdoms is based on the Assyrian chronology (Lipiński: 2000, 119-299). Synchronisms are highlighted in grey:

TABLE 23

King of Arpad (Bit Agusi)	reign	King of Hamath	reign	King of Syria (Damascus)	reign	King of Assyria	reign
Gūš	890-860	Parita	885-860	Hazael	885 -	Aššurnasirpal II	884-859
Hadrām	860-830	Urḫilina	860-835		-840	Shalmaneser III	859 -
Attaršumki I	830 -	Uratami	835 -	Bar-Hadad III	840 -		-824
			-810			Šamši-Adad V	824-811
	-800	Zakkur	810 -		-805	Adad-nīrārī III	811 -
Bar-Hadad	800-796			Mari'	805 -		
Attaršumki II	796-785		-785		-780		-783
Mati'-El	785 -	[unknown]	785 -	Heziōn II	780 -	/(Pulu I)	782 -
			-745		-754		-746
	-740	Eni-ilu	745 -	Rezīn	754 -	Tiglath-pileser III	745 -
			-732		-732		
						(Pulu II)	-727
King of Judah	reign	King of Israel	reign	King of Ya'udi /Sam'al	reign	King of Assyria	reign
Athaliah	885-879	Jehu	885 -			Aššurnasirpal II	884-859
Joash	879 -		-856	Hayyānu	860-855	Shalmaneser III	859 -
	-839	Jehoahaz	856-839	Ahabbu	855 -		-824
Amaziah	839 -	Jehoash	841-823		-825		
	-810	Jeroboam II	823 -	Qarli	825 -	Šamši-Adad V	824-811
Uzziah (Azariah)	810 -		-782		-790	Adad-nīrārī III	811 -
	[796 -			Panamuwa I	790 -		-783
	-758	Zechariah	782-771			/ Pulu I/Bar Ga'yah	782 -
		Menahem	771-760		-750		-746
Jotham	758-742	Peqah	758 -	Bar-Šūr	750-745		
Ahaz	742 -		-738	Azriau	745-738	Tiglath-pileser III	745 -
		Hosea I	738-729	Panamuwa II	738-733		738
	-726	Hosea II	729 -	Bar-Rakib	733 -	(Pulu II)	729-727
Hezekiah	726 -					Shalmaneser V	727-722
	-697		-720		-712	Sargon II	722-705

¹²⁸ He joined the coalition formed by Sarduri II (766-733) of Urartu. Practically, all Northern Syria, from Arpad to Melitene, adhered to the coalition. It was utterly defeated, but Sarduri II was able to escape. Tiglath-pileser III annexed the territories between Arpad and the coast near Antioch and Hamath. All the others, including Sama'al, Carchemish, Damascus, Samaria and the Phoenician cities were left independent, though forced to pay tribute. In short, he annexed the nearest conquered territories, thus enabling him to cut off possible future enemies, and he imposed his authority on more remote sovereigns without deposing them.

The reign of Zakkur (810-785), king of Hamath, provides additional confirmations (Na'aman: 2005, 21-23) which are mentioned in the Antakya Stela and in the Zakkur Stela. Title of Hameathite kings (Bryce: 2012, 134-138) according to Luwian and Assyrian inscriptions (Hawkins: 2016, 183-190):

TABLE 24

King of Hamath	Reign	Title (Corpus of Hieroglyphic Luwian Inscriptions)	Inscription
Parita	885-860	?	CHLI I: IX
Urḫilina (Irḫuleni)	860-835	I (am) Urhilina, son of Parita, Hamathite King	CHLI I: IX
Uratami (Rudamu)	835-810	I (am) Uratamis, Urhilina's son, Hamathite King	CHLI I: IX
Zakkur	810 - -785	Zakkur, the Hamathite Zakkur, king of Hamath and Lu'ash (Luhuti)	Antakya Stela Zakkur Stela
[unknown]	785-745	(Bar Ga'yah king of Kittika, <i>turtānu</i> Šamšī-ilu)	
Eni-ilu	745-732	vassal of Assyria (Tiglath-pileser III)	
Yaubîdi	732-720	vassal of Assyria	

According to this chronological reconstruction, the Assyrian ruler who imposed four oaths of loyalty on Mati'-El (c.785-740), king of Arpad, should also have imposed oaths of loyalty on the king of Hamath (c.785-745) because this kingdom was adjacent to the kingdom of Arpad, but there is no inscription mentioning Arpad during the period when Šamšī-ilu (797-747) came to that region. Some academics concluded that this powerful Assyrian ruler, who behaved like an Assyrian king, must have been Šamšī-ilu and must have reigned over the kingdom of Hamath, under the pseudonym Bar Ga'yah, king of KTK. They refused to identify Bar Ga'yah with an Assyrian king, despite the undeniable appearances, for the following two reasons: the treaties of the Assyrian kings are always written in their name, never under a pseudonym, and these treaties have always had a cuneiform counterpart (Lemaire, Durand: 1984, 37-58). This objection is correct for Assyrian kings, but not for co-regents, because if the inscriptions mention only one king, those mentioning the co-regent, or the commander-in-chief, always state that they acted under the authority of the king in title, but not in their own name. For this reason, the Assyrian co-regent named Pulu I (782-746), according to the biblical text and Tyrian records, is the same as the one called Bar Ga'yah in the four treaties with Mati'-El. So, the Assyrian king who presented himself under the pseudonym of Bar-Ga'yah ("son of majesty" in Aramaic) chose a noble name for the region he controlled, Bit-Adini and Hamath, the enigmatic kingdom of KTK¹²⁹ (in Aramaic). This practice was usual at that time because the Assyrians were calling Attar-šumki the king of Arpad: Bar-Guš ("son of Gush"), King of Bit-Agusi ("the house of Gush"). Similarly, the son of Hazaël, was called Bar-Hadad (III) king of Aram ("Syria"), like Bar-Hadad, king of Bit (A)guši. It was thus usual to name a king by his filiation with the founder of his dynasty: Guš, Hadad or "Majesty". However: Til Barsip, which was the capital of Bit-Adini, or Beth-Eden (Am 1:5), was not anymore a vassal kingdom of Assyria but a part of the Empire.

Tiglath-pileser III mentioned his parentage to his father (Aššur-nīrārī III) just once but instead preferred using the Assyrian title *mār šarri* "son of the king (i.e. co-regent)" rather than his name with King Mati'-El. For example, the expression: *mār šarri šar kitti-ka* "The son of the king is your loyal king" in Assyrian, could be translated into Aramaic, *bar gayah melekh kittika* "The son of Majesty is king of Kittika". For the Assyrians, the royal notion of loyalty or legitimacy was essential and for them there was only one king¹³⁰. The commander-in-chief, Šamšī-ilu (797-747), faithfully served the co-regent Tiglath-pileser III, as well as the others Assyrian kings, until his death around 747 BCE (this death probably pushed Tiglath-pileser to take power because it was only the king who could appoint the commanders-in-chief). For example, the Akkadian expression *zēr kittu* means "legitimate/loyal heir" and the name Sargon (*šar-kīnu*) means "legitimate king". The study of the reign of Zakkur makes it possible to confirm the existence of Bar Ga'yah. The following event during Zakkur's reign (c.810-785) is described in the Antakya Stela:

Adad-nīrārī (III), great king, mighty king, king of the universe, king of Assyria, son of Šamšī-Adad (V), mighty king, king of the universe, king of Assyria, son of Shalmaneser (III), king of the four quarters. The boundary which Adad-nīrārī (III), king of Assyria, and Šamšī-ilu, the commander-in-chief, established between Zakkur, the Hamathite, and Ataršumki (I) [in Arpad], son of Adramu: the city of Nahlasi together with all its fields, its orchards and its settlements is Ataršumki's property. They divided the Orontes River between them. This is the border. Adad-nīrārī, king of Assyria, and Šamšī-ilu, the commander-in-chief, have released it from obligations free and clear to Ataršumki, son of Adramu, to his sons, and his subsequent grandsons. He established his city and its territories [...] to the border of his

¹²⁹ It is noteworthy that the word *kitti-ka* (written *ki-it-ti-ka* in the El-Amarna letters EA 198 and 246) means "your loyalty" in Akkadian (and could be written KTK in Aramaic).

¹³⁰ In fact, the word MAN (read *šarru/šanū*) also meant king (LUGAL read *šarru*) but in the sense "duplicate king". In the palace of Til-Barsip, Tiglath-pileser, as anonymous co-regent (Pulu), monopolises this position on all wall paintings (Thomas: 2019, 37,120-122,143-149).

land. By the name of Aššur, Adad, and Ber, the Assyrian Enlil, the Assyrian Ninlil, and the name Sin, who dwells in Harran, the great gods of Assyria: whoever afterwards speaks ill of the terms of this stela, and takes away by force this border from the possession of Ataršumki, his sons, or his grandsons, and destroys the written name and writes another name: may Aššur, Adad, and Ber, Sin who dwells in Harran, the great gods of Assyria whose names are recorded on this stela, not listen to his prayers.

The inscription reveals a situation when both kings of Hamath and Arpad were loyal subjects of Assyria. The fact that this inscription was written on Ataršumki's behalf (c.830-800), identifying Arpad's border with Hamath, attests Arpad's alliance with Assyria at the time. The settlement of this dispute should be dated to before 805–804 BCE, that is, to a time when Arpad was still a loyal subject of Assyria. The eponym chronicle notes that an Assyrian campaign was conducted in the west beginning in 805–804 BCE, with Arpad, which had rebelled against Assyrian hegemony, as its main target. On the other hand, the Antakya Stela cannot be dated earlier than 808–807 BCE, since the *turtānu* (commander-in-chief) at that time was Nergal-ilāya (810-797). The border dispute between Arpad (which was in rebellion against Assyria by 805/804 BCE) and Hamath (which remained loyal) indicates the beginning of friction between western pro- and anti-Assyrian kingdoms. The stela is dated in 796 BCE because Šamšī-ilu was commander-in-chief (797-747) and King Adad-nīrārī III (811-783) visited the region in 796 BCE during the campaign against Mansuate. The Zakkur Stela has significant gaps, but the central part refers to a major attack which had been fomented by Bar-Hadad III (840-805), the son of Hazael:

The stela that Zakkur, king of Hamath and Luash, set up for Iluwer, [his god.] I am Zakkur, king of Hamath and Luash. I was a man of low estate, but Baalshamên [designated] me and he stood with me and Baalshamên made me king [in] Hadrach (Hatarikka). Then Bar-Hadad (III) the son of Hazael, the king of Aram, formed an alliance with sev[enteen] kings: Bir-Hadad and his army, Bar-Gush and his army, the king of Kue and his army, the king of Umq and his army, the king of Gurgum and his army, the king of Sam'al and his army, the king of Miliz and his army, the king of [... and his army, the king of ... and his army —that is, seve[n]teen] of them with their armies. All these kings set up a siege against Hadrach. They raised a wall higher than the wall of Hadrach. They dug a moat deeper than its moat. But I lifted my hands to Baalshamên, and Baalshamên answered me, and Baalshamên [spoke] to me through seers and through visionaries, and Baalshamaên [said]: “Fear not, for I have made [you] king, [and I who will st]and with [you], and I will deliver you from all [these kings who] have forced a siege against you!” Then Baalshamên said to me [... “]all these kings who have forced [a siege against you ...] and ...

The inscription's date is debated but it is usually placed between 800 and 775 BCE (Green: 2010, 157-174). Zakkur's account mentions providential help from Baalshamên (“Lord of the Heavens”) who had successfully broken the siege. It is agreed that the siege was broken by means of some intervention, which occurred in 805 BCE when Adad-nīrārī III led a campaign against Arpad. So, this major event had to have occurred before Zakkur's enthronement as king of Hamath and Lu'ash. The primary purpose of this inscription is to prove that his reign was providential from the start and that he enjoyed the support of his deity and consequently of Assyria. Since the gods and kings are never anonymous in Semitic inscriptions (Margalit: 1994, 13-14), the name of the Assyrian king who helped or appointed Zakkur (810-785), must be named in the lacuna at the beginning of the inscription (Briquel-Chatonnet: 1992, 128). In fact, the name appears on the left of the stela:

[c. 30 lines missing] Hazrak [...] for the chariotry [and] the cavalry [...] its king in its midst. I [rebuilt] Hazrak (Hatarikka), and [I] added [to it] the entire region of [Luash?] and [I] es[tabli]sh[ed] [my] reign [...] these strongholds throughout [my] territ[ory]. [Then I reb]uilt the temples of the gods in a[ll] my [territory], and I rebuilt [...] Apish and [...] the temple of [... And] I set up befo[re Iluwer] this stela, and [I] ins[cribed on] it the accomplishment of my hands. [Anyone at all] who removes the acc[omplish]ment of the hands of [Zakkur, king of Hama[th] and Lu[ash], from this stela, and whoe[ver re]moves this stela from [befo]re Iluwer and takes it away fir[om] its [pla]ce, or whosoever sends [...] Baa]lshamayn and I[l]uwer [...] and Shamash and Shahar [...] and the go[ds] of heave[n and the god]s of the earth and Baal (Nissinen, Ritner, Seow: 2003, 204-207).

Although the text is not clear, Zakkur established his reign just after he had mentioned an anonymous king. In fact, the translation “*its king in its midst (mlkh bgwh)*” makes no sense. In contrast the translation: “*its king Bi-Gawah*” fits the context because during the years 796 to 755 BCE the Kingdom of Hamath-and-Luash was the ascending power in the West (Kahn: 2007, 66-89). The name Bi-Gawah (or Ba-Ga'yah) is a contracted form of Bar-Ga'wah¹³¹ “son of majesty” (Fitzmyer: 1995, 59-60), in the same way as Bi-dqar (2Ki 9:25) is a contracted form¹³² of Bar-Deqer (1Ki 4:9) “son of piercing”. Consequently, Zakkur would

¹³¹ The Hebrew word *ga'wah* means “majesty, pride” and the Aramaic word *gēwah* (Dn 4:34) means “pride”.

¹³² Other contracted forms: Birshah (Gn 14:2) instead of Bar-Resha “son of wickedness”; Bimhal (1Ch 7:33) for Bar-Mehal “son of circumcision”; Baalis (Jr 40:14) for Bar-Alis “son of exultation”; Bishlam (Ezr 4:7) for Bar-Shalam “son of peace”.

owe to the Assyrian king Bar-Ga'wah the rebuilding of his kingdom when Luash¹³³ was incorporated into it at then time that the Assyrians came to Cedar Mountain in 775 BCE. The war against the north Syrian alliance (including the kingdom of Hamath), in 805 BCE, is described in detail in the Pazarcik stela. In that text Sammu-ramât (Semiramis) is said to have gone on campaign with Adad-nīrārī III, but she is absent from the campaign account in the two other texts. The inscription of Saba'a begins with the following text: “*In the 5th year I solemnly ascended to the royal throne (Adad-nīrārī III) and mobilised the land. I commanded the extensive army of Assyria to march to Hatti.*”

Adad-nīrārī III defeated the coalition of Syrian kings against Zakkur the king of Hamath and eliminated Bar-Hadad III, the son of Hazael, the instigator of this revolt, who was replaced by King Mari' (Siddall: 2013, 37-46). The military campaign to support Zakkur in 805 BCE was, therefore, led by Queen Sammu-ramât and Co-regent Adad-nīrārī III, the “son of Majesty (Šamši-Adad V)”, who had just been inducted in the 5th year of her reign in 806 BCE.

TABLE 25

BCE	KING OF ASSYRIA		campaign	KING OF HAMATH		KING OF SYRIA	
813	Šamši-Adad V	11		Uratami	22	Bar-Hadad III	27
812		12	against Chaldea		23	(son of Hazael)	28
811	Sammu-ramât	13 (0)	against Babylon		24		29
810	/ Adad-nīrārī III	1 (1)	no campaign		25		30
809		2 (2)		Zakkur (usurper)	1		31
808		3 (3)	against Guzana		2		32
807		4 (4)			3		33
806		5 (5)			4		34
805	Adad-nīrārī III	6	against Arpad	(the Hamathite,	5		35
804	(Bar-Ga'wah)	7		Assyrian vassal)	6	Mari'	1
803		8			7		2
802		9			8		3
801		10			9		4
800		11			10		5
799		12			11		6
798		13			12		7
797		14			13		8
796		15	against Mansuate	(KING OF LU'ASH/ LUHUTI)	14		9
795		16			15		10

Although Sammu-ramât had gone on campaign with Adad-nīrārī III, according to the Pazarcik stela, the Tell Sheikh Hamad stela ascribes to King Adad-nīrārī III the victory against the Syrian revolt.

[Adad-nīrārī (III), great king], strong [king], king of the universe, king of Assyria, son of Šamši-Adad (V), [strong king, king of the universe, king of Assyria, son] of Shalmaneser (III), king of the four quarter. I mustered [the chariots, the troops and] the camps. [I commanded them to march] to Hatti. I crossed the Euphrates as it was in flood. I went down to Paqiraḥubuna (Kummuh), Attar-šumki (I), [... and the kings] of Hatti who revolted, [...] the terrifying splendour of Aššur, my lord, [overwhelmed them. In] a single year (in 805 BCE), the land of Hatti [in its entirety(?), with the help of Aššur] my lord, I conquered. [I went to the sea of the west.] I erected my [lordly image] in Arwad, which is in the middle of the sea. I went up Mount Lebanon. I logged mighty beams of cedar (Siddall: 2013, 194-197).

Since this inscription was written after the victory in 805 BCE, Adad-nīrārī III, who had just been enthroned, was still considered as co-regent since Queen Sammu-ramât (811-806) accompanied him during his military campaign in 805 BCE. The stela of Zakkur is, therefore, accurate when it mentions the co-regent rather than Queen Sammu-ramât, but it does not mention the name of the co-regent (Adad-nīrārī III), according to the royal protocol, only his Assyrian title of crown prince (*mār šarri*). The Aramaic translation of *mār šarri* “Son of the king”, would have been *bar malka'*, which would have been incomprehensible and, therefore, been translated into Aramaic as *bar ga'wah* “Son of majesty”. Consequently, the enigmatic Assyrian king called Bar-Ga'wah, in Mati'-El's treaties in Aramaic was the same Assyrian co-regent (crown prince): Tiglath-pileser at that time (782-746). Some scholars prefer to identify the Assyrian king called Bar-Ga'wah (783-746) as being the powerful commander-in-chief Šamši-ilu (797-747). However, from a

¹³³ Hamath's northernmost territory was the important land variously called Luash (Aramaic), Luhuti (Akkadian), Lugath (Luwian). It was located east of the Orontes River, and south of the kingdom of Patin, in the region formerly occupied by the Nuhashshi lands. Luash first appears in Assyrian records in 870 BCE, the year in which Ashurnasirpal II campaigned against the states of Syria and Palestine (Bryce: 2012, 211). After invading Patin and receiving submission of its king Lubarna, Ashurnasirpal used the Patinite city Aribua as his base for military operations against Luash, which lay to its south.

linguistic point of view this identification is unlikely (Crouch: 2014, 96-106) because the translation of the Aramaic name Bar-Ga'yah "Son of majesty" into Assyrian does not match¹³⁴ either Šamšī-ilu "My Sun is god", or Adad-nīrārī "Aššur is my help". Mati'-El, King of Arpad, made four treaties of loyalty or allegiance at the beginning of the reign of each new Assyrian king (Villard: 2001, 818), three in Aramaic and one in Akkadian with Aššur-nīrārī V (755-745). The treaty of loyalty with Aššur-dān III, written at the beginning of his reign (in 772 BCE), and that with Aššur-nīrārī V, written at the beginning of his reign (in 754 BCE), show that the king of Arpad was a vassal of the Assyrian king. The Assyrian treaty in Aramaic with Bar-Ga'yah which was written at the beginning of Bar-Ga'yah's reign, shows that the king of Arpad was acting as a vassal of the king of KTK in the same way as other kings mentioned in the treaty, such as those of Mušri and Aram (Arnold, Beyer: 2002, 101-103). The other two loyalty treaties must have been concluded with Shalmaneser IV between 783 and 773 BCE (Lemaire, Durand: 1984, 56-58). Given that Bar-Ga'yah was King of KTK (instead of Assyria), this means that he was not the official king but only co-regent (thus he could lead military campaigns and ask for booty). The identification of the mysterious KTK has stirred up the imagination of linguists and epigraphists, whereas this city could only be Til Barsip, the military capital of the Assyrian kingdom of Bit-Adini (from 855 BCE) for their westward expansion. As Mati'-El was a vassal of Bar-Ga'yah the latter was more powerful than the king of Arpad and as in this treaty several deities from the Assyrian pantheon are invoked (Mulissu, Marduk, Nabu, Nergal and Shamash), Bar Ga'yah should be an Assyrian king (Rollston: 2010, 56-57). Some academics argued that Bar-Ga'yah should be understood as Šamšī-ilu, who would have usurped the title of king because of the weakness of the Assyrian kings. This assumption is contradicted by the following facts (Dion: 1986, 510-512):

- All the inscriptions of Šamšī-ilu mention his rank of commander-in-chief, never a title of king and the fact that he was reappointed as commander-in-chief by three successive Assyrian kings, as indicated by his three eponymies (780, 770, 752 BCE), proves that he was considered perfectly loyal.
- If Šamšī-ilu had usurped the title of king (only with the king of Arpad), it would have given him only an honorary rank because he was already conducting military campaigns and, as a eunuch, he was not able to start a dynasty. However, if that was the case why would he have changed his name to glorify an unknown "son of majesty" (*bar ga'yah*)?

- Bar-Ga'yah began his treaty by this phrase: *The treaty of Bar-Ga'yah, King of KTK, with Mati'-El son of Attaršumki, the king of Arpad; and the treaty of the sons of Bar-ga'yah with the sons of Mati'-El.* According to this inscription, Šamšī-ilu could not be a eunuch. To solve this problem, some scholars argue that the title of eunuch was only honorary, but we have at least four stelas, on which he is depicted beardless as true eunuch (Taşyürek: 1975, 169-180; Reade: 1972, 89 n. 12). If Šamšī-ilu had been capable of growing a beard, why did he shave it off when the king of Assyria, his nominal superior or even rival, is always shown bearded (Lawrence: 1986, 121-132)? It should be noted that although Adad-it'i, governor (*šaknu*) of Guzāna (c.850-c.825) is called king (*mlk*) of Guzāna in the Aramaic version of the bilingual statue inscription from Tell Fekheriyeh, he is also shown bearded (Abou-Assaf, Bordreuil, Millard: 1982, 13, 23-plates). Šamšī-ilu (character on the right) is represented beardless and bare-headed, facing to a gigantic god who is wearing the cylindrical triple-horned helmet of divinity (Aššur). He is a typical Assyrian deity closely comparable with other well-known representations such as the god-glazed tile from Aššur or Khorsabad Palace painting, although the lotus in his hand (like the representations of the kings of Byblos) is unusual for a god. The beardless character on the bas-relief is Šamšī-ilu, not Tiglath-pileser III (Lemaire, Durand: 1984, 110-111). Usually, only kings were in front of gods, but as Šamšī-ilu was serving two Assyrian kings at the same time (a king and a co-regent) he would have to represent a dual king, which would have been incomprehensible for an Assyrian official (because an Assyrian king always has a tiara on his head). Last detail: if Šamšī-ilu was the Assyrian king Bar Ga'yah, he would have represented himself larger, identifying himself as king and not as a high-ranking official.

Fig. 11 God Aššur *turtānu* Šamšī-ilu



¹³⁴ For example, Zakutu (701-668), a wife of Sennacherib, was the translation Akkadian of Naqia, "the pure" in Aramaic.

- Since the Kittika area was controlled by the Assyrian king, Bar Ga'yah, and was adjoining the kingdom of Bit-Agusi, it had to have included the kingdom of Hamath (Novák: 2010, 43). In addition, the city of Tillima (Tl'ym), which had belonged to the kingdom of Bit Agusi, had been restored in Kittika (Bryce: 2009, 708). Lemaire and Durand suggested that KTK could be an ancient name of Til Barsip, capital of Bit-Adini, because when Shalmaneser III in his first regnal year (858 BCE) attacked three towns of Ahuni, king of Bit-Adini, one of them was called Ki-[x]-qa. However this suggestion can be dismissed for two reasons (Yamada: 1995, 24-25): the name Til Barsip appears (URU.Til'-bur'-si'-ip') in the inscription of Shalmaneser III (line 33 of the Kurkh Monolith) instead of Ki-[it-ti?]-qa and secondly, from around 1000 BCE, Til-Barsip (Aramaic) was called Masuwari by the Hittites, not Kittika (Hawkins: 1983, 131-134); then from 855 BCE it was called Kar-Shalmaneser by the Assyrians.

All these facts show that Šamši-ilu (797-747) was a commander-in-chief in Til Barsip, not a king of KTK. However, some researchers have suggested that Bar Ga'yah may have been a pseudonym for the anonymous king of Hamath (785-745) who was an Assyrian vassal (Siddall: 2013, 120-121) but this is contradicted by the following facts:

- If Bar Ga'yah had been a king of Hamath, who was a vassal of Assyria like the king of Arpad, one may wonder what would have been the goal of such a treaty of loyalty, because this kind of treaty had to be concluded solely between a king and his vassal and not between two vassals. For example, as King of Arpad Mati'-El had concluded several treaties of loyalty with successive Assyrian kings. For example, Tiglath-pileser III wrote (Iran Stela):

In my third *palū* [in 743 BCE], Matī'-il, [the son of A]ttar-šumqa (Attar-šumkī), fomented a rebellious insurrection against Assyria and violated (his loyalty oath). [He sent] hostile messages about Assyria [to] the kings who ... of the land Ḫatti (Syria-Palestine) (and) ... the land Urartu and (thus) caused en[mity] in all (of those) lands. Sarduri (II) of the land Urartu, [Sulum]al of the land Me[lid], (and) Tarqularu (Tarḫularu) of the land Gurgum [came] to [his] aid. [Between] the lands Kištan and Ḫalpi, districts of the land Kummuḫu, [they] trusted in [one another's strength and] drew up a battle array.

- In Bar-Ga'yah's treaty several deities from the Assyrian pantheon are invoked (Mulissu, Marduk, Nabu, Nergal, Šamaš), which are significantly different (except Šamaš) from the Hamathite pantheon (Iluwer, Baalšamayn, Šamaš, Šahar and Baal) mentioned in the Zakkur inscription (Noegel: 2006, 307-311).
- Hamath's old name could not be Kittika (vocalized form of KTK). It is true that names of cities are different according to the languages, but the consonantal structure remains the same as can be seen in the names of the following cities: Hamath (Am 6:2), Hadrach (Zk 9:1) and the Cilician Plain:

Writing	Hamath	Hadrach	Cilician Plain
Aramaic /(Phoenician)	ḪMT	ḪZRK	(KW DNNYM)
Hittite	Amatuwana	?	Kizuwatna
Hebrew	ḪMT	ḪDRK	KLKYH?
Luwian hieroglyph	Imatu	Halpa	Katawatana
Assyrian/ Akkadian	Ḫamat	Ḫatarikka	Qawe Kisuatni/ Danuna

It is found that changes in the transcripts are of low amplitude (Woudhuizen: 2014, 112-114; Payne: 2010, 49-58): Hamat (Aramaic), Imatu (Luwian) or Amatuwana (Hittite). Consequently, the identification of Hamath with KTK is not possible. The anomalous career of Bēl-Ḫarran-bēlī-ušur (Siddall: 2013, 126-128) is in line with the co-regency of Tiglath-pileser (Pulu) with Shalmaneser IV. Although Bēl-Ḫarran-bēlī-ušur was a palace herald (*nāgir ekalli*) of Shalmaneser IV, he supported Tiglath-pileser against Aššur-nīrārī V during the revolt of 746 BCE and was appointed as eponym of Tiglath-pileser III (*Tukulti-mār-ēšarra*) in 741 BCE. Curiously, Bēl-Ḫarran-bēlī-ušur's name appears first in the text on a stone stela before the name of co-regent (MAN instead of LUGAL!) Shalmaneser (IV), which was changed to co-regent (MAN) *Tukulti-apil-ēšarra* (Grayson: 2002, 239-244), in addition, he mentioned in the text that he had founded a new city and named it after himself, which was a royal prerogative. The most logical explanation is to admit Bēl-Ḫarran-bēlī-ušur was an officer (governor) of Bar Ga'yah who was co-regent during the reign of Shalmaneser IV. Because the palace herald was Bēl-lēšer in Year 4 of Shalmaneser IV (in 778 BCE), Bēl-Ḫarran-bēlī-ušur probably exchanged his title of governor (of Guzana) for the more prestigious title of palace herald granted by Tiglath-pileser III. Bēl-Ḫarran-bēlī-ušur would therefore have been palace herald twice over a period of about 50 years (Yamada, Yamada: 2017, 426-428). The reign of Bar-Ga'yah is not easy to fix because only sporadic information is available about the Aramaean states during the period 800-750. Only a few prominent kings are known like Mati'-El (785-740) the king of Arpad, Heziôn II (780-750) the king of Syria and Menahem (771-760) the king of Israel (Samaria).

During this period the main features are as follows. The kingdom of Damascus, the most powerful of the time, resisted the Assyrian expansionism and encouraged several revolts. The kingdom of Hamath which

had joined at first the revolt became afterward, from Zakkur (810-785), a vassal of Assyria to strengthen its influence in Syria. The Kingdom of Arpad which was a vassal of Assyria was eventually annexed in 740 BCE. According to the Eponym Chronicle there were six campaigns in Syria during Bar-Ga'yah's reign (783-746). The campaign of 773 BCE was clearly a war against the kingdom of Syria which brought a considerable booty from Damascus. The three campaigns "to Hatarikka", which belonged to Mati'-El's kingdom (whose capital was Arpad) and was close to the border with the kingdom of Hamath, may have been directed against the king of Hamath or, on the contrary, have been aimed at helping a loyal vassal of Assyria against enemies. And finally, Aššur-nīrārī V's campaign to Arpad, in 754 BCE, is certainly related to the vassalage treaty imposed by the Assyrian to Mati'-El as is the same reason the same treaty during Aššur-dān III's campaign to Hatarikka (Hadrach), in 772 BCE (Lipiński: 2006, 220). The main difficulty over the period 785-745 BCE is to determine why the kingdom of Hamath, which was a vassal of the Assyrian empire, disappears from the inscriptions as well as from the Assyrian annals (Green: 2010, 157-174). The purpose of the first campaign in Syria in 775 BCE is unknown but it was led to conclude new treaties with some Aramaean kingdoms. Consequently, one can suppose that the treaty made by Aššur-nīrārī V with Mati'-El in 754 BCE was the fourth one.

Chronological reconstruction¹³⁵ of the period 785-745 BCE

TABLE 26

BCE	ASSYRIA (king)		campaign in SYRIA	BIT AGUSI	JUDAH	ISRAEL
786	25 Adad-nīrārī III			Attaršumki II	24 Azariah	37 Jeroboam
785	26				25 (Uzziah)	38
784	27			Mati'-El	26	39
783	28				27	40
782	1 Shalmaneser IV	(0)	(Crown Prince)		28	41 (2Ki 14:23)
781	2	(1)	Pulu I		29 2Ki 14:29	1 Zechariah I
780	3	(2)	(Tukulti-apil-ēšarra)		30	2
779	4	(3)			31	3
778	5	(4)			32	4
777	6	(5)			33	5
776	7	(6)	Bar-Ga'yah		34	6
775	8	(7)	To the cedar Mountain	1st Treaty	35	7
774	9	(8)			36	8
773	10	(9)	To Damascus	2nd Treaty	37	[9] (vassal)
772	1 Aššur-dān III	(10)	To Hatarikka	3rd Treaty	38	(2Ki 15:8-13)
771	2	(11)			39 2Ki 15:17	[11] Shallum
770	3	(12)			40	1 Menahem
769	4	(13)			41	2
768	5	(14)			42	3
767	6	(15)			43	4
766	7	(16)			44	5
765	8	(17)	To Hatarikka		45 2Ki 15:19	6 tribute to Pûl
764	9	(18)			46	7
763	10	(19)			47	8
762	11	(20)	(Tukulti-apil-ēšarra)		48	9
761	12	(21)			49	7
760	13	(22)			50 2Ki 15:23	11 Pekayah
759	14	(23)			51	1 (2Ki 15:27)
758	15	(24)			52 Jotham	2 Peqah
757	16	(25)			1 (2Ki 15:32)	1
756	17	(26)			2	2
755	18	(27)	To Hatarikka		3	3
754	1 Aššur-nīrārī V	(28)	To Arpad	4th Treaty	4	4
753	2 Assyrian army	(29)	defeated by Sarduri II		5	5
752	3	(30)	(Urartu)		6	6
751	4	(31)			7	7
750	5	(32)			8	8
749	6	(33)			9	9
748	7	(34)			10	10
747	8 (end of Šamšī-ilu?)	(35)			11	11
746	9	(36)	Revolt in Kalhu		12	12
745	10	0	(Tukulti-mār-ēšarra)		13	13
744	1 Tiglath-pileser III	(1)			14	14

¹³⁵ The campaigns in Syria are dated according to their eponyms: 1) To the cedar Mountain in 775 BCE (Nergal-ereš), 2) to Damascus in 773 BCE (Mannu-ki-Adad), 3) to Hatarikka in 772 BCE (Aššur-bel-ušur), 4) in 765 BCE (Ninurta-mukin-niši), in 755 BCE (Iqisu), 5) to Arpad in 754 BCE (Ninurta-šešibanni).

743	2	/Shalmaneser V	(2)	To Arpad Pu'al	Treaty broken	15	15
742	3		(3)	To Arpad		16	16
741	4		(4)	To Arpad		1 Ahaz	17 (2Ki 16:1)
740	5		(5)	To Arpad		2	18
739	6		(6)			[3] (vassal)	19
738	7		(7)	Hatarikka annexed		[4] (2Ki 15:30)	20 Hosea I
737	8		(8)			[5]	[1] (vassal)
736	9		(9)			[6]	[2]

Fig. 12 Aramaic kingdoms in the 9th century BCE (Bryce: 2012, 46)



This chronological reconstruction shows that the annexation of the Aramean kingdoms by the powerful Assyrian kings began with Zakkur (810-785), the king of Hamath. Not so much is known about Zakkur. He is first mentioned in Assyrian sources in 808 BCE, at the time of Adad-nīrārī III (811-783). He appears to have been a native of 'Ana' (which may refer to the city of Hana/Terqa) on the Euphrates River, which was within the influence of Assyria. He was a usurper because, previously, Hamath was ruled by the kings with

Luwian or neo-Hittite names and Zakkur, unlike his predecessors, never refers to his ancestors in his title. When Urutami (835-810) died, Zakkur seized power, but Bar-Hadad III (840-805), King of Syria, formed an alliance with 17 other kings of the region to oppose Assyrian vassalization, which prompted Zakkur to seek help from Adad-nīrārī III who, in 805 BCE, ordered his commander-in-chief, Nergal-ilāya (810-797), to quell the revolt. In his inscriptions, Zakkur thanks Baalshamēm “Lord of the Heavens” also King Bar Gawah (“Son of Majesty”), but not Adad-nīrārī III. This anomaly can be explained as follows: as Adad-nīrārī III's father was Šamši-Adad V (824-811), he was probably born around 825 BCE. His father died in 811 BCE, Adad-nīrārī III was, therefore, 14 years old when he was enthroned, which obliged his mother, Semiramis, to assume the regency until he reached the age of 20, when her son could personally lead military campaigns. Consequently, in 805 BCE, the campaign against Arpad, which should have been legally attributed to Semiramis, the regent (811-806), was given to the co-regent, son of the Majesty (Šamši-Adad V). Moreover, to attribute a war to a queen would have been a disgrace for Zakkur. As a result, in 805 BCE, Zakkur, the king of Hamath, became a vassal of Adad-nīrārī III. In 796 BCE, Adad-nīrārī III asked Šamši-īlu (797-747), his new commander-in-chief, to intervene in support of Zakkur who was challenged by Bar-Hadad (800-796), king of Arpad (Bit Agusi). Following this military intervention, Zakkur became, in 796 BCE, king of Hamath and Luash (Luhati). Hadrach (Hatarikka for the Assyrians; modern Tell Afis) was the capital of Luash, a country with many cities and troops according to Assyrian inscriptions.

The regency exercised by Semiramis ceased when Adad-nīrārī III was able to found a dynasty by having children. Therefore, he probably had heirs from 805 BCE: Shalmaneser IV (c.805 BCE); Aššur-dan III (c.804 BCE); Aššur-nīrārī V (c.803 BCE) and Tiglath-pileser III (c.802 BCE). For some unknown reason, in 792 BCE, Adad-nīrārī III appointed his 10-year-old youngest son, Tiglath-pileser, as Crown Prince, rather than his eldest son, which was the usual custom (perhaps Adad-nīrārī III chose Tiglath-pileser because of his abilities or because of his mother's royal origins). This surprising choice was going to cause difficulties because when Adad-nīrārī III died in 783 BCE, Tiglath-pileser was less than 20 years old and was therefore not able to conduct military campaigns or found a dynasty. Shalmaneser IV, who was about 22 years old, will thus succeed his father, according to the custom, but Tiglath-pileser was declared co-regent of the western part of the Assyrian empire (because he was Crown Prince). To enable him to conduct military campaigns, Shalmaneser IV chose not to appoint a new commander-in-chief (*turtānu*), as was the tradition, but to rename Šamši-īlu, who had been chosen by Adad-nīrārī III and to authorize him to put himself at the service of Pulu (Tiglath-pileser). The western part of the Assyrian empire was controlled by Šamši-īlu who resided in Til Barsip (Masuwari), the capital of the Bit-Adini, of which Ninurta-bēlu-ušur was governor (Younger: 2016, 362-365). Moreover, at the death of Zakkur, around 785 BCE, the kingdom of Hamath, which had become a vassal of the Assyrians, came under the authority of Pulu, who became the ruler of

Hamath. Consequently, when Pulu declared himself king of KTK, this region of loyalty included the kingdoms of Bit-Adini and Hamath. To extend his kingdom of loyalty (KTK), Tiglath-pileser (Pulu) concluded, in 775 BCE, a first loyalty oath, or covenant, with Mati'-El, the king of Arpad (Bit Agusi). Analysis of these alliances shows that their content was not really a treaty of vassalage, but a request for military support. For example, some of the stipulations, which have been preserved in the second covenant concluded in 773 BCE, when Šamši-ilu came to Damascus, constrain Mati'-El to swear that he will not harbour Assyria's enemies, and will bring his entire army, "together with his magnates, his forces, and his chariotry" on campaign at Aššur-nīrārī's bidding (Beckman: 2017, 11-19). It is likely that Zechariah (782-771), the king of Israel, refused to sign this covenant and was deposed by Pulu. When Pulu returned in 772 BCE, as co-regent of Aššur-dān III, to campaign against Hatarikka and to conclude a new covenant (the third) with Mati'-El, Zechariah was again enthroned as king of Israel for six months before being assassinated by Shallum, who was himself assassinated by Mehaem (2Ki 15:8-17). When Pulu returned to campaign against Hatarikka, in 765 BCE, he presumably imposed an alliance on Menahem (771-760), who preferred to pay a heavy tribute in order to remain independent.

The city of Hatarikka (Hadrach) had a central position in the triangle formed by the three capitals: Til Barsip (Bit-Adini), Hama (Hamath) and Arpad (Bit Agusi). With the enthronement of Aššur-nīrārī V (755-745) and the appointment of Šamši-ilu, for the third time as commander-in-chief, events took a new turn. The first campaign against Arpad, in 754 BCE, led to the signing of a new alliance with Mati'-El (the fourth), but the following year, in 753 BCE, the Assyrian army was defeated by Sarduri II (754-735), king of Urartu. The eponymous chronicles do not mention any other campaigns after this date. This old commander-in-chief was appointed to this prestigious post c. 800 BCE, so he must have been over 20 when he was appointed and must have been over 67 in 753 BCE (= 820 - 67). Since the appointment of a new commander-in-chief was a royal prerogative, Pulu must have easily convinced senior officials to overthrow Aššur-nīrārī V in 746 BCE and to make him king. In 745 BCE, Tiglath-pileser III appointed a new commander-in-chief, Nabû-da'inanni (744-726), and a new co-regent Shalmaneser V (744-727). After Zakkur's death, Pulu became, by default, the "governor (*bēl pāḥiti*)" of Hamath (781-745), a position he then entrusted to Eni-ilu (745-732), a vassal king. Tiglath-pileser III would quickly conquer the disputed territories: in 743 BCE, Saduri II, the king of Urartu was defeated, in 740 BCE, the kingdom of Arpad was annexed, and so on. After Tiglath-pileser III had defeated Sarduri II, the king of Urartu and his Anatolian allies, and after he had eliminated Mati'-El of Bīt-Agūsi/Arpad, he was forced to suppress a revolt in 738 BCE led by Tutamuwa of Patina/Umq/Unqi. In his account concerning this revolt, Tiglath-pileser III mentions a leader whose name is Azriau (c.745-738), king of Ya'udi (Sam'al). We notice that among the 17 revolted kings, in 738 BCE, who must pay tribute to Tiglath-pileser III, mentioned in a detailed list (Iran Stela), the king of Hamath does not appear, but is added in a new updated list (Younger: 2016, 492-496). The absence of En-ilu in the first list (Iran Stela) and then its appearance in the updated list is difficult to explain (Kuan: 2016, 146-157). The chronology of the kings of Urartu is precisely determined (Chahin: 2001, 57).

TABLE 27

King of Urartu	reign	King of Tyre ¹³⁶	reign	King of Israel	reign	King of Assyria	reign
Arame	858-844	Pygmalion	877 -	Jehoahaz	856 -	Shalmaneser III	859 -
Lutipri	844-834				-839		
Sarduri I	834-828		-830	Jehoash	841-823		-824
Išpu'ini	828-810	Hiram II	830-800	Jeroboam II	823 -	Šamši-Adad V	824-811
Menea	810-785	Milkiram	800 -		-782	Adad-nīrārī III	811-783
Argišti I	785 -		-775	Zechariah I	782-771	/Pulu I	782 -
	-754	Luli I	775 -	Menahem	771-760	Aššur-dān III	773 -
		(Elulaios)	-755	Pekayah	760-758		-755
Sarduri II	754 -	Ithobaal II	755 -	Peqah	758 -	Aššur-nīrārī V	755-746
	740	(Tubail)	-738		-738	Tiglath-pileser III	745 -
	-735	Hiram III	738-730	Hosea I	738-729		-729
Rusa I	735 -	Mattan II	730-729	Hosea II	729 -	(Pulu II)	729-727
	-714	Luli II	729 -		-720	Shalmaneser V	727-722
Argišti II	714 -		-695			Sargon II	722-705
	-680	Baal I	695 -			Sennacherib	705 -
Rusa II	680 -		-666				-681
	-639	Yahimilki ?	666-640			Esarhaddon	681-669
Sarduri III	639-635	Abdastartus II?	640-???			Aššurbanipal	669 -
							-626

¹³⁶ The kings of Tyre: Hiram II (Lipiński: 2004, 46-48) and Milkiram (Lemaire: 1976, 83-93) come from epigraphy.

Luli I (Elulaios) was king of Tyre under Pulu (786-746), according to Josephus (Jewish Antiquities IX:283-284). From Luli II (729-695) the succession of the kings of Tyre is uncertain.

TABLE 28

	Iran Stela (738 BCE)	reign	Layard 50a + 50b + 67a (737 BCE)	reign
1	Kuštašpi the Kummuhite	c.750-730	Kuštašpi the Kummuhite	
2	Raqyān the Ša-imērišu-ite (Rezīn)	c.754-732	Ra'yān the Ša-imērišu-ite (Damascus)	
3	Menahem the Samarian	771-760	Menahem the Samarian	
4	Tubail the Tyrian (Ithobaal II)	c.750-738	[Hiram the] Tyrian (Hiram III)	738-730
5	Sipatbail the Byblian (Shipitbaal II)	c.740-728	Sipittibi'li the Byblian	
6	Urik the Queite (Awariku)	c.738-709	Urikki the Queite	
7	Pisiris the Carchemishite (Pisiri)	c.738-717	Pisiris the Carchemishite	
	[-]	c.745-732	Enilu [the Hama]thian	
8	Panammu the Sama'lian [Azriau]	c.745-738	Pa[namm]u the Sama'lian (Panamuwa II)	738-733

These two lists of kings who paid tribute to Tiglath pileser III, in 738 BCE, are almost identical but have four anomalies:

- 1) Azriau (c.745-738), the leader of the revolt, is absent from the list because he was presumably killed by Tiglath-pileser III and was replaced by Panamuwa II (c.738-733). He was therefore unable to pay tribute, as was Peqah (758-738), the king of Israel, who was killed by Tiglath-pileser III and replaced by Hosea I (738-729).
- 2) Tubail, the king of Tyre, was Ithobaal II (c.755-738). He actually paid tribute to Tiglath-pileser III in 738 BCE, but as he died at the end of the year, the list of tributaries was updated and Tubail was replaced by Hiram III (c.738-730).
- 3) The absence of En-ilu (c.745-732) can be explained because he was a vassal king of Assyria who had obviously not participated in the revolt, and therefore, had not paid tribute. In the updated list he has been added (in addition to the 17!) as vassal king of Assyria.
- 4) Menahem (771-760), the king of Israel, had obviously not participated in the revolt of 738 BCE, but as he had paid a tribute to Pulu (Bar Ga'yah in Aramaic), in 765 BCE, while he was co-regent (2 Ki 15:19). The tribute paid by Menahem was therefore recorded in 738 BCE during Tiglath-pileser's reign (745-722) when he killed the king of Israel Peqah and replaced him with Hosea I who became his vassal probably paid him a bribe (Hosea thus became king but was not legally enthroned until nine years later). Consequently, Tiglath-pileser III included Menahem in the list of tributaries because, as co-regent, he had to attribute his victories and tributes to the king in power (Aššur-dān III), which he had not done.

The purpose of the tributary lists was not to provide an accurate accounting for future historians but was a propaganda tool (Laato: 1995, 198-226) to display the wealth and power of the Assyrian kings. Tiglath-pileser III (745-727) thus conformed to Assyrian ideology, which recognised only one king at a time, and thus brought back the tribute paid by King Menahem in 765 BCE when he annexed Hatarikka in 738 BCE. Moreover, the Assyrian annals often relate the facts in an exaggerated way. For example, when Sargon II took the city of Ashdod in his 10th campaign (in 712 BCE), he had it written:

Sargon, the great king (...) who conquered the city Samaria (URU.*Sa-mir-i-na*) and all of the land of Israel (*ù gi-mir* KUR.É-*hu-um-ri-a*); who plundered the city Ashdod (URU.*as-du-di*) (and) Šinuhtu; who caught the Ionians who (live in) the middle of the sea... (Sargon II 013:31).

Similarly, when Sennacherib took 46 cities, including Lachish (not mentioned), from Hezekiah, king of Judah, in his 3rd campaign (in 712 BCE) and tried to take Jerusalem, he had it written:

On my 3rd campaign, I marched to the land Ḫatti (...) As for Menahem (of) the Samarian city (*Mi-nu-ḫi-im-mu* URU.*Sam-si-mu-ru-na-a-a*), Tu-Ba'lu (Ithobaal II) of the city Sidon, Abdi-Li'ti of the city Arwad, Ūru-Milki of the city Byblos, Mitinti of the city Ashdod (...) they brought extensive gifts, four times (the normal amount), as their substantial audience gift before me and kissed my feet (...) As for him, I confined him inside the city Jerusalem, his royal city (URU.*ur-sa-li-im-ma* URU LUGAL-*ti-šú*), like a bird in a cage (...) Hezekiah of the land Judah (*Ha-za-qi-a-ú* KUR.*ia-ú-da-a-a*), I surrounded (and) conquered 46 of his fortified walled cities.

Sennacherib thus appropriated several tributes paid to Tiglath-pileser III, such as that of Menahem the Samarian (in 765 BCE) *Me-ni-ḫi-im-me* URU.*Sa-me-ri-na-a-a* in Tiglath-pileser III's annals (in 738 BCE), which became in Sennacherib's annals: *Mi-nu-ḫi-im-mu* URU.*Sam-si-mu-ru-na-a-a* (in 712 BCE). Therefore, the tributes recorded in the annals of the Assyrian kings cannot reliably serve as synchronisms.

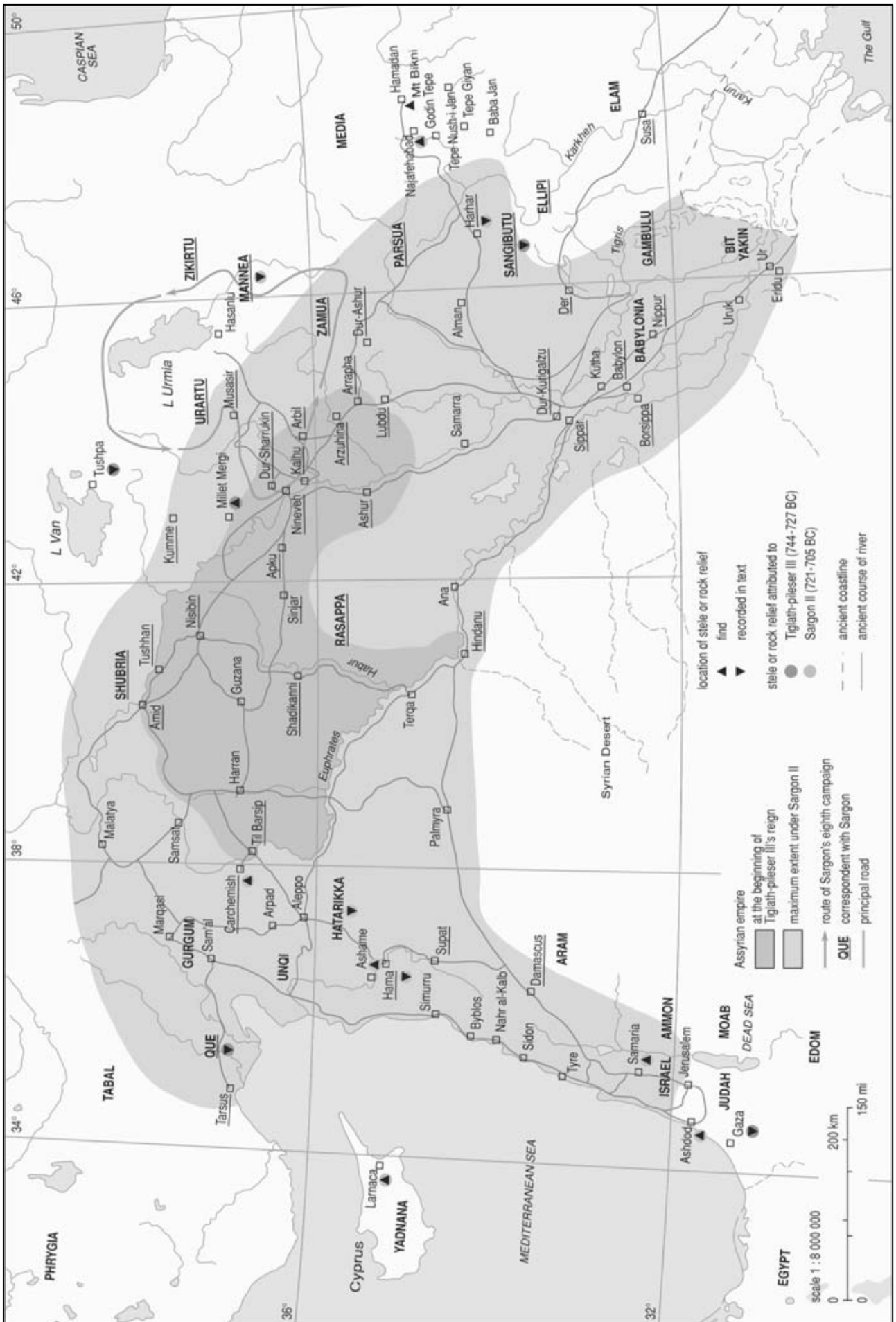


Fig. 13 Assyrian empire from Tiglath-pileser III to Sargon II

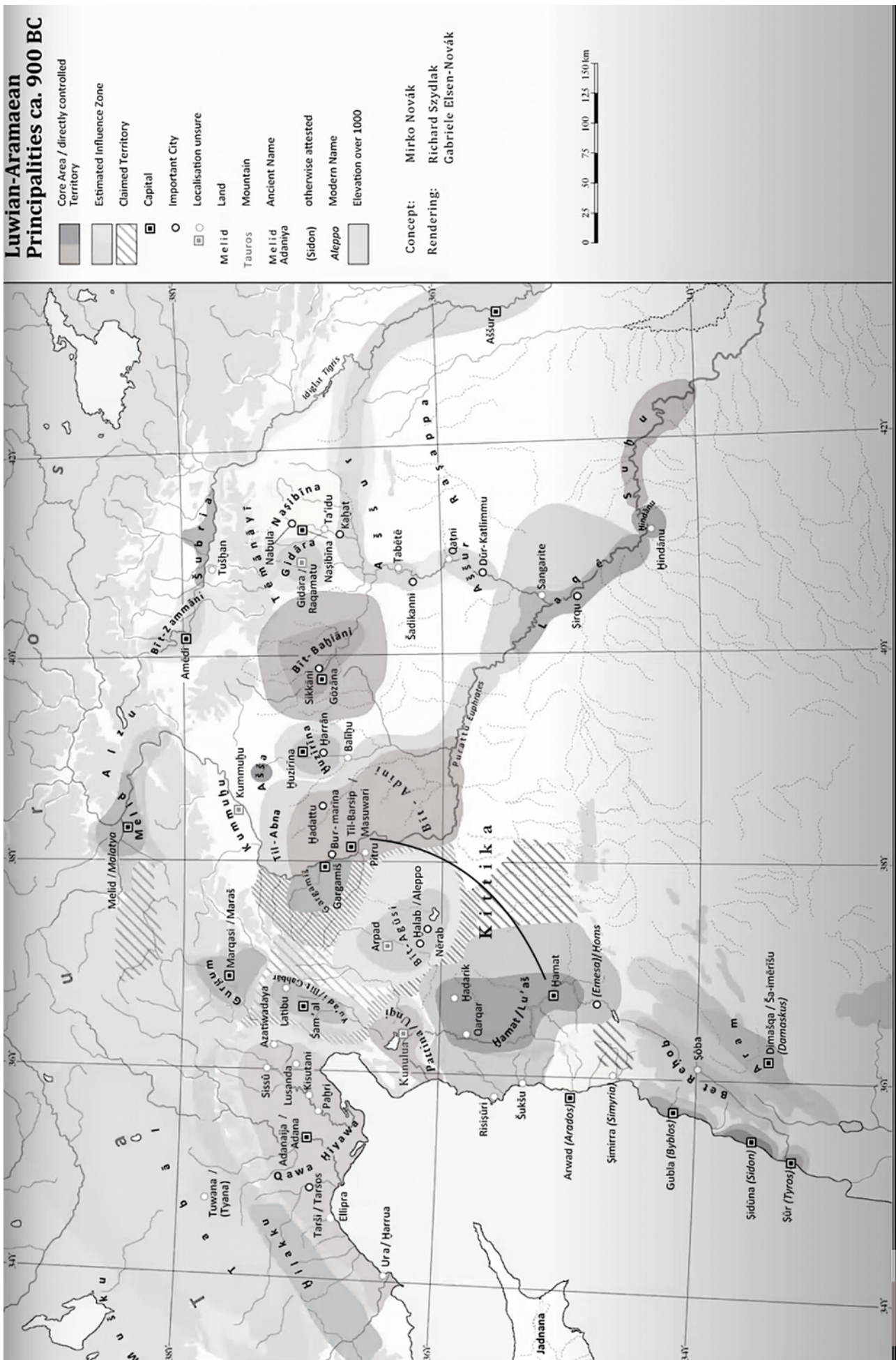


Fig. 14 The Luwian-Aramaic principedoms ca. 900 B.C, after Wittke – Olshausen – Szydlak 2010: 43

LIST OF KINGS OF DAMASCUS ANCHORED ON HAZAEL'S REIGN (885-840)

The chronology of the kings of Damascus (Syria) is mainly based on the chronological data of the Bible (Lion: 2001, 218-220). The modern attitude of scepticism about the Aramean oppression of Israel in the reign of Jehu is not warranted by the evidence. More than one hundred years of research of extrabiblical sources provide sufficient corroboration of the accuracy of the biblical text, though the fragmentary nature of these sources provides significant latitude in interpretation. As a result, the biblical texts were written by contemporaries who had high ethical standards and a strong commitment to truth (Bolen: 2013, 9-39).

The biblical chronology used comes from the thesis of Edwin R. Thiele (in 1951), who assumed that the synchronism with King Hazael corresponded to the beginning of his reign, which obliged him to shift the reign (885-840), calculated from the biblical text (MT), by about 43 years and to arbitrarily assume nine co-regencies in the reigns of the kings of Israel and Judah (Thiele: 1983, 61-138,217). However, the calculated reign of Hazael (842-800), according to Thiele's biblical chronology (Freedman, Myers: 2000, 84), gives rise to several insoluble inconsistencies: this chronology, which is used by scholars to calculate the chronology of the kings of Damascus¹³⁷, completely destroys the biblical synchronisms between the kings of Israel and Judah (Tetley: 2005, 91-185; Jones: 2007, 105-197); the numerous inconsistencies making it unusable in establishing a reliable chronology (Hughes: 1990, 182-232,264-266). Starting the reign of Hazael 43 years later obliges us to suppose that King Ben-Hadad III also reigned at the same time under the name of Mari' "my lord" (Younger: 2016, 584-590), which is implausible. Thiele's hypothesis is based on a dogma that assumes a total absence of co-regencies according to the Canon of Kings (by Claudius Ptolemy), but this dogma is false since Xerxes (496-475) had a co-regency of 10 years with Darius I (522-486), which modifies the Achaemenid chronology (Gertoux: 2018, 179-206). The method for establishing the chronology of the kings of Damascus is therefore erroneous, paradoxically, the current biblical chronology is still based on Thiele's (Laato: 2015, 5-8,63). To establish a reliable chronology, one must first use the unaltered biblical data¹³⁸ and then check whether this chronology agrees with Assyrian or Babylonian synchronisms anchored on absolute dates (obtained by astronomy), and finally to establish the Syrian chronology according to all the synchronisms with the Israelite, Judean, Assyrian and Babylonian kings.

The chronology of the kings of Damascus can be reconstructed using the many synchronisms with the chronologies of the kings of Israel, the kings of Judah and the kings of Assyria. As the inscriptions referring to kings and their constructions are written on stone, they are not datable by carbon-14, with some exceptions. For example, Taita¹³⁹ (1045-1000) was a king of Palastin, a Syrian land including Hamath and Aleppo (Bryce: 2012, 128-133) and according to the Bible, as King of Hamath, he congratulated King David when the latter defeated Hadad-ezer (in 1042 BCE) a king of Aram-Zobah (2Sa 8:5-10; 1Ch 18:9-10). Regarding the dating of Taita's reign, a beam of Aleppo temple attributed to Taita (I) has been dated¹⁴⁰ 1045 BCE +/- 45 by carbon-14 dating (Kohlmeyer: 2009, 190-202).

According to the Bible, Rezon, a king of Damascus, became an enemy of Solomon (1017-977) in the last years of his reign (1Ki 11:23-25). After Rezon the Bible mentions three other kings of Damascus:

And warfare itself took place between Asa (957-916) and Baasha (954-931) the king of Israel all their days. So Baasha the king of Israel came up against Judah and began to build Ramah, to allow no one to go out or come in to Asa the king of Judah. At that Asa took all the silver and the gold that were left in the treasures of the house of Jehovah and the treasures of the house of the king and put them in the hand of his servants; and King Asa now sent them to Ben-Hadad the son of Tabrimmon the son of Hezion, the king of Syria, who was dwelling in Damascus (1Ki 15:16-18).

The succession of these three kings of Damascus (Aram/Syria) is confirmed by a damaged stele (uncertain letters in square brackets): *The stele which Bir-'H`adad, son of Tā'b-Ra`[m]ān [son of] 'Hadyā`[n] (Hezion I), king of Aram, set up for his lord Milqart, (the stele) which he vowed to him when he hearkened to his voice* (Albright: 1942, 23-29). The succession of Syrian kings being from father to son, with an average reign of about 20 years, it seems unlikely that Ben-Hadad (I) had a reign of 60 years (945-885). A

¹³⁷ Some scholars choose to date the reign of Hazael to the period 842-796 BCE, instead of 842-800 BCE, because they assume that his successor was Ben-Hadad III, 796-792 BCE, who is equated with King Mari' (a hypocoristic of Mari'-Hadad).

¹³⁸ Of the four Old Testament chronologies examined in theses (Thiele, 1951; Hughes, 1990; Tetley, 2005; Jones, 2007), only that of Floyd Nolen Jones uses the unmodified durations of the Masoretic text.

¹³⁹ "King Taita (I)" appears in the Hieroglyphic Luwian inscription: "*I, King Taita, the Hero, the King of [the land] Palastin*" (written Pelešet "Philistine" in Egyptian). The name Taita is derived from the Hurrian word Tahḫe.ta "of man", abbreviated as Tahḫe which explains the T'Y vocalization in Hebrew (Taita is named either To'i, To'û or Thôa in the Bible). After the collapse of the Hittite empire (in 1185 BCE) several new kingdoms emerged (Emanuel: 2015, 11-40), including the kingdom of Melid where Kuzi-Teshub's grandsons ruled, and above all the kingdom of Palistin in central Syria which was the main Syro-Hittite state that emerged in Syria. When Palastin (Walastin in Aramaic) disintegrated around 1000 BCE it gave birth to the kingdoms of Pattin (shortened form of Palastin, called Unqi by Assyrians), Hamath (Hama, Qarqar), Bit Agusi (Aleppo, Arpad) and Bit Adini (Til Barsip).

¹⁴⁰ Taita I must have appeared after 1075 BCE as it is not mentioned in any of Tiglath-Pileser I's campaigns (1115-1076).

son of the name, Ben-Hadad II (920-885) must have succeeded him. The names in bold (Table 29) are those that appear in the Assyrian annals. Biblical synchronisms (highlighted in grey) make it possible to fix the reign of Hazael (885-840) to the nearest year (Jones: 2007, 197).

TABLE 29

King of Syria	Reign	King of Judah	Reign	King of Israel	Reign	reference
Hadad-ezer /Taita (To'i)	1045 - -1000	David	1057 - -1017			1Ch 18:3-9 2Sa 8:5-10
Rezon (Ezron)	1000-975	Solomon	1017-977			1K 11:23-25
Hezion I	975-960	Rehoboam	977-960	Jeroboam I	977 -	1Ki 15:18
Tabrimmon	960 - -945	Abiyam	960-957		-955	1Ki 15:1-2
Ben-Hadad I	945 - -920	Asa	957 -	Baasha	954 - -931	2Ch 16:2,3 1Ki 15:16-18
Ben-Hadad II	920 - -885	Jehosaphat	916-891	Omri	931-919	1Ki 16:23-29
		Jehoram son of J.	893- 885	Ahab	919-899	1Ki 20:1-2,34
Hazael	885 -	Ahaziah II	886-885	Joram son of A.	897-886	2Ki 3:1, 6:24
		Joash	879 - -839	Jehu	885 - -856	2Ki 8:8-16 2Ki 10:31-32
Ben-Hadad III	840-805	Amasiah	839-810	Jehoahaz	856-839	2Ki 13:22
Mari'	805-780	Uzziah	810 -	Jehoash	841-823	2Ki 13:23-25
Hezion II	780 - -755	(Azariah)	-758	Jeroboam II	823-782	2Ki 14:17-25
				Zechariah	782-771	(Jonah 3:6)
				Menahem	771-760	
Rezin	755 - -732	Jotham	758-742	Peqah	758- 738	
		Ahaz	742-726	Hosea I	738-729	2Ki 16:5-9
		Hezekiah	726-697	Hosea II	729-720	
		Manasseh	697-642			
		Amon	642-640			
		Josiah	640-609			

TABLE 30

King of Judah	Reign	King of Syria	reference	Reign	King of Assyria	Reign
Asa	957 -	Tabrimmon	1Ki 15:18	960-945	Tiglath-pileser II	967 - -935
		Ben-Hadad I	1Ki 15:18-20	945 - -920	Aššur-dan II	935-912
(Ahab)	-916	Ben-Hadad II	1Ki 20:1-21	920 -	Adad-nīrārī II	912 - -891
Jehosaphat	916-891	/Naaman	2Ki 5:1	910-890		
Jehoram (J)	893- 885	/Hazael	2Ki 8:7-13	890-885	Tukulti-Ninurta II	891-884
Athaliah	885-879	Hazael	2Ki 8:15	885 -	Aššurnasirpal II	884 - -859
Joash	879 - -839	/Hadad-ezer		870 - -845 -840	Shalmaneser III	859 - 841 -824
Amaziah	839 - -810	Ben-Hadad III	2Ki 13:3	840 - -805	Šamši-Adad V	824-811
Uzziah	810 -	Mari'		805-780	Adad-nīrārī III	811-783
[Azariah]	[796 - -758]	Hezion II		780 - -754	Shalmaneser IV	783-773
Jotham	758-742	Rezin		754 -	Aššur-dan III	773-755
Ahaz	742 - 0 738 -726		2Ki 16:5-6 2Ki 16:7-9		Aššur-nīrārī V	755-745
				-732	Tiglath-pileser III	745 - -727
Hezekiah	726 - -697				Shalmaneser V	727-722
Manasseh	697 -				Sargon II	722-705
2Ch 33:13	65 673	Is 7:8-9	Ezr 4:2,10	674-669	Sennacherib	705-681
	-642				Esarhaddon	681-669
Amon	642-640				Aššurbanipal	669 - -626
Josiah	640 -				Sin-šar-iškun	626-612
2Ki 23:29	-609				Aššur-uballiṭ II	612- 609

According to Thiele's chronology, there would have been the following succession: Hadad-ezer (880-844), Hazael (844-803), Ben-Hadad III = Mari' (803-775), Hezion II (775-750), Rezin (750-732), with one king having two different names (Younger: 2016, 653), which is absurd.

The period between Kings Ben-Hadad III (840-805) and Rezin (750-732) has synchronisms mainly with the Assyrian kings, some of which are precisely dated (dates in bold):

BCE	Events according to the biblical text	Events according to extra-biblical documents
950 - -930	King Asa (957-916) asked Ben-Hadad I the son of Tabrimmon (1Ki 15:18), to break his covenant with Baasha (954-931). Several cities of Israel were taken (2Ch 16:1-7).	We only know that, according to Shalmaneser III's Annals, there was already a powerful king of Aram (Syria) in Damascus at the time of Aššur-rabi II (1013-972).
920 - -885	Ben-Hadad II attacked Ahab (919-898) but was defeated (1Ki 20:1-34). Hazael was appointed as Army chief around 890 BCE (1Ki 19:15-17). In 885 BCE, he killed Ben-Hadad II and became King of Syria (2Ki 8:7-15), then he wounded Joram the son of Ahab (1Ki 8:25-29). Soon after Jehu slayed both Joram (897-886), and Ahaziah (886-885) to become King of Israel (1Ki 9:14-29). After Ahaziah's death Athaliah his mother ruled Judah during 6 years (2Ki 11:1-3).	According to the Tel Dan Stela (wrote by Hazael) ¹⁴¹ : <i>The king of I[s]rael penetrated into my father's land[. And] Hadad made me-myself-king. And Hadad went in front of me[, and] I departed from [...] of my kings. And I killed two [power]ful kin[gs], who harnessed two thou[sand cha]riots and two thousand horsemen. [I killed Jo]ram son of [Ahab] king of Israel, and I killed [Ahaz]yahu son of [Jehoram kin]g of the House of David. And I set [...] their land [...] other [...] and Jehu ru]lled over Is[rael]</i> (Lemaire: 1994, 87-93).
867 - -856	In the last part of the reign of Jehu (885-856), Hazael started to cut off all the territories of Israel (2Ki 10:31-34) as well as those of Joash (879-839), the king of Judah (2Ki 13:1-3). Hazael captured Gath, a capital of the Philistines and even went up against Jerusalem. After he received a heavy tribute in gold from Joash, in 856 BCE, he withdrew from Jerusalem (2Ki 12:17-19).	Two booty inscriptions read: <i>that which Hadad gave to our lord Hazael from 'Umq (Pattin) in the year that our lord crossed the River (Orontes?)</i> . An inscription on an ivory plaque reads: <i>[that which H]adad of 'Imma [gave] to our lord Hazael in the year that Ha[lab? = Aleppo] was [cap]tured</i> . These campaigns in Syria show that Hazael was a powerful conqueror in this region (Lipiński: 2000, 388-389)
856 848 845	From the 23rd year of Joash the son of Ahaziah, Hazael, then his son Ben-Hadad III, oppressed again Israel all the days of Jehoahaz (856-839).	In 856/5 BCE, Shalmaneser annexed Bit-Adini. In 853 BCE: <i>Hadad-ezer (Adad-idri), the Damascene, (and) Irhulēnu, the Hamatite, together with 12 kings on the shore of the sea, trusting in their united forces, attacked me to wage war and battle. I fought with them. I put to the sword 25,000 of their fighting men (and) captured from them their chariotry, cavalry, (and) military equipment. To save their lives they ran away.</i> In 848 BCE: <i>I fought with them (and) defeated them. I put to the sword 10,000 of their fighting men. I took from them their chariotry, cavalry, and military equipment.</i> In 845 BCE: <i>I defeated Hadad-ezer, the Damascene, together with 12 princes who were his allies. I laid low like sheep 29,000 of his brave warriors (and) threw the remnant of his troops into the Orontes. They fled to save their lives. <u>Hadad-ezer passed away (and) Haza'el, son of a nobody (a former usurper), took the throne. He mustered his numerous troops (and) moved against me to wage war and battle. I fought with him (and) defeated him.</u></i> (Grayson: 2002, 36-38, 118).
841		<i>In my 18th regnal year I crossed the Euphrates for the 16th time. Hazael of Damascus, trusting in the might of his soldiers, carried out an extensive muster of his troops. He fortified Mount Saniru, the mountain peak, which is before Mount Lebanon. I fought with him (and) defeated him. I put to the sword 16,000 of his fighting men (and) took away from him 1,121 of his chariots (and) 470 of his cavalry with his military camp. <u>To save his life he ran away, I pursued him. I imprisoned him in Damascus, his royal city, (and) cut down his gardens</u></i> (Grayson: 2002, 48).
840 839	Finally, Hazael the king of Syria died and Ben-Hadad III began to reign in place of him. Jehoash (839-823) proceeded to take back again from the hand of Ben-Hadad III the son of Hazael the cities that he had taken from the hand of Jehoahaz (856-839) his father (2Ki 13:1-9,22-25).	
838		<i>[In] my [21st regnal year] I [crossed] the Euphrates for the 21st time (and) received tribute from all the kings [of the land Hat]ti. Moving on from [the land Hatti] I took to the slopes of Mount Lebanon. I crossed Mount Saniru (and) went down to the cities [of] Hazael of Damascus. [All] of the cities became frightened (and) took to the mountain for their protection</i> (Grayson: 2002, 78-79). <u>The cities of Hazael were therefore protected by the mountain because he was dead.</u>

¹⁴¹ Although this inscription is very fragmentary and Hazael's name does not appear, analysis of the historical and linguistic context shows that he is the author (Suriano, 2007, 163-176).

805	<p>Jehoash (839-823) the son of Jehoahaz took back again from Ben-Hadad III the cities that he had taken from Jehoahaz his father (2Ki 13:22-25). Likewise, Jeroboam II (823-782) recovered to Judah the land annexed to Damascus and Hamath (1Ki 14:28).</p> <p>The recovering of land from Hazael and Ben-Hadad III occurred a few years before 798 BCE (Am 1:1-5) because the quake in the days of Uzziah, the king of Judah, happened in the 27th year of Jeroboam II (2Ki 15:1-2), dated in 796 BCE, when King Uzziah had to be replaced by Azariah the high priest (2 Ch 26:1-23).</p>	<p>The Zakkur Stela: <i>Then Bar-Hadad the son of Hazael, the king of Aram, formed an alliance with sev[enteen] kings: Bir-Hadad and his army</i> (Nissinen, Ritner, Seow: 2003, 204-207). Zakkur's account mentions a providential help from Baalshamên who had successfully broken the siege. It is generally agreed that in reality the siege was broken by means of some intervention, which occurred in 805 BCE when Adad-nîrârî III led a campaign against Arpad. Consequently Bar-Hadad III formed his alliance in 806 (and was defeated) because Adad-nîrârî III received in 805 a tribute from Mari' the king of Damascus, according to the Saba'a Stela (Hasegawa: 2008, 89-98).</p>
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Synchronisms with the Assyrian kings make it possible to fix more precisely the reign of Hazael: he was army chief of Ben-Hadad II for a period of around 5 years (890-885), then after the assassination of the king (2Ki 8:15) he began to reign, in 885 BCE. He then appointed Hadadezer¹⁴² as head of his army, around 870 BCE. Hadadezer was called king because Shalmaneser III considered Hazael to be a “Son of nobody (usurper)”, but when Hadadezer was killed, in 845 BCE, Shalmaneser III called Hazael a king (a former usurper) when he destroyed his army in 841 BCE. Hazael must have been wounded during the battle since he had to flee and died shortly afterwards, in 840 BCE (probably aged 70).

TABLE 31

King of Syria	Reign	Army chief	period	King of Assyria	Reign	King of Babylon	Reign
Hezion I	975-960			Aššur-rêš-iši II	972-967	Nabû-mukîn-apli	980 - -944
Tabrimmon	960-945			Tiglath-pileser II	967 -		
Ben-Hadad I	945 - -920	??	940-920		-935	Ninurta-kudurriuşur II	944-941
Ben-Hadad II	920 -			Aššur-dân II	935-912	Mâr-bîti-aḥḥê-iddin	941-921
		Naaman	910 - -890	Adad-nêrârî II	912 - -891	Samaš-mudammiq	921 - -900
	-885	Hazael	890-885	Tukulti-Ninurta II	891-884	Nabû-šumukîn I	900-888
Hazael <i>Ḥaza'ilu</i>	885 -	Hadadezer <i>Hadad-idri</i>	870 - -845	Aššurnasirpal II	884-859	Nabû-apla-iddina	888 - -855
	-840			Shalmaneser III	859 -	Marduk-zâkir-šumi I	855 -
					841		
Ben-Hadad III <i>Bar-Hadad</i>	840 - -805				-824		-819
Mari'	805-780			Šamši-Adad V	824-811	Marduk-balâs-suiqbi	819-813
Hezion II <i>Ḥadiānu</i>	780 - -755			Adad-nêrari III	811-783	Bâba-ah-iddina	813 ?
Rezin <i>Raḥiānu</i>	755 -			Shalmaneser IV	783-773	Marduk-apla-uşur	? -770
	-732			Aššur-dan III	773-755	Erîba-Marduk	770-761
				Aššur-nêrari V	755-745	Nabû-šum-iškun	761-748
				Tiglath-pileser III	745 -	Nabû-naşir	748-734
						Nabû-nâdin-zêri	734-732
						Nabû-šumukîn II	732-732
					-727	Nabû-mukîn-zêri	732-729
						Pulu II	729-727
				Shalmaneser V	727-722	Ululaiu	727-722

The reign of Hazael (885-840) can therefore be established precisely, based solely on the unmodified Masoretic text and the absolute dates of the Babylonian chronology. Those who use the chronology of Thiele for the reign of Hazael and who assume that Ahab (919-898), a king of Israel, was Ahabbu (855-825), a king of Sam'al, are forced to conclude that the “biblical chronology is essentially mythical” (Hughes: 1990, 264-266), but this conclusion is scientifically false because Hazael died around 840 BCE and Ahabbu was an Asrielite¹⁴³ (*Sir-'a-la-a-a*), not an Israelite (*mâr Ḥu-um-ri-i*). Moreover, Ahabbu had joined the coalition led by the powerful Syrian ruler Hadadezer (870-845) against Shalmaneser III at the battle of Qarqar in 853 BCE, while the Israelite king Ahab was attacked by the Syrian king Ben-Hadad II who once defeated returned the cities taken by Ben-Hadad I (1Ki 20:1-34).

¹⁴² Army chief Hadadezer (870-845) should not be confused with King Hadadezer (1045-1000) who had Shobak as his army chief in David's time (2Sa 10:16). Naaman was the army chief of Ben-Hadad II (2Ki 5:1) who preceded Hazael in this position (2Ki 8:7-15).

¹⁴³ Asriel was in north-eastern Samaria (Nb 26:31) and therefore not Israel (Lemaire: 1973, 239-243).

LIST OF KINGS OF TYRE ANCHORED ON BAAL-EZER II'S REIGN (912-906)

The chronology of the kings of Tyre is based mainly on the chronological data of Menander of Ephesus, a Greek historian (c. 200 BCE), which was transmitted by Flavius Josephus (*Against Apion* I:106-127; *Jewish Antiquities* VIII:141-149, 316-324). The biblical chronology used comes from the thesis of Edwin R. Thiele, who assumed that King Ba'li-ma-AN-zēri had to be identified with Baal-ezer II, a king of Tyre, who obliged him to shift his reign (912-906), calculated from the chronological data of Menander, by about 65 years (Thiele: 1983, 86 n. 3). This calculated reign of Baal-ezer II (847-841) gave rise to several inconsistencies (Briquel-Chatonnet: 1992, 103-109) and was thus (arbitrarily) modified again to 848-830 BCE (Elayi: 2013, 442) or 841-835 BCE (Khreich: 2020, 11-27). The calculated reign of Hazael (842-800)¹⁴⁴, according to Thiele's biblical chronology (Freedman, Myers: 2000, 84), gives rise to several insoluble inconsistencies: this chronology, which is used by scholars to calculate the chronology of the kings of Damascus, destroys the biblical synchronisms between the kings of Israel and Judah (Tetley: 2005, 91-185; Jones: 2007, 105-197); the numerous inconsistencies making it unusable in establishing a reliable chronology (Hughes: 1990, 182-232, 264-266; Galil: 1996, 1-11, 46-51). The method for establishing the chronology of the kings of Tyre is therefore erroneous, paradoxically, the current biblical chronology is still based on Thiele's (Laato: 2015, 5-13, 63-69). The date of 841 BCE is even considered a key synchronism between Assyrian and Israelite chronology (Hughes: 1990, 183). To establish a reliable chronology, one must first use the unaltered biblical data¹⁴⁵ and then check whether this chronology agrees with Assyrian or Babylonian synchronisms anchored on absolute dates (obtained by astronomy), and finally to establish the chronology of the kings of Tyre according to all the synchronisms with the Israelite, Judean, Assyrian and Babylonian kings.

The chronology of the kings of Tyre has been initially reconstructed from the chronological data of Menander of Ephesus transmitted by Flavius Josephus, mainly in the Laurentianus Codex, the oldest manuscript. This chronology is authentic as it gives both the life spans and reign lengths of the 10 kings of Tyre (whose names are written in Greek), from Hiram to Pygmalion (Barnes: 2018, 43). Three other historians: Cassiodorus, Eusebius of Caesarea and Theophilus of Antioch also transmitted this chronology of the kings of Tyre with some variations (Galil: 1996, 163):

TABLE 32

King of Tyre		Laurentianus		Cassiodorus		Eusebius		Theophilus			
Greek name	Phoenician name	year	age	year	age	year	age	year	age	year	age
1 Eirōmos	Hiram	34	53	34	53	34	53	[34]	53	34	53
2 Balbazeros	Ba'al-'ezer I	7	43	7	43	17	43	7	43	17	43
3 Abdasartos	'Abd-'Aštart	9	29	9	20	9	39	[9]	[39]	9	39
4 Delaiasartos	Delay-'Aštart	12	54	12	53	12	54	12	54	12	54
5 Astarumos	'Aštart-rōm	9	54	9	54	9	58	9	58	9	58
6 Phellēs	Pillēs	8 m.	50	8 m.	50	8 m.	50	8 m.	50	8 m.	50
7 Ithobalos	Itho-Ba'al	32	68	32	48	32	48	12	40	32	48
8 Balezeros	Ba'al-'ezer II	6	45	6	45	8	45	7	45	6	45
9 Mettēnos	Mattan	9	32	9	32	29	32	29	32	29	52*
10 Pygmalion	Pu'mmay-yaton	47	56	40	56	47	58	7	56	47	58
Total		165		158		197		126		195	

These four historians all state that 155 years and 8 months elapsed between the beginning of Hiram's reign and Pygmalion's 7th year, which implies that the sum of the 10 reigns is 195 years and 8 months. The only list that gives a result is that of Eusebius (replacing the 8 years of the reign of Ba'al-'ezer II by the 6 years of Laurentianus and Cassiodorus). The 29-year reign of Mattan is confirmed by Theophilus of Antioch, but the age of 32 is obviously wrong, as this king would have taken the throne at the age of 3, which is implausible. As the average life span of the other 9 kings is 50 years, the 32 years of life must be replaced by 52 years. Furthermore, the chronological data from Menander of Ephesus adds a synchronism with the chronological data from the Bible since it states that the construction of the temple in Jerusalem began in the 12th year of the reign of Hiram (I). According to the Bible this construction began in the 4th year of the reign of Solomon (1Ki 6:1), in 1013 BCE.

¹⁴⁴ Some scholars choose to date the reign of Hazael to 842-796 BCE, instead of 842-800 BCE, because they assume that his successor was Ben-Hadad III (796-792), likened to King Mari'. Starting the reign of Hazael 43 years later obliges them to suppose that King Ben-Hadad III also reigned at the same time under the name of Mari' "My lord [is Hadad]", which is implausible. Thiele's hypothesis is based on a dogma that assumes an absence of co-regencies in the Assyrian reigns, according to the Canon of Kings (by Claudius Ptolemy) but this dogma leads to chronological inconsistencies. To date Jehu's tribute to Shalmaneser III to 841 BCE, he invented 9 co-regencies among the Hebrew kings (Thiele: 1983, 103-217).

¹⁴⁵ Of the four Old Testament chronologies examined in theses (Thiele, 1951; Hughes, 1990; Tetley, 2005; Jones, 2007), only that of Floyd Nolen Jones uses the unmodified durations of the Masoretic text.

TABLE 33

King of Tyre	Phoenician name	age	length	reign		King of Israel	reign
	Abi-Ba'al	(50)	(20)	1045-1025		David	1057 -
Eirōmos	Hiram (I)		0	1025	- 000	Year 40	-1017
						Solomon	1017 -
Year 12	<i>Building of the Temple</i>		12	1013		Year 4	1013
		53	34	-991		Year 11	1006
Balbazeros	Ba'al-'ezer I	43	17	991-974		Year 40	-977
Abdasartos	'Abd-'Astart	39	9	974-965			
Delaiasartos	Delay-'Astart	54	12	965-953			
Astarumos	'Astart-rōm	58	9	953-944			
Phellēs	Pillēs	50	8 m.	944-944			
Ithobalos	Itho-Ba'al	68	32	944	-	Jezebel	940-920
				-912		Ahab Year 1	919
Balezeros	Ba'al-'ezer II	45	6	912-906			
Mettēnos	Mattan	52*	29	906-877			-899
Pygmalion	Pu'mmay-yaton		0	877	-		
Year 7	<i>Foundation of Carthage</i>		7	870	155		814*
		58	47	-830			

This chronology of the kings of Tyre makes it possible to verify five additional synchronisms, three with the biblical chronology: 1) the 40th year of the reign of David (2Sa 5:11; 1Ch 14:1), in 1017 BCE, and 2) the 11th year of Solomon (1Ki 6:37-38), in 1006 BCE, must be included in the reign of Hiram (1025-991), and 3) Jezebel, the daughter of Ithobaal I (944-912), was married to King Ahab (1Ki 16:29-31) at the beginning of his reign, in 819 BCE (consequently, Jezebel must have been born around 940 BCE when Ithobaal I was 20 years old, as he was born in 960 BCE), 4) a synchronism with the Assyrian chronology: the tribute of Bali-man-zēri paid to Shalmaneser III in 841 BCE and 5) a synchronism with history: the foundation of Carthage in 814 BCE, according to the date proposed by Timaeus of Sicily (345-250). The present chronology of the kings of Tyre is based only on the last two synchronisms, using the chronology of Thiele, who likened "Ba'al-manzer" to Baal-ezer II and assumed a reign of 836-841 instead of 912-906 (Liver: 1953, 113-121; Lipiński: 2006, 166-190). This academic chronology is triply aberrant since 1) the first three synchronisms with the biblical chronology are no longer respected, 2) the gap of 36 years (= 29 + 7) between the reign of Ba'al-manzer (836-841) and the foundation of Carthage is equal to 27 years (= 841 - 814) and 3) the date of 814 BCE does not correspond to the 7th year of Pygmalion (832-785) which is dated in 825 BCE (= 832 - 7). In fact, Greek and Roman historians have given dates between 1218 and 729 BCE for the foundation of Carthage¹⁴⁶. According to the most reliable historians this date oscillates around 870 BCE¹⁴⁷ +/- 15 years. The main reason why scholars have kept the date 814 BCE, despite conflicting historical evidence (Gras, Rouillard, Teixidor: 1989, 198-238), is the absence of Phoenician archaeological remains dated before 800 BCE. Ironically this "strong argument" is wrong because some recent discoveries have shown that the Phoenician oldest layer should be dated to the period 900-750 BCE (Horn: 2007, 60-69). In fact, the ¹⁴C dating is extremely difficult as the remains of the fifth layer of Carthage (Tanit 0) are almost non-existent¹⁴⁸, but a few measures have recently traced back to a period of 835-800 BCE (Sagona: 2008, 247,379). The date of 870 BCE for the foundation of Carthage, instead of 814 BCE, is in better agreement with the historical data transmitted by Herodotus (485-425) and Thucydides (460-398), as well as with the most recent archaeological data (since 2008). The only disagreement comes from the tribute of Ba'al-

¹⁴⁶ **1218 BCE** according to Philistus of Syracuse quoted by Eusebius (Year 798 of Abraham). **1213 BCE** according to Eudoxus of Cnidus (Scolie on Euripides, Trojans, 220), who dated it on Year 803 of Abraham. **1184 BCE** according to Virgil. At the epoch of the Trojan War (Eneid I). **846 BCE** according to Livy, 700 years before its destruction (Periochæ LI:3). **828 BCE** according to Cicero, 75 years before Rome (On the Republic II:23). **825 BCE** according to Pompeius Trogus quoted by Justinus, 72 years before Rome (History XVIII:6:9). **818 BCE** according to Velleius Paterculus, 65 years before Rome (Roman History I:6). **814 BCE** according to Timaeus of Sicily quoted by Dionysius of Halicarnassus, 38 years before the 1st Olympiad, (Roman Antiquities I:74:1). **752 BCE** according to Marcus Porcius Cato quoted by Dionysius of Halicarnassus, 432 years after the Trojan War (Roman Antiquities I:74:2). **748 BCE** according to Lucius Cincius quoted by Dionysius of Halicarnassus, 1st year of the 8th Olympiad (Roman Antiquities I:74:1). **746 BCE** according to Cicero, 600 years before its destruction (On the Republic I:3). **729 BCE** according to Quintus Fabius quoted by Dionysius of Halicarnassus, 4th year of the 12th Olympiad (Roman Antiquities I:74:1).

¹⁴⁷ After **884 BCE** according to Thucydides, when the Greeks arrived in Sicily, three centuries after the Trojan War, usually dated in 1184 BCE (The Peloponnesian War VI:2). Around **876 BCE** according to Velleius Paterculus, when Lycurgus lived (Roman History I:6) and according to Tatian, when he legislated 100 years before the Olympics (Discourses to Greeks XLI). Before **860 BCE** according to Herodotus, when the Phoenicians settled on the Mediterranean coast, 5 generations before the Greek colonization, which started c. 700 BCE (The Histories II:44; V:46; VI:47), and 3 generations equal 100 years (The Histories II:142). Before **850 BCE** according to Strabo, when Phoenicians occupied Libya before Homer died (Geography III:2:14). Homer lived 400 years before Herodotus (The Histories IV:53), who wrote his histories around 430 BCE.

¹⁴⁸ The oldest part of Carthage no longer exists since the Romans made it disappear when they razed it in depth.

manzer, equated with Baal-ezer II, which appears in only two (written Ba'ali-man-zēri or Ba'a'il-man-zi) of the six reports, however, this equation has the following anomalies (Grayson: 2002, 32-84,149):

- 1) A report of this record in the annals of Shalmaneser III, covering the period 858-842 BCE, does not mention any tribute from Jehu. The tribute received from Jehu is always dated in the 18th year.
- 2) A second report (bulls of Calah), covering the period 858-841 BCE, adds at the end: (In 841 BCE) In those days (sic), I received the tribute of the Tyrians and Sidonians, and Jehu the son of Omri (Ia-ú-a DUMU Hu-um-ri-i).
- 3) A third report (marble slab), which covers the period 858-839 BCE: (in 841 BCE) I received the tribute of Ba'ali-man-zēri (Ba-'a-li-ma-AN-NUMUN), the Tyrian, and Jehu son of Omri (Ia-a-ú DUMU Hu-um-ri-i).
- 4) A fourth report (Kurba'il statue), covering the period 858-838 BCE: (in 841 BCE) I received the tribute of the Tyrians and Sidonians, and Jehu of the house of Omri (Ia-ú-a bīt Hu-um-ri-i).
- 5) A fifth report (Black Obelisk), covering the period 858-828 BCE, does not mention any tribute in 841 BCE, but there are five epigraphs at the end of the inscription that mention what tribute was received. According to the epigraphs of 841 BCE: I received tribute from Jehu son of Omri (Ia-ú-a DUMU Hu-um-ri-i): silver, gold, a gold bowl, a gold tureen, gold vessels, gold pails, tin, the staffs of the king's hand, (and) spears.
- 6) A sixth report (statue of Calah), covering the period 859-828 BCE, adds (in 841 BCE): I received tribute from Ba-'a-il-ma-AN-zi [of Tyre (and) from Jehu son of Omri].

Assyrian inscriptions, before the 6th year of Sargon II in 716 BCE (May: 2015, 98-105), are not dated by reign years, unlike the Babylonian documents which systematically used this dating system, but they are sometimes dated by eponymous years (*limmu*), according to the name of a high-ranking official, but generally Assyrian kings dated their reigns according to their number of campaigns, in knowing that they were leading a campaign (*palû*) each year (*šattu*), consequently most of the time: *palû* x = Year x (the word *palû* literally means “period of office” and could be translated by “year of reign”). However, the equivalence between the number of campaigns (years of office) and years of reign is not always rigorous as shown by a reconstruction of the reign of Shalmaneser III (Yamada: 2000, 64-67). For example, there were two campaigns lasting two years instead of one year (*palû* 21 = Years 21 and 22; *palû* 25 = Years 26 and 27). The Eponymous Chronicle gives an amount of relevant chronological and historical information; it shows that the main purpose of the Assyrian empire was to get booty by conquering new countries, hence the crucial role of its military. The most important character after the king (*šarru*) was the commander-in-chief (*turtānu*)¹⁴⁹. The governing body of Assyrian headquarters was called *ša-rēši* “one's head” and because the commander-in-chief was a true eunuch this word became a synonym of “high official (minister of the court)”, but to avoid any ambiguities, such members of the court were also designated by the following titles: *ša-rēši ziqni* “bearded eunuch (!)” or *manzāz pāni* “those who are in front”. Considering his crucial position in the kingdom, the commander in chief was always referred to, or shown on frescoes, just after the king up to Shalmaneser V (Finkel, Reade: 1995, 167-172). For example, Shalmaneser III is mentioned as eponym in Year 2 and his first commander-in-chief (Ashur-belu-ka'in) as eponym in Year 3; he is mentioned again in Year 32 and his second commander-in-chief (Dayyān-Aššur) in Year 33.

TABLE 34

BCE	year	Eponym	Main military target(s)	Dated campaigns
859	0	Tab-belu	Hubushkia, Urartu	<i>šurrât sarrûtiya</i>
858	1	Sharru-balti-nishi	Mediterranean Sea	<i>palû 1</i>
857	2	Shalmaneser (III)	Bit-Adini, Carchemish	<i>palû 2</i>
856	3	Ashur-belu-ka'in (<i>turtānu</i>)	Bit-Adini, Urartu	<i>palû 3</i>
855	4	Ashur-bunaya-ušur (<i>rab šâqê</i>)	Bit-Adini, Mazamua	<i>palû 4</i>
854	5	Abi-ina-ekalli-lilbur	Shubria	<i>palû 5</i>
853	6	Dayyān-Aššur (<i>turtānu</i>)	Hamath	<i>palû 6</i>
852	7	Shamash-abua	Tib-abne, Tigris source	<i>palû 7</i>
851	8	Shamash-belu-ušur	Babylonia	<i>palû 8</i>
850	9	Bel-bunaya	Babylonia	<i>palû 9</i>
849	10	Hadi-lipushu	Carchemish, Bit-Agusi	<i>palû 10</i>
848	11	Nergal-alik-pani	Hamath	<i>palû 11</i>
847	12	Bur-Ramman	Paqarhubuni	<i>palû 12</i>
846	13	Ninurta-mukin-nishi	Matyati	<i>palû 13</i>
845	14	Ninurta-nadin-shumi	Central Syria	<i>palû 14</i>

¹⁴⁹ In the texts of Nuzi the word *tardennu* meant the second son in order of age. Because of his power, the commander-in-chief was a potential rival to the king and could oust him through a coup. To avoid this possibility, Assyrian kings chose this key character among the eunuchs of their headquarters. The fact that the commander-in-chief was a eunuch prevented him from founding a dynasty of his own and was, therefore, a deterrent from killing the king in order to take his place.

844	15	Ashur-bunaya	Nairi, Euphrates source	<i>palû 15</i>
843	16	Tab-Ninurta	Namri	<i>palû 16</i>
842	17	Taklak-ana-sharri	Mt. Amanus	<i>palû 17</i>
841	18	Adad-remanni	Damascus	<i>palû 18</i>
840	19	Shamash-abua	Cedar Mountain/Mt. Amanus	<i>palû 19</i>
839	20	Shulmu-beli-lamur	Que	<i>palû 20</i>
838	21	Ninurta-kibsi-uşur	Malahi/Damascus	<i>palû 21</i>
837	22	Ninurta-ilaya	Danabi/Damascus	<i>palû 21</i>
836	23	Qurdi-Ashur	Tabal	<i>palû 22</i>
835	24	Shep-sharri	Melid	<i>palû 23</i>
834	25	Nergal-mudammiq	Namri	<i>palû 24</i>
833	26	Yahalu	Que	<i>palû [25]</i>
832	27	Ululaya	Que	<i>palû [25]</i>
831	28	Sharru-hatti-ipel	Que; Der(?)	<i>palû 26</i>
830	29	Nergal-ilaya	Urartu	<i>palû 27</i>
829	30	Hubayu	Unqi/Patin	<i>palû 28</i>
828	31	Ilu-mukin-ahi	Ulluba/Habhu	<i>palû 29</i>
827	32	Shalmaneser (III)	Mannai	<i>palû 30</i>
826	33	Dayyān-Aššur (<i>turtānu</i>)	Parsua, Namri; rebellion	<i>palû 31</i>
825	34	Ashur-bunaya-uşur (<i>rab šāqê</i>)	Rebellion	--
824	35	Yahalu [<i>turtānu</i> ?]	Rebellion; (death of the king)	--

The six versions of the tributes paid to Shalmaneser III in his 18th year of reign contain several chronological anomalies. The tribute of Jehu (885-856), which appears for the first time in 841 BCE, when Shalmaneser III destroyed the army of Hazael (885-840) during his campaign against Damascus, is always placed at the end of the annals. The tribute of Byblos and Egypt, in 838 BCE, can only be related to the campaign of 853 BCE (Battle of Qarqar) as the tribute of Qalparunda (858-853). This tribute from Egypt probably comes from the King of Byblos, a client of Egypt, who received an Egyptian contingent (1000 soldiers) to defend himself against Assyria. The different versions of the same tributes paid to Shalmaneser III show that some versions of the annals have amalgamated earlier tributes.

- 1) The Assyrian transcription of Baal-ezer into Ba'ali-ma-an-zēri (or Ba'a-il-ma-an-zi) is aberrant, and it is difficult to explain the meaning of this name, maybe as "Baal is a help" (Lipiński: 1970, 59-65). In general, Assyrian transcriptions of Phoenician names are quite close to Hebrew transcriptions:

Name	Greek (Josephus)	Greek (LXX)	Assyrian	Hebrew	meaning
Tyre	Tür	Tür	Şur	Şûr	<i>Rock</i>
Sidon	Sidon	Sidon	Şiduna	Şīdon	<i>Fishery ?</i>
Samaria	Samareia	Samareia	Samirina	Somerôn	<i>Belonging [to a clan]</i>
Jerusalem	Ierousalem	Ierousalem	Ursalimu	Yerûšalaïm	<i>City of fullness</i>
Hiram	Eirom	Airam	Ĥirumu	Ĥīram	<i>Life is high ?</i>
Ithobaal	Ithobal	Iethebaal	[']Tuba'il	Ethba'al	<i>With him is Baal</i>
Baalezer	Balezor	Baalezer	Ba'ali-man-zēri	Ba'al-ezer	<i>Baal is a helper</i>
Mattan	Metten	Maththan	Mitina	Mattan	<i>[Baal] has offered</i>

The name Ba'ali-ma-an-zēri is clearly an anomaly (the expected form is Ba'ali-zēri without ma-an), which could be explained by an erroneous comment on the tributaries. According to Menander, the king of Tyre at the time of Shalmaneser III (859-824) was Pygmalion (877-830), not Baal-ezer II (912-906). The reigns of the kings of Israel, such as Omri (931-919) and Jehu (885-856), are calculable according to the biblical chronology (not modified like Thiele's). Until today (2020), all academic studies on the kings of Tyre (Katzenstein: 1997, 349) date Ĥiram I (c.969–936) and Ĥiram II (c.736–729) in accordance with Thiele's biblical chronology (Lemaire: 2015, 22-35).

- 2) Up to Tiglath-pileser III (745-727), Assyrian kings never mentioned the name of the kings of Tyre, Sidon in their annals, except Baal-manzer (Tadmor, Yamada: 2011). The kings of Tyre mentioned in the Bible or in Phoenician inscriptions were added in parallel to the Assyrian kings:

TABLE 35

King of Assyria	BCE	Tribute paid by (according to Assyrian annals):
	c.1350	Abimilki Prince of Tyre, Zimredda mayor of Sidon (EA 144)
Tiglath-pileser I	c.1092	Sidon (<i>Şi-du-ni</i>)
(Wenamun I:10-29)	c.1085	Weret of Tyre, Merket of Sidon, Zakarbaal prince of Byblos
(1Ki 5:1; 11:1-13)	1025-991	Hiram king of Tyre, king of the Sidonians
(1Ki 16:31)	944-912	Ithobaal I king of the Sidonians

Aššurnasirpal II	870	The Tyrians (<i>sur-a-a-a</i>), the Sidonians (<i>ši-du-na-a-a</i>)
Shalmaneser III	841	The Tyrians, the Sidonians, Jehu son of Omri (<i>la-ú-a mâr Hu-um-ri-i</i>) Ba'al-manzer (<i>Ba'a'li-man-zêri</i>) the Tyrian, Jehu son of Omri The Tyrians, the Sidonians, the Byblians, Jehu of the House of Omri
	c.825	Hiram king of the Sidonians (Lipiński: 2004, 46-48)
Adad-nêrârî III	805	Tyre, Sidon, Land of Omri (^{ma} <i>Hu-um-ri</i>)
	c.800-775	Milkiram king of the Sidonians (Lemaire: 1976, 83-93)
(Pulu I)	773	Luli (Elulaios) king of Tyre (Jewish Antiquities IX:283-284)
Tiglath-pileser III	738 737	Ithobaal II (<i>Tu-ba-il</i>) the Tyrian Hiram III [<i>Hi-ru-um-mu</i>] the Tyrian
Sargon II	720	Samaria (<i>Sa-mir-i-na</i>), House of Omri (<i>Bît Hu-um-ri-a</i>), Juda (<i>la-ú-du</i>)
	712	[Luli] king of Tyre, merchants of Sidon (Is 20:1; 23:1-11; Ezk 27:1-3)
	709	Shilta ("ruler") of the city of the Tyrians (Na'aman: 1998, 239-247)
Sennacherib	712	Luli king of Sidon, Ethba'al (<i>Tu-ba-lu</i>), king of Sidon
Esarhaddon	677	Abdimilkutte king of Sidon, Ba'lu king of Tyre
Ashurbanipal	666	Ba'il king of Tyre
Nebuchadnezzar	598	The king of Tyre; The king of Sidon

According to the archives of El Amarna, Sidon had pre-eminence over its rivals Byblos and Tyre, however, Akhenaten, King of Egypt, sent letters (c. 1350 BCE) to Abimilki, Prince of Tyre, and Zimredda, Mayor of Sidon. The Egyptian title "prince" corresponded to the title "king" in Canaan. As early as the 11th century BCE, the prestigious role of Sidon began to be eclipsed by that of Tyre, presumably because of its flourishing trade on the Mediterranean. When Wenamun arrived in Phoenicia to negotiate (c. 1085 BCE), he started with Beder, the prince of the Tjekker, then with Weret of Tyre, Merket of Sidon, and Zakarbaal, the prince of Byblos (Report of Wenamun I:1-II:11). All the documents, up to Sennacherib, mention either the king of the Sidonians or the king of Tyre, but never the king of Sidon or the king of the Tyrians. The expression "the Tyrian" to designate a king of Tyre never appears in the Assyrian annals before 738 BCE. This coincidence is not fortuitous, since the same anomaly can be found in the biblical text: Ithobaal is "king of the Sidonians", not "king of Tyre", never "king of Sidon". In the Iliad and the Odyssey, as well as in the proverbs of Ahiqar, only the "Sidonians" are mentioned (Khreich: 2018, 373-376). Similarly, in an inscription, dated c. 800-750 BCE discovered in Cyprus, the "prefect of Carthage" is called "servant of Hiram, king of the Sidonians" (Lemaire: 1976, 83-93). The mention of Bali-ma-AN-zêri the Tyrian is therefore an anachronistic invention of an Assyrian engraver. This anomaly shows that the Assyrian annals are not as reliable as the eponymous chronicles. Indeed, the purpose of the annals was to disseminate Assyrian propaganda (Laato: 1995, 198-226) to foreign visitors, whereas the eponymous chronicles were used in the archives of the Assyrian kings. For example, if we cross-check Sennacherib's annals with other historical documents, we can see that this Assyrian king reinterpreted his campaign in 712 BCE with that of Tiglath-pileser III in 738 BCE. As the chronology of the kings of Tyre is mainly reconstructed from the synchronisms mentioned in the Assyrian annals and put in parallel with those mentioned in the biblical text (Aubet: 2001, 54-60), it is important to check whether the historical data from these annals, as well as those from the Bible, are accurate. For example, Sennacherib's annals give the following information (<http://oracc.museum.upenn.edu/rinap/corpus/>):

- 1) *According to the Prism of Sennacherib (Taylor Prism):* On my 3rd campaign (in 712 BCE), I marched to the land Ḫatti. Fear of my lordly brilliance overwhelmed Lulî, the king of the city Sidon, and he fled afar into the midst of the sea and disappeared. The awesome terror of the weapon of the god Aššur, my lord, overwhelmed the cities Great Sidon, Lesser Sidon, Bît-Zitti, Şarepta, Maḫalliba, Ušû (i.e. the mainland settlement of Tyre), Akzibu, (and) Acco, his fortified cities (and) fortresses, an area of pasture(s) and water-place(s), resources upon which he relied, and they bowed down at my feet. I placed Tu-Ba'lu (Ethbaal) on the royal throne over them and imposed upon him tribute (and) payment (in recognition) of my overlordship (to be delivered) yearly (and) without interruption. As for Min(u)himmu (Menahem) of the city Samsimuruna (Samaria), Tu-Ba'lu of the city Sidon, Abdi-Li'ti of the city Arwad, Ūru-Milki of the city Byblos, Mîntinti of the city Ashdod, Bûdi-il of the land Bît-Ammon, Kammûsu-nadbi of the land Moab, Aya-râmu of the land Edom, all of the kings of the land Amurru, they brought extensive gifts, four times, as their substantial audience gift before me and kissed my feet (...) In the course of my campaign, I surrounded, conquered, (and) plundered the cities Bît-Daganna, Joppa, Banayabarqa, (and) Azuru, the cities of Şidqâ that had not submitted to me quickly. (As for) the governors, the nobles, and the people of the city Ekron who had thrown Pađî, their king who was bound by treaty and oaths to Assyria, into iron fetters and who had handed him over to Hezekiah of the land Judah in a hostile manner, they became frightened on account of the villainous acts they had committed. They formed a confederation with the kings of Egypt (and) the archers, chariots,

(and) horses of the king of the land Meluḥḥa (Ethiopia), forces without number, and they came to their aid. In the plain of the city Eltekeh, they sharpened their weapons while drawing up in battleline before me (...) Moreover, (as for) Hezekiah of the land Judah, who had not submitted to my yoke, I surrounded (and) conquered 46 of his fortified cities, fortresses, and small(er) settlements in their environs, which were without number.

- 2) *According to the Bull Inscription:* Moreover, Lulī, the king of the city Sidon, became frightened of doing battle with me, fled to Yadnana (Cyprus), which is in the midst of the sea, and took refuge (there). In that same land, he disappeared on account of the awesome terror of the weapon of the god Aššur, my lord. I placed Tu-Ba'lu on his royal throne and imposed upon him payment (in recognition) of my overlordship. I ruined the wide district of the recalcitrant (and) strong land Judah (and) I made Hezekiah, its king, bow down at my feet.

These annals contain several glaring anachronisms. Although Sennacherib did indeed lay siege to Jerusalem during his third campaign (in 712 BCE), when he was co-regent (715-705) of Sargon II (722-705), he failed in subduing King Hezekiah (726-697). He also claims to have replaced Luli, the king of Sidon, when he fled to Cyprus before dying, with Ethbaal. This remark contains two inconsistencies because, according to one of the present reconstructions (Elayi: 2013, 442), Ithobaal II (695-682), king of Tyre, would have succeeded Luli (729-695), who therefore did not die in 712 BCE and was not king of Sidon but of Tyre. To be credible a lie must contain some truth, we can assume that Sennacherib probably wanted to impose a tribute on Luli II, the king of Tyre, who fled by boat to Cyprus with his treasure in order not to pay. To turn failure into victory, Sennacherib copied part of the annals of Tiglath-pileser III, who in 738 BCE had imposed a tribute on Ithobaal II (c.755-738), the king of Tyre, but as this king died in that year, Tiglath-pileser III replaced him with Hiram III (738-730). However, to increase his prestige, Tiglath-pileser III had added to the list of tributaries the name of Menahem (771-760), King of Samaria, who had paid him a heavy tribute (2Ki 15:19-20) in 765 BCE when he was co-regent under the name Pulu (782-746). This Assyrian king, who had reigned for 36 years, had previously imposed, in 773 BCE, a tribute on Luli I (c.775-755), king of Tyre, according to Flavius Josephus (Jewish Antiquities IX:283-284):

The king of Assyria invaded all Syria and Phoenicia in a hostile manner (in 773 BCE). The name of this king is also set down in the archives of Tyre, for he made an expedition against Tyre in the reign of Elulaios¹⁵⁰ (Luli I). This is also attested by Menander, the author of a book of Annals and translator of the Tyrian archives into the Greek language, who has given the following account: And Elulaios (?), to whom they gave the name of Pulas (Pulu), reigned 36 years (782-746); this king, upon the revolt of the Kiteis (Cyprians), put out to sea and again reduced them to a submission.

Menahem actually paid tribute to Tiglath-pileser (Tiglath-pul-eser), not during his reign in 738 BCE, but when he was co-regent under the name Pul (Pulu I), a hypocoristic use of the word *aplu* "heir".

Consequently, the God of Israel stirred up the spirit of Pul the king of Assyria and the spirit of Tiglath-pileser the king of Assyria (1Ch 5:26). Pul the king of Assyria came into the land. Consequently, Menahem (771-760) gave Pul 1000 talents of silver (in 765 BCE), that his hands might prove to be with him to strengthen the kingdom in his own hand. So Menahem brought forth the silver at the expense of Israel, at the expense of all the valiant, mighty men, to give to the king of Assyria 50 silver shekels for each man. At that the king of Assyria turned back, and he did not stay there in the land (2Ki 15:19-20).

We note that in the list of tributes paid to Tiglath-pileser III, in 738 BCE, that of Menahem (771-760), King of Samaria, was added to that paid by Ithobaal II (c.755-738), King of Tyre, whereas he had paid this tribute in 765 BCE. Sennacherib took over the tributes paid by these two former kings during his third campaign in 712 BCE, thus creating a new anachronism with the biblical chronology. According to the Bible, Luli II (c.729-694) was king of Tyre (Is 20:1; 23:1-11; Ezk 27:1-3) and not king of Sidon according to the annals of Sennacherib. However, the reconstruction of this chronological part of the kings of Tyre during Sennacherib's co-regency with Sargon (715-705) is still very hypothetical¹⁵¹. Considering the tributes paid to Tiglath-pileser III when he was co-regent under the name Pulu (782-746), makes it possible to remove many chronological inconsistencies with the kings of Israel and the kings of Tyre, and thus to obtain an excellent chronological agreement among the synchronisms (dates in bold in the parts highlighted in grey).

¹⁵⁰ This king of Tyre cannot be Luli II (729-695) because according to Assyrian records he was king of Sidon during the 3rd Sennacherib campaign (702 BCE) and fled from Tyre to Cyprus where he "died" shortly afterwards. This information is incompatible with the length of his reign, implying that he was already king in 736 BCE at the time of Hiram III (739-730).

¹⁵¹ The attack of Sennacherib against Tyre, in 712 BCE, then that of Sargon against Cyprus, in 709 BCE, and against the ruler (*šiltā*) of the Tyrian (Na'aman: 1998, 239-247; Balogh: 2011, 124-125), led the inhabitants of Sidon to enthrone Abdimilkutte (Abd-Malqart), king of Sidon, after the death of Luli II (c.729-695), king of Tyre, according to Assyrian propaganda (Cannavò: 2011, 329-332). After Nebuchadnezzar II's attack, in 598 BCE, the double kingship over Tyre, Sidon ceased and that after the siege of Tyre, which lasted 13 years, there was again only one king of Tyre/Sidonians (Elayi: 2006, 13-43).

TABLE 36

King of Israel	Reign	King of Tyre	Reign	King of Assyria	Reign	
Jehoram A.	897-886	Mattan I	906 - -877	Tukulti-Ninurta II	891-884	
Jehu	885 - -856	Pygmalion (Nora Stone)	877 - 870	Aššurnasirpal II	884 - -859	871-859
Jehoahaz	856-839	(Baal-manzer)	-830	Shalmaneser III	859 - 841	
Jehoash	841-823				-824	826-823
Jeroboam II	823 - -782	Hiram II	830-805	Šamši-Adad V	824-811	
		Milkiram	805 - -775	Adad-nīrari III	811-783	
Zechariah	782-771			Pulu I	782 - 765	783-773
Menahem	771-760	Luli I (Elulaios)	775-755		-746	773-755
Peqah	758 - -738	Ithobaal II (Tubail)	755 - -738	Tiglath-pileser III	745 - 738	755-745
Hosea I	738 - -729	Hiram III	738-730		729	
		Mattan II	730-729		-727	
Hosea II	729 - -720	Luli II	729 -	(Pulu II)		
		Shilṭa (“sultan”)	715-709	Shalmaneser V	727-722	
King of Sidon	Reign		-695	Sargon II	722-705	715-705
Abdimilkutte (Abd-Malqart)	695 - -677	Baal I (Ba‘lu)	695 -	Sennacherib	705 - -681	
?		(Ba‘il)	-666	Esarhaddon	681-669	
King of Judah	Reign	Yahimilki ?	666-640	Aššurbanipal	669 -	
Josiah	640 - -609	Abdastartus II ?	640 -		-626	
				Sin-šar-iškun	626-612	
Jehoiachim	609-598	?	-591	Aššur-uballiṭ II	612- 609	
Zedekiah	598- 587	Ithobaal III	591 -	Nebuchadnezzar II	605 -	
Jehoiachin (exile)	587 - -561		-573			
		Baal II	573-563		-562	

We note that all the chronological synchronisms with the kings of Assyria, Israel and Tyre are excellent, with one important exception: the tribute paid to King Shalmaneser III in 841 BCE by Jehu (885-856) is not mentioned in the Bible and, more embarrassingly, is anachronistic by at least 15 years since Jehu had died on that date. The second embarrassing point concerns the dating of the Nora Stone, which is associated with the foundation of Carthage, in 870 BCE, according to Menander, but in 814 BCE according to the conventional chronology. Menander's chronological data being perfectly cross-referenced with biblical data (not Thiele's data), especially with kings Hiram I (1025-991) and Ithobaal I (944-912), are therefore very reliable, especially as the foundation of Carthage being a major event in Phoenician history, it must have been preserved in the annals of Tyre and Carthage. Unfortunately, the annals of Tyre were destroyed by the army of Alexander the Great in 332 BCE, and the annals of Carthage were destroyed by the Roman armies in 146 BCE. Justinus (c. 300 CE) was the only historian who has transmitted a romanticized history of Carthage in his book: *Epitome of Pompeius Trogus' Philippic Histories*. Although this story has been adapted to Greek mythology, it contains several historical elements that are authentically Phoenician¹⁵²:

Meanwhile their king Mutto (Mattan I) died at Tyre, appointing his son Pygmalion and his daughter Elissa, a maiden of extraordinary beauty, his heirs. But the people gave the throne to Pygmalion, who was quite a boy (11 years old). Elissa married Acerbas (Zakarbaal), her uncle, who was priest of Hercules (Melqart), a dignity next to that of the king. Acerbas had great but concealed riches, having

¹⁵² Pompeius Trogus wrote his book in 9 CE, but he no longer had access to the annals of Carthage, which had been destroyed in 146 BCE, so he therefore took up the brief account of the foundation of Carthage written at the beginning of the third century BCE by Timaeus of Tauromenium (Haegemans: 2000, 277-292), but adapted it to Greek mythology. According to his account, Princess Elissa was the daughter of King Mattan [Mattan I]. When he died, the throne was jointly bequeathed to her and her brother, Pygmalion. She married her uncle Acerbas High Priest of Melqart, a man with both authority and wealth comparable to the king. Pygmalion was a tyrant, lover of both gold and intrigue, and coveted the authority and fortune enjoyed by Acerbas. Pygmalion assassinated Acerbas in the temple and managed to keep the misdeed concealed from his sister for a long time, deceiving her with lies about her husband's death. At the same time, the people of Tyre called for a single Sovereign, causing dissent within the royal family. After learning the truth, Elissa fled Tyre with her husband's gold, and managed to trick the Tyrian ships sent in pursuit of her fleet. When her ship was overtaken by the Tyrian ships, she threatened to throw the gold overboard and let the would-be captors face the wrath of her brother for failing in their mission. They opted to join her, and the extended fleet sailed on towards the West. Elissa eventually sailed to Africa after a brief stop in Cyprus. She requested land to establish a new city from the king of the Libyan tribe living near Byrsa and called the place *Qart-hadasht* meaning “New city” in Phoenician.

laid up his gold, for fear of the king, not in his house, but in the earth; a fact of which, though people had no certain knowledge of it, report was not silent. Pygmalion, excited by the account, and forgetful of the laws of humanity, murdered his uncle, who was also his brother-in-law, without the least regard to natural affection. Elissa long entertained a hatred to her brother for his crime, but at last, dissembling her detestation, and assuming mild looks for the time, she secretly contrived a mode of flight, admitting into her confidence some of the leading men of the city, in whom she saw that there was a similar hatred of the king, and an equal desire to escape (Philippic Histories 18:4).

The account transmitted by Justinus (c. 200 CE?), despite its inaccuracies, remarkably confirms the chronological data transmitted by Menander: 1) the foundation of Carthage took place during the 9th century BCE; 2) when Elissa, Pygmalion's sister, married Acerbas (Zakarbaal). She was probably in her twenties, like her brother. According to Menander, Carthage was founded when Pygmalion was 18 years old; 3) Pygmalion had succeeded Mattan and had been enthroned when he was still a boy, at the age of 11 according to Menander. A confirmation of the chronological accuracy of the kings of Tyre, transmitted by Menander, comes from several archaeological finds. The Nora stone, considered the oldest Phoenician inscription ever found in southern Sardinia, currently dated by epigraphy to c.800 BCE, confirms the episode of Queen Elissa's flight to found Carthage, since we read (proper names are in bold type):

Fig. 15



	Translation	New translation ¹⁵³
1. btršš	in Tarshish ,	A house he beat down.
2. wgrš h'	and he was driven	And he drove out.
3. bšrdn š	in Sardinia .	In Sardinia ,
4. lm h' šl	He is safe. Safe	he is at peace;
5. m šb' m	is the crew (army) of	his army is at peace. Mi-
6. lkt nbn	the Queen. Structure	-lkaton , son
7. š bn ngd	which the herald has built	of Shubon , [the] Commander (<i>nagid</i>).
8. lpm y	for Pumay	For Pummay .

The translation of this text is debated (Lipiński: 2004, 234-260), but Tarshish and Sardinia were areas inside the Phoenicians' zone of influence. This text refers to the Phoenician god Pumay, found in the name Pumay-yaton "Pumay has given", as well as the presence of a Phoenician queen (Elisha is the only known Phoenician queen). It should be noted that Ruler (*nagid* without article) Milkaton never existed as the name would have been written Milk-yaton and proper names are never split in two (Mi-lkaton) in royal inscriptions. A king of Cyprus named Pumay-yaton (4th century BCE) is read Pygmalion in Diodorus' text (Historical Library XIX:79:4). The name Pygmalion written in Phoenician appears on a jewel called "Médaille de Carthage" (Gras, Rouillard, Teixidor: 1989, 158-165), We notice that the name Pygmalion in this inscription is written PGMLYN in Phoenician instead of the supposed PMY-YTN form. This medal is dated c. 650 BCE by epigraphy (proper names are in bold type):



Fig. 16

1. l 'štr	For Astar-
2. t lpgmlyn	-te For Pygmalion
3. yd'mlk bn	Yada'milk , son of
4. pdy ḥlš	Paday , saved,
5. 'š ḥlš	because she saved
6. pgmlyn	Pygmalion

Another inscription dated to the 9th century BCE found in a necropolis in Carthage reads: *For Astarte; For Pygmalion! Yada'milk son of Pidiya, a soldier who was equipped by Pygmalion* (Pilkington: 2013, 141-142).

This text confirms the existence of a Phoenician king named Pygmalion (former Pumay-yaton) before 650 BCE. According to Justinus, King Pygmalion must have been in financial trouble because Elissa had gone to her new city (Carthage) with the whole temple treasury. One way to verify the date of the foundation of Carthage in 870 BCE is to use the epigraphic dating of the Nora Stone, as this inscription is contemporary of King Pygmalion. This dating is problematic because epigraphers use the inscriptions of the kings of Byblos to calibrate their dating of Phoenician inscriptions, yet the conventional chronology of the kings of

¹⁵³ This conjectural translation was adopted from 2005 (Pilkington: 2012, 45-51).

Byblos is itself anchored on the Egyptian chronology of Dynasty 22, knowing that Abibaal was a contemporary of Shoshenq I and Elibaal was a contemporary of Osorkon I (Lemaire: 2006, 1697-1716), with an average reign of 20 years identical to that of Tyre at that time. The succession of the kings of Byblos is as follows: Ahiram (c. 1000 BCE), Ithobaal, Abibaal, Yehimilk, Elibaal and Shipitbaal (Moscati: 1968, 10-11; Elayi: 2013, 442). These synchronisms make it possible to establish a chronology of the kings of Byblos, but epigraphy obliges to move the reign of Yehimilk (c.970-945) before the reign of Abibaal (945-924), according to the conventional chronology, whereas according to historical evidence it should be situated between the reigns of Elibaal and Shipitbaal I (Abou-Abdallah: 2018, 25-46):

TABLE 37

Judah (Thiele)	Reign	#	Egypt (Grimal)	Reign	#	N°	Byblos (Elayi)	Reign	#
Solomon	971 -	40	Psusennes II	959-945	14	3	Yehimilk	970-945	25
	-931		Shoshenq I	945 -	21	1	Abibaal	945 -	21
Rehoboam	931 -	17		-924				-924	
	-913		Osorkon I	924 -	35	2	Elibaal	924 -	24
Abiyam	913-910	3						-900	
Asa	910 -	41		-889		4	Shipitbaal I	900 -	20
			Shoshenq II	890-889	1				
	-869		Takelot I	889-874	13			-880	

This anachronism alone proves that the chronology of the 22nd Dynasty must be shifted back some 40 years¹⁵⁴. This chronological anomaly is indicative of the methodological inconsistency of Egyptologists since they deny the historicity of the biblical account but at the same time use the reign of Rehoboam to chronologically anchor the 22nd Dynasty. This chronology is all the more paradoxical as it can be fully calculated because all the reign lengths of dynasties 22 to 26, except that of Osorkon IV, are known, and most of the dates of consecration and death of the Apis bulls, as well as their life spans, are also known (Dessoudeix: 2008, 450-463). Two chronological landmarks help to anchor this chronology: the year 6 of Cambyses II, after the year 2 of Psamtik III (in 525 BCE), is dated in 524 BCE by astronomy and the total number of years of reign between the last king of the 24th dynasty (Bakenrenef) and Psamtik III, the last king of the 26th dynasty, was 203 years (Payraudeau: 2020, 7-9) and the reign of Osorkon II was 44 years (Aston: 1989, 139-153). This count, which is rigorously accurate, since there are indeed 203 years between the end of the reign of Bakenrenef and the end of the reign of Psamtik III (203 = 729 – 526), shows that the Egyptian King List were regularly copied and contained few errors¹⁵⁵.

TABLE 38

BCE	Dy.	King	Burial of an Apis	Lifespan (in years)	Synchronism with:
980	22	Shoshenq I			Year 1 of Shoshenq I = Year 15 of Psusennes II
959	22	Osorkon I			Year 1 of Osorkon I = Year 22 of Shoshenq I
924	22	Takelot I			Year 1 of Takelot I = Year 36 of Osorkon I
922	22	Shoshenq II			Year 1 of Shoshenq II = Year 14 of Takelot I
909	22	Osorkon II			Year 1 of Osorkon II = [Year 3] of Shoshenq II
887			Year 23	?	
875					Year 35 of Osorkon II
870			[Year 40]	[17]	[uncertified burial]
865	22	Takelot II			Year 1 of Takelot II = [Year 45] of Osorkon II
852			Year 14	[18]	
851					Total lunar eclipse dated 29/XII/15 (= 17 March)
840					Year 26 of Takelot II
837	22	Shoshenq III	Year 4	15	[unnamed king]
829					Year 12 of Shoshenq III = Year 5 of Pedubast I
818					Year 16 of Pedubast I = Year 2 of Iuput I

¹⁵⁴ The usual chronology of the 22nd Dynasty comes from Kenneth Kitchen who assumed (arbitrarily) that Shoshenq I's attack on Jerusalem, dated 5th year of Rehoboam (1Ki 14:25), coincided with the one mentioned on a stele dated 21st and final year of his reign. Based on Thiele's biblical chronology, dating the reign of Rehoboam (930-913), Kitchen sets the 5th year of his reign in 925 BCE (= 930 - 5), if the campaign had to be conducted the year before Year 21 of Shoshenq I, which would date his accession in 945 BCE (= 925 + 20). Although this Egyptian chronology is based on an erroneous biblical chronology, it is accepted by Egyptologists to within 2 years (Hornung, Krauss, Warburton: 2006, 474; Broekman, Demarée, Kaper, 2009, 10).

¹⁵⁵ These king lists also show that the Egyptian dynasties (22 to 25) that ruled in parallel are listed in chronological order, which could explain why the kings after Shoshenq V and those before Shabaka were not registered to give the illusion of a single ruling dynasty. Moreover, although several kings reigned at the same time, only one Apis bull was dedicated to one king and not to the others. This suggests that the Apis bull consecrated in year 6 of Bakenrenef, in 729 BCE, was preceded by the Apis bull consecrated in year 37 of Shoshenq V, around 746 BCE, as the average lifespan of the Apis bulls was 16 years at that time. King Pedubast II, who reigned 5 years before Osorkon IV, the king who began his reign from the year 21 of Piye (in 741 BCE), fits perfectly into the previously calculated chronology.

813				Year 28	24	
800	22	Shoshenq IV				Year 1 of Shoshenq IV = Year 41 of Shoshenq III
787	22	Pamiu I		Year 2	26	
772	22	Shoshenq V		Year 11	15	
746				Year 37	26	
741	22	Osorkon IV				Year 1 of Osorkon IV = Year 21 of Piye
729	24	Bakenrenef	000	Year 6	[17]	Year 6 of Bakenrenef = Year 2 of Shabaka
722		Osorkon IV				Sô (2Ki 17:3-5)
717	25	Shabaka		Year 14	[12]	
715		Osorkon IV				Shilkani (Year 7 of Sargon II)
712						Year 30 of Osorkon IV = Year 1 of Shabataka
686	25	Taharqa		Year 4	[16]	
594	26	Nekau II		Year 16	16y. 7m.	
577	26	Apries		Year 12	17y. 6m.	
526	26		203			Year 44 of Amasis = Year 1 of Psamtik III
524	26	Cambyeses II		Year 6	19	

Two dates based on astronomy confirm the accuracy of this chronology: Sargon II (722–705) faced Shabataka during his 10th campaign in 712 BCE, not in 702 BCE as previously believed (Payraudeau: 2020, 36–37), and a lunar eclipse, dated on 25 Shemu IV of the 15th year of Takelot II¹⁵⁶, mentioned in the *Osorkon Chronicle* can fix this reign by astronomy. Parker noticed that a lunar eclipse was described: *so that the sky will not swallow the moon the 16th lunar day [mspr] in the region of Heliopolis* and that the one dated IV Shemu 25 of the 15th year coincided with the total lunar eclipse of 13 March 851 BCE (Parker: 1953, 50). This total eclipse confirms the accession of Takelot II in 865 BCE. Amenemope's reign (highlighted in green) is dated to c. 1024 BCE +/- 30 by ¹⁴C calibrated data (Hagens: 2014, 173).

TABLE 39

Israel	Reign	Judah	Reign	Egypt	Reign	#	Byblos	Reign	#
		Solomon	1017 -	Amenemope	1018-1009	9	Ahram	1020 -	20
				Osorkon A	1009-1003	6		-1000	
		(1Ki 9:16)	993	Siamun	1003-984	19	Ithobaal	1000 -	20
				Psusennes II	994-980	14		-980	
(1Ki 11:40)			-977	Shoshenq I	980 -	21	Abibaal	980 -	20
Jeroboam I	977-955	Rehoboam	977-960	(1Ki 14:25)	-959			-960	
Nadab	955-954			Osorkon I	959 -	35	Yehimilk	960 -	20
Baasha	954-931							-940	
Elah	931-930	King of Moab					Elibaal	940 -	20
Omri	930 -	Kemoshyat	930 -		-924				
	-919			Shoshenq II	924-922	2		-920	
Ahab	919-898	(2Ki 3:4-5)	-900	Takelot I	922-909	13	Shipitbaal I	920 -	20
Ahaziah	898-897	Mesha	900 -	Osorkon II	909 -	44		-900	
Jehoram (A)	897-886								
Ahaziah II	886-885								
Jehu	885 -		-870		-865				
	-856			Takelot II	865 -	25			
Jehoachaz	856-839				-840				
Jehoash	841-823	Amasiah	839-810	Shoshenq III	840 -	40			
Jeroboam II	823 -	Uzziah	810 -		-800				
	-782	[Azariah]	[796 -	Shoshenq IV	800-788	12			
				Pamy	788-782	6			
Zechariah	782-771			Shoshenq V	782 -	38			
Menahem	771-760		-758						
Peqah	758 -	Jotham	758-742		-745				
	-738	Ahaz	742 -	Pedubast II	745-741	5			
Hosea I	738-729		-726	Osorkon IV	741 -	?	Shipitbaal II	740 -	?
Hosea II	729-720	Hezekiah	726 -	(1Ki 17:1-4)				-720	

¹⁵⁶ Caminos published this chronicle, but he doubted that the sentence: *in the regnal year 15, 4th month of Shemu, day 25(or 29), under the Majesty of his august father, the god who rules Thebes [Takelot II], the sky has not swallowed the moon*, could be understood as a lunar eclipse, because the expression was in the negative form (Caminos: 1958, 88-90). In fact, out of superstition, the Egyptians never mentioned eclipses except in a negative way. As Parker noted, if the scribe precisely recorded the date of the revolt which was close to the total lunar eclipse it was to note a coincidence with this bad omen rather than a lack of coincidence. The revolt (13 March) preceded the eclipse (17 March) by a few days (which would have been the opposite if it had been a “normal” omen). Using the length of Osorkon II's reign of 44 years, instead of 24 years (Aston: 1989, 139-153), the accession of Shoshenq I must be fixed in 980 BCE.

					-712		Uru-milki I	720 - ?	
	(2Ki 19:9)	-697	Shabataka	712 -	23			-700	
	Manasseh	697 -	/Taharqa	-689					
			Taharqa	689-663	26	King of Persia	Reign	#	
		-642	Psamtik I	663 -	54	[Cyrus 0] ?	660 -	25	
	Amon	642-640					-635		
	Josiah	640-609	(2Ki 23:29)	-609		Teispes	635-610	25	
	Jehoiachim	609-598	Necho II	609-594	16	Cyrus I	610 -	25	
	Zedekiah	598-587	Psamtik II	594-588	6		-585		
	Jehoiachin	587 -	Apries	588-569	19	Cambyses I	585 -	26	
	(Jr 44:30)	-561	Amasis	569-566	44		-559		
			(Ezk 29:12-17)	566-526		Cyrus II	559-530	29	
			Psamtik III	526-525	2	Cambyses II	530 -	8	
							-522		

This Egyptian chronology, anchored on three dates calculated by astronomy: Psamtik III (526-525), Shabataka (712-689), Takelot II (865-840), and one date calculated by ¹⁴C dating: Amenemope (1018-1009), is in perfect agreement with all the synchronisms of the chronologies of the kings of Byblos, Assyria, Judah, and Israel. King Solomon's famous copper mines, long considered legendary, actually existed and were located in the Timna Valley. The most important site is Site 34 ("Slaves' Hill"), one of the largest smelting camps, which has been dated by the CTV project to around 1000 BCE¹⁵⁷, which corresponds exactly to the beginning of Solomon's reign (1017-977)¹⁵⁸ as well as to the beginning of Amenemope's reign (1018-1009), dated to around 1024 BCE by ¹⁴C-calibrated data.

All these chronologies are used by epigraphers to accurately date Phoenician inscriptions. Seven biblical synchronisms with Egyptian chronology are of particularly remarkable accuracy:

- The city of Gezer was burned by **Siamun** (Kitchen: 2003, 108-110) 20 years after its construction (1Ki 9:10-17), which had begun in early Year 4 (1Ki 6:37-7:1), in Year 24 of Solomon, in **993 BCE**.
- Flight of Jeroboam into Pharaoh **Shoshenq I's** country, in the last years of Solomon's reign (1Ki 11:40-42), or during the years 39 and 40 (**978-977 BCE**).
- **Shoshenq I** attacked Jerusalem in the 5th year of Rehoboam, in **972 BCE**, he is called Shishaq in the Hebrew Bible (1Ki 14:25,26; 2Ch 12:2-9) and Sousesakim in the Septuagint.
- Hosea II negotiated in **723 BCE** with Assyrian King Shalmaneser V (727-722) and Egyptian King **Osorkon IV** (741-712), written So (2Ki 17:1-6) or Segor (LXX).
- **Taharqa**, the co-regent of Shabataka (712-689), tried to prevent Sennacherib from attacking Jerusalem (2Ki 19:8-9) in the 14th year of Hezekiah (726-697) dated to **712 BCE** (2Ki 18:13-17).
- Josiah (640-609) died at Megiddo (2Ki 23:29-34), in **609 BCE**, just as **Necho II** (609-594) arrived in that city to repel the Babylonian attack against Assyrian King Aššur-uballiṯ II (612-609).
- Hophra (**Apries**), King of Egypt (Jr 44:30) in **588 BCE** who died in 566 BCE (Ladynin: 2006, 31-56).

According to the Mesha Stele, Moab was oppressed by Israel for 40 years since the reign of Omri, Kemoshyat reigned for 30 years, then Mesha (his son) liberated the country (Sprinkle: 1999, 247-270). This chronology put the 40 years from the reign of Omri in 930 BCE to the death of Jehoshaphat in 891 BCE. The revolt of Mesha (2Ki 3:4-7) was shortly after the death of Ahab in 898 BCE. If Mesha reigned 30 years like his father, his stone must have been erected after 898 BCE and before 870 BCE, at the end of his reign. The inscription of King Kilamuwa (835-825) must be dated from the end of the reign of Shalmaneser III (859-824). The Fekherye inscription mentions that of Hadad-yis'i, son of Shamash-Nuri, who was an eponymous governor of Guzan in 866 BCE under Aššurnasirpal II. It is likely that the king Hadad-yis'i [Adad-rēmanni] was also eponym in 841 BCE under Shalmaneser III, which would date the Fekherye stele inscriptions around that date (Lipiński: 2000,128-130,239-242). Consequently, the reigns of the kings of Byblos can be used by epigraphers to date inscriptions in Palaeo-Hebrew (Rollston: 2008, 57-93): Ahiram¹⁵⁹ (1020-1000); Abibaal (980-960); Yehimilk (960-940); Elibaal (940-920); Shipitbaal (920-900); Mesha (900-870); Fekherye (870-840); Hazael (885-845); Kilamuwa (840-825). Epigraphers use the inscriptions of these kings dated according to the conventional chronology (Sass: 2005, 22-40), it must therefore be set back at least 20 years for the reigns of the kings of Byblos and 45 years for the Mesha stele. These chronological changes in dates make it possible to refine the epigraphic dating:

¹⁵⁷ <https://cordis.europa.eu/project/id/334274/reporting>

¹⁵⁸ According to Thiele's biblical chronology, Solomon's reign (971-931) is moved forward by 46 years.

¹⁵⁹ Ahiram was a usurper who ascended the throne after the demise of Zakarbaal (c.1090-1070), the king of Byblos who had presumably been dethroned by Aššur-bēl-kala (1074-1056). As Ithobaal feared a new military invasion by the Assyrians, this shows that Ahiram reigned towards the end of the 11th century BCE (Elayi: 2013, 169-173,442).

	-1150			-1000							[-900]				-850				
	Ger-baal arrow-head	Ruwei-seh arrow-head	Kefar Veradim bowl	Tekke bowl	Eli-baal	Byblos spatula	Yahi-milk	Ahi-ram	Abi-baal	Šipiṭ-baal	Abdo-sherd	Bord-reuil inscription	Fekheryeh	Kula-muwa orthostat	Kula-muwa gold ferrule	Dan	Hazael bronzes	Hazael ivories	Mesha
alep		𐤀		𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀	𐤀		𐤀	𐤀	𐤀	𐤀
bet	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁	𐤁		𐤁	𐤁	𐤁	𐤁
gimel	𐤂				𐤂	𐤂	𐤂	𐤂	𐤂	𐤂		𐤂	𐤂	𐤂		𐤂			𐤂
dalet	𐤃	𐤃			𐤃		𐤃	𐤃		𐤃	𐤃	𐤃	𐤃	𐤃		𐤃	𐤃		𐤃
he						𐤄	𐤄	𐤄		𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄	𐤄
waw					𐤅	𐤅	𐤅	𐤅		𐤅		𐤅	𐤅	𐤅	𐤅	𐤅			𐤅
zayin					𐤆	𐤆	𐤆	𐤆		?		𐤆	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆	𐤆
het	𐤇	𐤇	𐤇		𐤇	𐤇	𐤇	𐤇		𐤇		𐤇	𐤇	𐤇	𐤇	𐤇	𐤇	𐤇	𐤇
tet							𐤈			𐤈		𐤈	𐤈						?
yod	𐤉	𐤉			𐤉	𐤉	𐤉	𐤉		𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉	𐤉
kap		𐤊	𐤊	𐤊	𐤊	𐤊	𐤊	𐤊	𐤊	𐤊	?	𐤊	𐤊	𐤊	𐤊	𐤊			𐤊
lamed	𐤌			𐤌	𐤌	𐤌	𐤌	𐤌	𐤌	𐤌	𐤌	𐤌	𐤌	𐤌		𐤌	𐤌	𐤌	𐤌
mem			𐤍	𐤍?	𐤍	𐤍	𐤍	𐤍	𐤍	𐤍		𐤍	𐤍	𐤍	𐤍	𐤍	𐤍	𐤍	𐤍
nun	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎		𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎	𐤎
samek			𐤏	𐤏		𐤏		𐤏				𐤏	𐤏	𐤏	𐤏	𐤏	𐤏	𐤏	𐤏
‘ayin	𐤐	𐤐	𐤐	?	𐤐	𐤐	𐤐	𐤐	𐤐	𐤐	𐤐	𐤐	𐤐	𐤐		𐤐	𐤐		𐤐
pe			𐤑		𐤑		𐤑	𐤑		𐤑		𐤑	𐤑	𐤑		𐤑			𐤑
šade	𐤒	𐤒		𐤒?			𐤒		𐤒?			𐤒	𐤒	𐤒		𐤒			𐤒
qop						𐤓				𐤓		𐤓	𐤓	𐤓	𐤓	𐤓	𐤓		𐤓
resh	𐤔				𐤔	𐤔	𐤔	𐤔	𐤔	𐤔		𐤔	𐤔	𐤔		𐤔	𐤔	𐤔	𐤔
shin			𐤕	𐤕	𐤕	𐤕	𐤕	𐤕		𐤕		𐤕	𐤕	𐤕		𐤕	𐤕	𐤕	𐤕
taw						𐤖	𐤖	𐤖		𐤖		𐤖	𐤖	𐤖		𐤖	𐤖	𐤖	𐤖

TABLE 40

According to this epigraphical study, the Nora Stone can be dated. We notice that the letter W in the Mesha stele still looks like the archaic form of the sarcophagus of Ahi-ram¹⁶⁰ (1020-1000). The shape of the letter K (*kap* line 6) on the stele appears only from 890 BCE (Mesha), the letter M (*mem* lines 4, 5 and 8) is vertical before 840 BCE (Fekherye), then horizontal after that date. The letter M in the Dan stele (880-860) is horizontal, but sometimes vertical (line 8 fragment 1, lines 2 and 4 fragment 2). The letter L (*lamed* lines 4, 6 and 8) is rounded only after 890 BCE and angular before that date. According to these epigraphical criteria, the Nora Stone should be dated after 890 BCE and before 850 BCE (van Dommelen: 1998, 72-73). This epigraphic dating confirms two points: the foundation of Carthage took place before 850 BCE, the reign of Pygmalion given by Menander agrees perfectly with this date. This also confirms that the king of Tyre named Bali-ma-AN-zēri, mentioned in the tribute of 839 BCE, never existed.

The tribute paid to Shalmaneser III by Jehu, king of Bīt Omri (Israel), in 841 BCE, is attested in several Assyrian inscriptions and is even precisely represented on the famous Black Obelisk. The anachronism of this tribute, Jehu having died in 856 BCE, could be explained by a tribute received earlier when Shalmaneser III was co-regent (871-859) with Aššurnasirpal II. For example, Tiglath-pileser III mentioned in 738 BCE the tribute that King Menahem (771-760) had actually paid him (2Ki 15:19-20) in 765 BCE when he was co-regent under the name of Bar Ga’yah or Pulu (782-746). Similarly, Shalmaneser III’s annals clearly have “arrangements” with the facts (Hallo, Younger: 2002, 261-272) and Aššurnasirpal II attributed to himself the actions of his predecessors (Grayson: 1980, 227-245). This explanation is problematic because the biblical text shows that the kingdom of Jehu was repeatedly attacked and plundered by Hazael, a powerful king of Damascus, but Assyria is never mentioned throughout this period. There are two possible solutions: either the biblical text has forgotten the tribute paid by Jehu to Shalmaneser when he was co-regent, or Shalmaneser III invented this famous tribute. Only a precise chronological reconstruction can provide an answer to this enigma. For a long time, the Assyrian annals were used as historical documents because of the many mentioned synchronisms with the Hittite and Aramaic kingdoms. However, the reconstruction of the chronology of these kingdoms from their own inscriptions has made it possible to compare it with the

¹⁶⁰ The bas-relief carved panels of the Ahi-ram sarcophagus make it "the major artistic document of the Early Iron Age" in Phoenicia. Associated Late Bronze Age objects confirm that this tomb existed in the 13th century BCE and was reused in the 11th century BCE. A date around 1000 BCE for the inscription has been widely accepted.

information contained in the Assyrian annals. Two points emerged: first, the Assyrian annals have grouped victories or tributes not according to a chronological distribution but according to an ideological arrangement (Green: 2010, 83-88), and several names of Luwian kings were replaced by completely different Assyrian names; the comparison of some better documented reigns shows that some kings do not correspond to their chronological place (highlighted in light blue):

TABLE 41

Sidonians (Tyre)	reign	Bīt Agusi (Arpad)	reign	Hamath	reign	Assyria	reign
Mattan I	906-877	Gūš	890 -	Parita	885 -	Aššurnasirpal II	884 -
Pygmalion	877-870		-860		-860		870-859
(Baal-manzer)	-830	Hadrām	860-830	Urḫilina	860-835	Shalmaneser III	859-841
Hiram II	830 -	Attaršumki I	830 -	Uratami	835 -		841-824
	-805		-800		-810	Šamši-Adad V	824-811
Milkiram	805 -	Bar-Hadad	800-796			Adad-nīrārī III	811 -
	-775	Attaršumki II	796-785		-785		-783
Luli I	775-755	Mati'-El	785 -	[Bar Ga'yah]	782 -	/Pulu I	782 -
Ithobaal II	755-738		-740		-746		-746

Judah	reign	Bīt Ḥumri (Samaria)	reign	Aram (Damascus)	reign	Assyria	reign
Athaliah	885-879		885 -	Hazael	885 -	Aššurnasirpal II	884-859
Joash	879 -	Jehu	-856			Shalmaneser III	859 -
	-839	Jehoahaz	856-839		-840		841
Amaziah	839 -	Jehoash	841-823	Bar-Hadad III	840 -		-824
	-810	Jeroboam II	823 -			Šamši-Adad V	824-811
Uzziah	810 -		-782		-805	Adad-nīrārī III	811 -
(Azariah)	[796-758			Mari'	805-780		-783

Bīt Adini (Til Barsip)	reign	Bīt Gabbari (Y'adiya)	reign	Sam'al (Siri'laya)		Assyria	reign
Ḥamiyata	900 -	Gabbār	900-880			Aššurnasirpal II	884 -
(Aḫuni)	-870	Bamah	880-870				870-859
Son of Ḥamiyata	870 -	Hayyā	870 -	Hayyānu	870 -		859 -
	-856		-850		-855	Shalmaneser III	853
Son of Ariyahina	856- 853			Ahabbu	855 -		841
		Ša-īl	850-840		-825		-824
		Kilamuwa	840-825			Šamši-Adad V	824-811
				Qarli	825 -	Adad-nīrārī III	811 -
				Panamuwa I	790 -		-783
					-750	/Pulu I	782 -
				Bar-Šūr	750-745		-746

The conquest of Bīt-Adani by the Assyrians is emblematic of this ideological presentation of victories and tributes. According to the annals of Shalmaneser III (Grayson: 2002, 14-19):

At that time, in my accession year (and) in my first regnal year (in 858 BCE), after I nobly ascended the royal throne, I mustered my chariots and troops (...) On the 13th day of the month Iyyar I moved out from Nineveh, crossed the Tigris, traversed Mounts Ḥasamu and Diḫnunu, (and) approached the city La'la'tu, which belonged to Aḫuni, the man of Bīt-Adini. Overwhelmed by fear of the radiance of Aššur, my lord, they fled upstream/higher to save their lives. I razed, destroyed, (and) burned the city. Moving on from the city La'la'tu I approached the city Til-Barsip, the fortified city of Aḫuni, the man of Bīt-Adini. Trusting in the strength of his troops Aḫuni, the man of Bīt-Adini, advanced aggressively to make war and battle. With the support of Aššur and the great gods, my lords, I fought with him (and) defeated him. I confined him to his city (...) On the 13th day of the month Iyyar, in the eponymy of my own name (in 857 BCE), *idem* (...) On the 13th day of the month Iyyar, in the eponymy Aššur-bēla-ka'in (in 856 BCE), *idem*.

Although this annalistic report seems factual, it nevertheless contains several major contradictions (Younger: 2016, 139-140):

1) Ahuni's large army was defeated by Shalmaneser at the beginning of his campaign (in 858 BCE), but all the kings of the region then appealed to Ahuni to save their lives; 2) According to the royal lists of Bīt-Adini the king who reigned at that time was Hamiyata (900-870); the name Ahuni never appears. To explain this paradox, some scholars assume that this king was under Ahuni's control, but that the name of this ruler was not mentioned because he was a usurper (Bunnens: 2009, 67-82); 3) Shalmaneser had this victory over Ahuni engraved when he became co-regent of Aššurnasirpal II in 870 BCE, which contradicts the date of 858 BCE.

The historical context helps to clarify this apparent paradox. A wall panel relief in the British Museum (number 124537, dated 865-860 BC on their website), shows Aššurnasirpal II who has dismounted from his chariot to review a procession of prisoners of war (Fig. 17).

Fig. 17



The co-regent opposite Aššurnasirpal II can only be his son Shalmaneser (III) and the defeated king can only be Ahuni, the “man” of Bīt-Adini which was attacked from 877 to 867 BCE. Paradoxically, the name Ahuni is not Luwian, but means “separately, individually” in Assyrian. It seems likely that the real name of this king was Hamiyata (900-870), which was changed to “separately, individually”, the “man” (instead of king) of Bīt-Adini, to delegitimize him. From 866 to 859 BCE the following campaigns were directed against Urartu to the East. Some inscriptions prove that Ahuni had rendered tribute to Aššurnasirpal II (Holloway: 2002, 126-130,395). The annexation of Bīt-Adini is dated Year 4 of Shalmaneser III (in 855 BCE), but the defeat of Ahuni is dated in his 4th campaign, which is usually assimilated with his 4th year of reign, however Shalmaneser III’s annals read:

Ahuni, son of Adini (*sic*), who made obstinate resistance since the day of the fathers of Shalmaneser (...) In the beginning of my reign, the king confined him in his city, pulled up his harvest and cut down his orchards (...) Ahuni crossed the Euphrates to save his life (...) In another year (4th campaign), the king pursued Ahuni (...) The king carried off 17,500 soldiers of Ahuni, and brought Ahuni with his people, gods, chariots and horses into his presence (...) The king transferred them to the city of Ashur and counted them as the people of Assyria (Yamada: 2000, 133-135).

According to the annals of Aššurnasirpal II, Ahuni, the son (*sic*) of the Bīt-Adini, had to pay him a tribute, then was defeated, during several military campaigns which are dated between the eponyms: Dagan-bēla-ušur, in 878 BCE, and Šamaš-nūrī, in 867 BCE (Grayson: 1991, 212-219), likely c. 870 BCE (Younger: 2016, 262,320). By crossing the annals of Aššurnasirpal II and Shalmaneser III, the 4th campaign of Shalmaneser III should be dated during his co-regency; consequently, his first campaign was in 870 BCE and his 4th campaign in 867 BCE. This chronological reconstruction is paradoxical because the king (REX) of Masuwari (Bīt Adini) was Hamiyata (Hawkins: 2012, 224-248) whose reign is dated around 880-867 BCE, as the beginning of the reign of Hapatila is located around 910 BCE (Bryce: 2012, 117-121).

TABLE 42

Bīt-Adini (Masuwari)	reign	Assyria (at Nineveh)	reign	Co-regent (at Kalhu)	reign
Hapatila	910-900	Adad-nīrārī II	912 -		
Ariyahina	900-890		-891		
Hamiyata's father	890-880	Tukultī-Ninurta II	891-884		
Hamiyata	880 -	Aššurnasirpal II	884 -		
(Ahuni)	-867			Shalmaneser (III)	871 -
Hamiyata's son	867 -		-859		-859
	-856	Shalmaneser III	859 -		
Ariyahina's son	856-853				
(Til Barsip)			-824	Aššur-danin-pal	846-821

King Hamiyata was replaced by Ahuni in the inscriptions of Shalmaneser III for the same reasons that King Hazael was replaced by Hadad-ezer, his army chief, who was considered a co-regent by the Assyrians. Among the kingdoms that opposed the Assyrian kings, some had a powerful army, such as the kingdoms of Bīt-Adini or Damascus (Aram/Syria). These mercenary armies were led by an army chief. The Assyrian inscriptions could have translated this title as *turtānu* (“commander-in-chief”), but the hierarchical position of this second person in the kingdom was different in Assyrian protocol, as the *turtānu* was not a co-regent while the army chief had a co-regent position. For example, Hazael had been army chief to King Bar-Hadad II before succeeding him (2Ki 8:7-8; 1Ki 19:15), similarly, Omri had been army chief to King Asa before succeeding him (1Ki 16:15-16). The word ‘co-regent’ does not exist, the Bible uses the word ‘king’ (*melekh*) as it only serves to convey the actual position of a royal person (Belshazzar, co-regent of Nabonidus, was called 'king of Babylon' and Aššur-danin-pal, the co-regent of Shalmaneser III, was called 'king of Nineveh'). The Assyrian kingdom being an empire, the protocol of its hierarchy is much more complex. Tiglath-Pileser I was known for his “wide-ranging military campaigns, his enthusiasm for building projects, and his interest in cuneiform tablet collections”. Under him, Assyria became the leading power of the Ancient Near East, he expanded Assyrian control into Anatolia and Syria, and to the shores of the Mediterranean Sea. The beginning of Tiglath-Pileser's reign, laid heavy involvement in military campaigns. The texts were believed to be “justification of war”. Although little literary text is available from his time, there is evidence to show that his reign inspired the act of recording information, including that of his military campaigns. Toward the end of Tiglath-Pileser's reign literary texts took the form of “summary texts” which served as a vessel for as much information about his reign as possible, with the intent to be handed down to his successor. As the founder of the Neo-Assyrian Empire (1076–609 BCE) he inspired conventional representations of Assyrian royalty. For example, he was the first Assyrian king to be depicted wearing the two-tiered conical tiara with its two ribbons on the back¹⁶¹ (Reade: 2009, 242), similar to the papal tiara (Fig. 18).

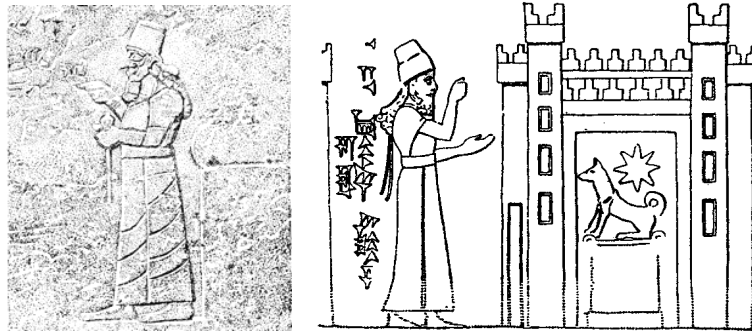


Fig. 18

Assyrian inscriptions always begin with a prestigious “curriculum vitae”, which is instructive:

Tiglath-pileser, strong king (LUGAL), unrivalled king (LUGAL) of the universe, king (LUGAL) of the four quarters, king of all princes (LUGAL DÙ *mal-ki.MEŠ*), lord of lords (EN EN.MEŠ), chief herdsman, king of kings (MAN MAN.MEŠ), attentive purification priest (...) Son (A) of Aššur-rēša-iši (I), strong king (LUGAL), conqueror of enemy lands (...) Grandson (A A) of Mutakkil-Nusku (...) Legitimate heir (IBILA) of Aššur-dān (I), bearer of the holy sceptre (...) Aššurdān (I), king (LUGAL) of Assyria, son heir (DUMU) of Ninurta-apil-Ekur ... (Grayson: 1991, 13,27).

This curriculum vitae emphasises the legitimacy of the king. The word LUGAL (*šarru* “king”) is used for the titular king while the word MAN (*šarru[šanu]* “[other] king”) is used for the king in office. Tiglath-pileser I used the words LUGAL and MAN for kings, but his successors favoured the word MAN and no longer used the word LUGAL for foreign kings. The legitimacy of the king is expressed by the words: IBILA “legitimate heir”, DUMU “son heir” and A “son”. The rare expression DUMU LUGAL (*mār šarri*) “[heir] son of the [titular] king”, without mentioning king’s name, designated the successor chosen by the titular king. This expression translated as “crown prince” should rather be translated as “successor of the titular king”. Iconographic representations of the “king's successor” clearly show that he had a co-regent position and could therefore be qualified as MAN (but not LUGAL). For example, at the capture of Lachish, Sennacherib appears as the king in office (MAN) before Sargon, the titular king (LUGAL) with his tiara. The Assyrian word *palū* (BALA) literally means “period of office” and could be translated as “period of reign/regnal year” but it is preferable to translate *palū* as “campaign (*gerru*)”, because regnal years as co-regent were not counted in the length of the reign as king. Moreover, there was not systematically a campaign (*gerru*) every year of the reign (*palū*), a campaign could last two years, or a year of reign could be without

¹⁶¹ These two ribbons do not appear on the representation of King Aššurnasirpal I (1050-1031) which was engraved on one side of the White Obelisk, but this engraving is not of good quality (Reade: 1975, 129-150).

campaign. Shalmaneser III conducted numerous and extensive military campaigns against Aramaic kingdoms in the first year of his reign, in 858 BCE, and their descriptions (Grayson: 2002, 8-12) indicate the hierarchical position of these rulers according to the Assyrian conception (Younger: 2016, 321-346).

TABLE 43

Name of the ruler	Kingdom	Title (in 858 BCE)	Title (in 857 BCE)
^m <i>ka-a-ki</i> (Kāki)	Hubuškia	MAN URU <i>hu-bu-uš-ki-a</i>	
^m <i>a-ḥu-ni</i> (Aḥuni)	Til-Barsip (Bīt-Adini)	DUMU <i>a-di-ni</i> (in 870 BCE)	
^m <i>sa-an-ga-ra</i> (Sangara)	Carchemish	KUR/URU <i>gar-ga-miš-a-a</i>	URU <i>gar-ga-miš-a-a</i>
^m <i>sa-pa-lu-ul-me</i>	Patina (Unqi)	KUR <i>pa-ta-na-a-a</i>	KUR <i>pa-ta-na-a-a</i>
^m <i>ḥa-a-a-nu</i> (Hayyānu)	Sam'al (Bīt Gabbāri)	KUR <i>sa-am-'a-la-a-a</i>	DUMU <i>gab-ba-ri</i>
^m <i>ka-te-a</i> (Katiya)	Que (Adana)	KUR <i>qa-ú-a-a</i>	
^m <i>pi-ḥi-ri-im</i> (Piḥirim)	Hilukku (Cilicia)	KUR <i>ḥi-lu-ka-ḥu-a-a</i>	
^m <i>bur-a-na-te</i> (Bur-Anate)	Yasbuq	KUR <i>ia-as-bu-qa-a-a</i>	
^m <i>a-da-a-nu</i> (Adānu)	Yaḥanu	KUR <i>ia-ḥa-na-a-a</i>	
^m <i>a-ra-me</i> (Arame)	Bīt-Agūsi	DUMU ^m <i>gu-ú-si</i>	DUMU ^m <i>a-gu-ú-si</i>

This list of tributary kingdoms shows that they are mainly designated by their land (KUR) and sometimes by their city (URU). The title of the rulers is never mentioned, except for Kaki the first king (MAN) of the city Hubuškia, but only by their title of citizens of a land, like Sangara (from the Carchemishian city (URU)). Two rulers are designated by the title 'heir son of' (DUMU) and linked to the name of the founder of their dynasty. For example, Arame, called Hadrām (860-830), was indeed the heir son of Gūš (890-860), and Hayyānu (870-855) from the Sam'alian city is later called 'heir son' of Gabbār (900-880). In reality Hayyānu was the second son of Gabbār after Bānihu (Lipiński: 2000, 233-247). The title for Ahuni is an aberration because there is no king of Bit-Adani who was called Adani since the name of that land was a geographical place called Bēt- 'Eden 'Luxurious house' (Am 1:5). This king should have been called Ahuni 'king of the city (MAN URU) Bīt-Adini', but in this case Ahuni should have been replaced by Hamiyata, the titular king. However, since Shalmaneser had defeated Ahuni, who was the co-regent of Hamiyata (880-867), in 870 BCE, he invented a genealogy for Ahuni using Assyrian terminology in order to designate him as co-regent (DUMU LUGAL *mār šarri*): Ahuni "heir son of the king (*mār šarri*)" Bīt-Adini, which has been simplified to: Ahuni "heir son (*mār*)" of Adini.

By crossing the annals of Aššurnasirpal II and Shalmaneser III, the 4th campaign of Shalmaneser III should be dated in 867 BCE, during his co-regency; consequently, his first campaign was in 870 BCE. The purpose of Shalmaneser III's inscriptions, as well as those of other Assyrian kings, is not to provide historical records but above all to legitimize their wars and plunder by means of propaganda (Laato: 1995, 198-226). For example, it is written on the Kurkh Monolith that during his 856 BCE campaign, Shalmaneser III departed and marched to Til-Barsip, a city that he renamed, Kar-Shalmaneser. When he entered the city of Pitru¹⁶², which he recaptured, renamed Ana-Aššur-utēr-asbat and restored to Assyrian control "because" the city was seized by the land of Aram (Syria) at the time of Aššur-rabi II (1013-972). Thus, the propagandistic value is significant (Block: 2008, 223-256) looting is presented as a voluntary tribute (offered to get protection). To justify their conquest of the West, Assyrian kings all proceeded in the same way: first establishing a protectorate by making alliances, or claiming tribute for those who refused, then making vassal kingdoms and finally annexing them to the Assyrian empire. For example, the seven tributary kings of "the land of Hatti" who paid their tribute to Shalmaneser III in 856 BCE became vassal kings after the battle of Qarqar in 853 BCE. Shalmaneser III, therefore, included in his reign his victories and tributes received during his period of co-regency from 870 BCE to 859 BCE, which modified the mentioned synchronisms with the kings of Tyre and Israel. A chronological reconstruction of the Assyrian reigns over the period 885-824 BCE allows us to verify whether Kings Jehu (885-856) and Pygmalion (877-830) had anything to do with Shalmaneser III.

- **885 BCE.** Hazael killed Ben-Hadad II (920-885) and became king of Syria (Damascus). On the Tel Dan stele, he claims to have killed Jehoram (897-886), the king of Israel, and Ahaziah (886-885), the king of Judah (2Ch 22:5-6).
- **876 BCE.** Aššurnasirpal II (884-859) began a westward expansion to access the Mediterranean. Through his powerful army, he began to extort money from Syrian kingdoms such as those of Bīt-Adini and Bīt-Agusi. During the following years he continued his westward expansion and reached the Great Sea and received the tribute of the seacoast from the inhabitants of Tyre, Sidon (King Pygmalion), Byblos, Amurru and Arvad.
- **870 BCE.** Aššurnasirpal II required Tyre to pay a heavy tribute. Pygmalion (877-830), the king of Tyre, accepted and then would have decided to empty the treasure of Milqart's temple, according to Justinus,

¹⁶² Pitru, the biblical Pethor (Nb 22:5), was under the control of King Hadadezer (1045-1000), according to 2Samuel 8:5-12.

but as the high priest Zakarbaal, who was the husband of Elissa (Pygmalion's sister), refused, Pygmalion eliminated him. After the murder of her husband, Elissa decided to go into exile accompanied by the opponents of the policy of submission to Aššurnasirpal II, carrying with her much of the temple treasury and founded Carthage. Against this background, it is unlikely that Co-regent Shalmaneser (871-859), was able to receive any tribute in 870 BCE.

- **867 BCE.** In the last part of the reign of Jehu (885-856), Hazael (885-840) started to cut off all the territories of Israel (2Ki 10:31-34) as well as those of Joash (879-839), the king of Judah (2Ki 13:1-3). Hazael captured Gath, a capital of the Philistines and even went up against Jerusalem. In 856 BCE he withdrew from Jerusalem after he received a heavy tribute in gold from Joash (2Ki 12:17-19).
- **855 BCE.** Bīt-Adini was annexed to Assyria by Shalmaneser III (Younger: 2016, 350-354).
- **853 BCE.** Dayyan-Aššur (854-824) the commander-in-chief was eponym. After the battle of Qarqar, among the 11 kings who revolted under the command of Hadad-ezer (870-845) the commander-in-chief of Hazael, seven tributary kings, who were paying their tribute to Shalmaneser III, became vassal kings. All these kingdoms were annexed later.
- **841 BCE.** Shalmaneser III defeated Hazael of Damascus, killed with the sword 16,000 of his experienced soldiers, and took away 1,121 chariots and 470 riding horses. Hazael disappeared to save his life and died soon after (likely in 840 BCE?).
- **732 BCE.** Damascus is captured, its people are driven into exile in Qir and Rezin is put to death (2Ki 16:7-9). The end of the kingdom of Damascus fulfilled a prophecy in Amos 1:1-5 (c. 800 BCE)¹⁶³: *The words of Amos, who was among the herdsmen of Tekoa, which he saw concerning Israel in the days of Uzziah (810-758) the king of Judah and in the days of Jeroboam (823-782) the son of Joash, the king of Israel, two years before the earthquake (...) I will send a fire on the house of Hazael (885-840), and it shall devour the fortresses of Ben-Hadad (840-805). And I will break the (gate) bar of Damascus and I will cut off the one who reigns from the Valley of Trouble and the one who grasps the sceptre from Beth-Eden (Bīt-Adīni) and the people of Aram will be deported to Qir*¹⁶⁴. The translation of this biblical text is controversial (Younger: 2016, 366-369).

The main action of Shalmaneser III, after the annexation of Bīt Adani, was to annex the Aramaic kingdoms federated by Hazael, the powerful Syrian king who had plundered the Israelite kingdom. The victory of Shalmaneser III and the annihilation of Hazael's army in 841 BCE as well as the looting of his capital could not be presented as a tribute paid by Hazael since this king had escaped from the battle. Shalmaneser therefore transformed a plunder of Hazael's capital, who had himself plundered the cities of Jehu, into a tribute paid indirectly by Jehu. The presentation of this tribute, at the end of the inscription, does not conform to protocol. The recension on the bulls of Calah, in 841 BCE, adds at the end: « In those days (sic), I received the tribute of the Tyrians and Sidonians, and Jehu the son of Omri (*Iu-ú-a mār Hu-um-ri-i*) »). Contrary to custom, the tribute has not been dated (“In those days”). Moreover, Jehu is not attached to his real dynasty, Bīt Dawid, according to the Tel Dan stele, but to an ancestor who had not been a king but a chief general who had become king (1Ki 16:16). In addition, Jehu was not the son of Omri, but of Jehoshaphat (2Ki 9:14), and there were four kings between Omri and Jehu: Ahab (1Ki 16:29), Ahaziah (1Ki 22:52), Jehoram (2Ki 3:1) and Ahaziah II (2Ki 8:25). The next recension (marble slab), in 840 BCE, adds at the end another fictitious tribute: *I received the tribute of Bali-ma-AN-zêri and Jehu son of Omri*. The fictitious tribute of Bali-ma-AN-zêri disappeared in the next recension of 838 BCE, but that of “Jehu son of Omri” became the tribute of “Jehu of Bīt Omri” and was depicted on the Black Obelisk. The events that took place during this year explain why the “tribute of Jehu” was magnified by the Assyrians.

In my 21st regnal year (in 838 BCE), I crossed the Euphrates for the 21st time (and) marched to the cities of Hazael of Damascus. I captured four cities (and) received tribute from the people of the lands Tyre, Sidon, (and) Byblos (...) Booty from the temple of the deity Šêru (Moon-god) of the city Malaḥa (Hazor), a royal city of Hazael of Damascus, which Shalmaneser, son of Ashurnasirpal, king of Assyria, brought back inside the wall of Inner City (Aššur) (Grayson: 2002, 67,151).

The booty (of the fourth city) had to be significant because Malaḥa, the Aramaic name of Hazor (Lipiński: 2000, 350-352), was very wealthy (Block: 2008, 251-252). The remark “I marched against the towns of Hazael” instead of “I marched against Hazael, the king of Aram”, in the annals of Shalmaneser, shows that Hazael was dead and that his successor (Ben-Hadad III) had not manifested himself to defend his towns. This new plundering of the towns of Hazael (in 838 BCE) was again transformed by Dayyan-Aššur,

¹⁶³ The prophecy must have been uttered shortly after the reign of Ben-Hadad in 805 BCE and before the end of the reign of Jeroboam in 782 BCE. According to stratigraphic dating there was an earthquake in stratum VI (800-750).

¹⁶⁴ The city of Ḥurra (Tall Mozan), which was the capital of a small Aramean kingdom (c. 1300 BCE), was read Qîr, instead of Qûra, in the Masoretic text and Ḥarran in the Septuagint. The one who grasps the sceptre from Bīt-Adīni (military capital of Assyria), and who was cut off, was Sennacherib who was murdered in 705 BCE by his own sons (Is 37:37-38).

the commander-in-chief of Shalmaneser III, and depicted on the Black Obelisk, into a tribute paid by Jehu of Bīt Omri (Israel). It appears that these reliefs were intended primarily to illustrate exotic scenes of tribute-bearing and to demonstrate Shalmaneser's power over distant lands, rather than to record recent historical events. For example, the scenes of tribute-bearing of Egypt and Suhu do not contain any reference to these cases of tribute-bearing in Shalmaneser's inscriptions, nor to the king's visits to these countries (Yamada: 2000, 251-258). It is likely that diplomatic gifts given to the king of Assyria were transformed into tributes paid by vassal kings. The best proof that the tribute of Jehu engraved on the Black Obelisk is fictitious is provided by the representation itself (Fig. 19).

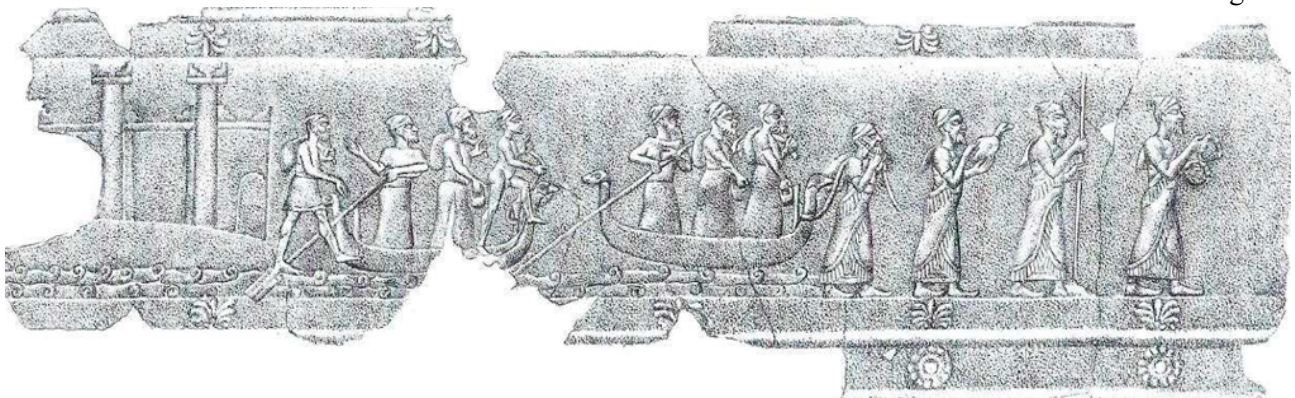
First register



Fig. 19

The first register describes, according to the conventional Assyrian representation, the king wearing his tiara (on the left) just ahead of his commander-in-chief with a sword (*turtānu*) and in front of his co-regent of the same size (right) also just ahead of the chief officer with a command stick (*rab ša-rēšē*). This scene is also identical with Shalmaneser's victory over Ahuni in 870 BCE (Bryce: 2012, 211) when he became co-regent of Aššurnasirpal. For the Assyrians the first register represented King Aššurnasirpal (on the left) accompanied by his commander-in-chief (Aššur-iddin) receiving (on the right) the submission of a king "Sua¹⁶⁵ of Gilzanu" who had been defeated by the co-regent Shalmaneser, accompanied by his chief officer. As Aššur-iddin (883-858) had never been to this remote region and was mostly familiar with the kingdoms of the Levant that he had fought, he depicted this defeated king (Ahuni) in an outfit identical to that of the head of the cortege (Fig. 20), wearing a humped bonnet on his head (identical to that of the king's other servants) who paid tribute to Aššurnasirpal (in 870 BCE). This scene appears on the fourth and fifth (L4, L5) of eight metal bands of a Balawat gate commissioned by Aššurnasirpal II (Curtis, Tallis: 2008, 53,65,164-167). These two metal bands have no inscription, but the ships are Phoenician, and the fortified island (far left) can only be Tyre (Ezk 26:4; 27:3-4). A similar scene appears on the first band of another gate from Balawat (ancient Imgur-Enlil) commissioned by Shalmaneser III (Fales: 2017, 211-212,226), with an inscription in the field of the upper register reads: *The tribute of the ships of the men of Tyre and Sidon I received* (King: 1915, 23, pl. XIII-XIV).

Fig. 20



¹⁶⁵ It is evident that Asau/Asû of Gilzanu was deliberately selected for the annotated inscription and that his name was deliberately rendered Sua in order to form a pair with the name Jehu. Thus, the writing *su-û-a* probably indicates that Jehu's name should be rendered *iu-û-a*, rather than *ia-û-a* (Na'aman: 1997, 19-20).

Second register



Fig. 21

The second register is modelled on the first register: the king with his tiara (on the left) just ahead of his commander-in-chief with a sword and in front of another commander-in-chief (right) also just ahead of the chief officer with a command stick. The king kneeling before the king is identical to the king in the first register but is named Jehu in the Assyrian text. For the Assyrians the second register represented King Shalmaneser III (on the left) accompanied by his commander-in-chief, Dayyan-Aššur, receiving the tribute of Jehu of the House of Omri. Three details from the scene show that Shalmaneser III never met Jehu: 1) unlike Hazael who had used a commander-in-chief (Hadad-ezer) to lead his battles, Jehu led them personally; 2) in Israel eunuchs could not hold official positions (Dt 23:1), unlike the Assyrian commanders-in-chief who were always true eunuchs (beardless); 3) in Israel only the priests wore bonnets (Lv 8:13) but not the other Israelites. The only representation of a king who lived in Israel comes from the excavation of an archaeological site at Abel-beth-maacah (1Ki 15:20). The head of this earthenware figure (opposite) has been stratigraphically dated to the 9th century BCE (Yahalom-Mack, Panitz-Cohen, Mullins: 2018, 153-155). Although there is still uncertainty as to the identification of this king, it confirms that he did not wear a bonnet on his head. The five tribute bearers on the Black Obelisk are therefore fictitious, they were mainly intended to serve the propaganda that systematically presented the Assyrian kings as dominant over the “four corners (regions) of the world”. However, to be credible propaganda must be based on known historical facts. The Black Obelisk confirms the existence of Jehu, a king of Israel, from the “Bīt Dawid”, according to the Tel Dan stele. In fact, the primary purpose of Shalmaneser III’s campaigns was to accumulate as much loot as possible by conquering the wealthy kingdoms of Syria and Samaria. Therefore, the tribute paid by Ahabbu (855-825) from Asriel (a town in the north-east of Samaria) and the tribute paid by Jehu were in fact former lootings used to legitimise a future annexation of Samaria. These tributes were fictitious: evidence is found in an inscription written by Nergal-ereš, a powerful Assyrian governor (803-775), who replaced the tribute paid by “Jehu son of Omri (*Ia-a-ú mār Hu-um-ri-i*)” by “Jehoash the Samarian (*Ia-’a-su^{māi} Sa-me-ri-na-a-a*)”:



To Adad, the greatest lord, hero of the gods, mighty one?, first-born son of Anu, who alone is fiery, the lofty irrigator of heaven and earth, who provides the rain that brings abundance, who dwells in Zamaḫi, the great lord, his lord: I, Adad-nirari (III) the mighty king, king of the world, king of Assyria, heir of Shamshi-Adad (V) the king of the world, king of Assyria, heir of Shalmaneser (III) the king of the four regions, mobilised chariots, troops and camps, and ordered a campaign against the Hatti land. In first year (*ina ištēt šatti*) I made the land of Amurru and the Hatti land in its entirety kneel at my feet; I imposed tribute and regular tax for future days upon them. He (*sic*) received 2000 talents of silver, 1000 talents of copper, 2000 talents of iron, 3000 multi-coloured garments and (plain) linen garments as tribute from Mari’ (*Ma-ri-i*) of the land of Damascus. He received the tribute of Ia’asu the Samarian (*Ia-’a-su^{māi} Sa-me-ri-na-a-a*), of the Tyrian (ruler) and of the Sidonian (ruler). I marched to the great sea (Mediterranean) where the sun sets and erected a stela (“image”) of my royal self in the city of Arvad which is in the middle of the sea. I went up the Lebanon mountains and cut down timbers: 100 mature cedars, material needed for my palace and temples. He (*sic*) received tributes from all the kings of the Nairi land. At that time, I ordered Nergal-ereš, the governor of Rašapa, Lakê, Sirqu?, Anat, Suḫi and

(...) a total of 331 towns of subject peoples which Nergal-ereš founded and built in the name of his lord. Whoever shall blot out a single name from among these names, may the great gods fiercely destroy him (Page: 1968, 139-153).

This inscription, contrary to what one might think, was not written by Adad-nirari III but by Nergal-ereš on behalf of Adad-nirari, because it begins with “I” and afterward continues with “He”. A chronological analysis shows that the tribute received by Adad-nirari III (811-783) from Mari’, king of Damascus (805-780), is anachronistic. Adad-nirari III took tribute from Damascus in his 5th year, in 806 BCE, according to the Saba’a stela, but in his 1st year, in 810 BCE, according to the Rimah stela (Siddall: 2013, 120-121), the Calah slab gives no year. The reasons for thinking that each stela describes a different event seem trifling (that there are discrepancies in numerical quantities of tribute, and that the Rimah text mentions Ia’asu of Samaria whereas the Saba’a text does not), because Adad-nirari III stayed in the land (Assyria) in 810 BCE and led a campaign against Mannea in 806 BCE, according to the Eponymous Chronicle. Worse, Adad-nirari III never led any campaign against Damascus throughout his reign. One can assume: either the stelae relate fictitious campaigns or, more likely, they related the same celebrated event, which was the campaign of Shalmaneser III against Damascus in 841 BCE, mentioning the defeat of Hazael and the tribute from Jehu, in “making an update”: Hazael (893-839) and Jehu (885-856) being replaced by Mari’ (805-780) and Jehoash (841-823). Shalmaneser III’s inscriptions unequivocally show that he was determined to conquer first Syria and then Samaria (Israel). His conquest of Syria was seriously hampered by a coalition of twelve kings led by Hadad-ezer (870-845), the commander-in-chief of Hazael, in 853 BCE, but he defeated and killed him in 845 BCE, then he defeated Hazael (885-840) and destroyed his army in 841 BCE. After this date, the whole of northern Syria was practically under Assyrian control (Freu, Mazoyer: 2012, 88-90), which continued to repress recalcitrant kingdoms during several campaigns from 838 to 829 BCE.

Consequently, the inscription on the Black Obelisk of Dayyan-Aššur, the powerful commander-in-chief of Shalmaneser III, as well as the inscription of Nergal-ereš, the powerful governor of Adad-nirari III, are above all tools of Assyrian propaganda (Laato: 1995, 198-226), and therefore, have little historical value apart from confirming the existence of the kings of Israel: Jehu and Jehoash. Likewise the Assyrian annals, which mention several times the tributes paid by the kings of Tyre during certain campaigns in the Levant, confirm the existence of the (anonymous) kings of Tyre, but it is difficult to identify them, as the first known name is that of Luli I (c.775-755) who had to pay tribute to Pulu (782-746) during the campaign of 773 BCE (Jewish Antiquities IX:283-284). Between Pygmalion (877-830) and Luli I (775-755), Phoenician inscriptions have revealed the existence of two kings of Tyre: Hiram II and Milkiram, which can be dated uniquely by epigraphy from the inscriptions (names of kings in bold type):

TABLE 44

Sidonians (Tyre)	reign	Bīt Agusi (Arpad)	reign	Hamath	reign	Bīt Gabbari (Y’adiya)	reign
Mattan I	906-877	Gūš	890 -	Parita	885 -	Gabbār	900-880
Pygmalion (Queen Elissa)	877 - 870 -830		-860		-860	Bamah	880-870
		Hadrām	860-830	Urḫilina	860-835	Hayyā	870-850
Hiram II	830 - -805	Attaršumki I	830 - -800	Uratami	835 - -810	Kilamuwa	840-825
				Zakkur	810 -	Adad-nīrārī III	811 -
Milkiram	805 - -775	Bar-Hadad Attaršumki II	800-796 796-785		-785		-783
		Mati’-El	785 -	[Bar Ga’yah]	782 -	/(Pulu I)	782 -
Luli I	775-755						
Ithobaal II	755-738		-740		-746		-746
Hiram III	738-730			Eni-ilu	745-732	Tiglath-pileser III	745 -
Mattan II	730-729					(Pulu II)	-727
Luli II	729 -					Shalmaneser V	727-722
						Sargon II	722-705
	-695					Sennacherib	705 -
Baal I	695 -						-681
						Esarhaddon	681-669
	-666					Aššurbanipal	669-626

Carthage is mentioned for the first time on two fragments of copper bowls found in Cyprus (but this name, meaning ‘new city’ in Phoenician, could not refer to the City-Kingdom of Amathous, meaning ‘sand’ in ancient Greek and written in Cypriot syllabary) and the name of the king of Tyre was Hiram II:

[’b/h]ṭb skn qrthdšt ‘bd ḥrm mlk sdnm ’z yth lb’l lbnn ’dny br’st nḥšt h[...]

[Ab/h]ṭōb prefect of Carthage, servant of Hirōm, king of the Sidonians, gave this to Baal of Lebanon, his Lord, of the first field of copper from H[...] (Lemaire: 1976, 83-93).

According to palaeography, the writing shows no great development beyond that of the Kilamuwa (840-825) inscriptions. Especially, the shapes of *d* and *z* are typologically older than the corresponding letters of the Citium bowl, dated ca. 800 BCE (Lipiński: 2004, 46-48). After the death of Shalmaneser III and before the reign of Tiglath-pileser III, Tyre enjoyed a long period of prosperity and stability (Is 20:1; 23:1-11; Ezk 27:1-3), which must have allowed for a long duration of reigns. As there were eight kings between Ithobaal I (944-912) and Ithobaal II (755-738) the average duration of a reign was about 26 years (= [944 - 738]/8). Milkiram's reign is difficult to date because there are few Phoenician/Aramaic inscriptions from the period 800-750 BCE. Although it is difficult to date the ivory inscriptions found at Arslan Tash, comparison of the letters shows that the inscriptions of Zakkur, Hazael, Tel Dan and Tell Fekheriye belong to the same period (Puech: 1978, 163-169; Amadasi: 2018, 63-68). What is certain is that the four inscriptions, “(belonging) to Milkiram” and the one “(belonging) to Hilles, servant of Milkiram (*ḥls ‘bd mlkrm*)”, are all dated before 740 BCE (Lemaire: 1976, 83-93). As the writing of these five inscriptions is similar to that of Bar-Hadad (800-796) and Zakkur (810-785), it is likely that the reign of Milkiram belonged to this period 800-750 BCE because the divergence of the Aramaic script from the Phoenician begins roughly from 750 BCE (Naveh: 1982, 78-82). The large number of inscriptions attributed to Milkiram, at least five, suggests a fairly long reign of about 30 years (805-775).

In conclusion, the reign of Baal-ezer II (912-906), calculated according to the chronological data of Menander of Ephesus, is in accordance with all the Assyrian and Israelite synchronisms. The tribute paid to Shalmaneser III in 853 BCE by Ahabbu (855-825), the Asrielite, and that paid by Jehu (885-856), son of Omri (931-919), were in fact ancient plunders used to legitimise a future annexation of Samaria.

The purpose of Shalmaneser III's inscriptions, as well as those of other Assyrian kings, is not to provide historical records but above all to legitimize their wars and plunder by means of propaganda (Laato: 1995, 198-226). For example, it is written on the Kurkh Monolith that during his 856 BCE campaign, Shalmaneser III departed and marched to Til-Barsip, a city that he renamed, Kar-Shalmaneser. When he entered the city of Pitru¹⁶⁶, which he recaptured, renamed Ana-Aššur-utēr-asbat and restored to Assyrian control “because” the city was seized by the land of Aram (Syria) at the time of Aššur-rabi II (1013-972). Thus, the propagandistic value is significant (Block: 2008, 223-256), looting is presented as a voluntary tribute (offered to get protection). To justify their conquest of the West, Assyrian kings all proceeded in the same way: first establishing a protectorate by making alliances, or claiming tribute for those who refused, then making vassal kingdoms and finally annexing them to the Assyrian empire. For example, the seven tributary kings of “the land of Hatti” who paid their tribute to Shalmaneser III in 856 BCE became vassal kings after the battle of Qarqar in 853 BCE. Shalmaneser III, therefore, included in his reign his victories and tributes received during his period of co-regency (871-859), particularly his first four campaigns (from 870 to 867 BCE) against the Bīt-Adani and against Tyre and Sidon. These four campaigns were not dated by eponyms during the reign of Aššurnasirpal II, unlike the other campaigns (Grayson: 1991, 191,200-219), because they were carried out by his co-regent Shalmaneser (871-859), which modified the mentioned synchronisms with the kings of Tyre and Israel.

The campaign against the king of Tyre and Sidon is very paradoxical, for the tribute paid is precisely described on the two large central bands of the Balawat gate (among the eight), which shows its importance, but despite this centrality in the middle of Aššurnasirpal's reign, there is no indication of it! According to his annals, this king campaigned 7 times during his first 6 years of reign (884-878 BCE), which are precisely dated by eponyms, and 4 times during the following 12 years (878-866 BCE), which are not dated by eponyms, except for the 18th in 866 BCE (Lambert: 1974, 103-109). Despite its importance, the tribute of the king of Tyre and Sidon (in 870 BCE) is not dated by an eponym! We know that Aššurnasirpal devoted 15 years (878-863 BCE) to transform the city of Kalhu into the capital, but we have no information on the last 7 years of his reign from 865 to 859 BCE (Joannès: 2001, 437-440).

The tribute paid at Aššurnasirpal in 870 BCE to the King of Tyre during the first campaign of his co-regent, Shalmaneser (871-859), corresponding exactly to the 7th year of Pygmalion's reign (877-830). This event, which led to the foundation of Carthage, took place 143 years after the start of construction of the Temple of Jerusalem, in 1013 BCE (= 870 + 143), which took place in the 4th year of Solomon's reign (1017-977) and the 12th year of Hiram I's reign (1025-991). It is interesting to note that Amenemope's reign (1018-1009) is dated to around 1024 BCE +/- 30 by ¹⁴C calibrated data (Hagens: 2014, 173).

¹⁶⁶ Pitru, the biblical Pethor (Nb 22:5), was under the control of King Hadadezer (1045-1000), according to 2Samuel 8:5-12.

All biblical and historical synchronisms over the period 1020-520 BCE

	ASSYRIA		SYRIA	JUDEA	EGYPT	reference
1020	11 Shalmaneser II	44	Hadadezer Shobak	37 David	5 Psusennes I	2Sa 10:16
1019	12	45	26 <i>Army chief</i>	38	6	
1018	1 Aššur-nêrârî IV	46	27	39	7	
1017	2	1	28	40	8 Amenemope	2Sa 5:4
1016	3	2	29	1 Solomon	9	1Ki 11:42
1015	4	3	30	2	10	
1014	5	4	31	3 TYRE	11	
1013	6	5	32	4 Hiram I	12	1Ki 6:1
1012	1 Aššur-rabi II	6	33	5	13	0
1011	2	7	34	6	14	1
1010	3	8	35	7	15	2
1009	4	9	36	8	16	3
1008	5	1	37	9	17 Osorkon A	
1007	6	2	38	10	18	
1006	7	3	39	11	19	1Ki 6:38
1005	8	4	40	12		
1004	9	5	41	13		1Ch 18:3-9
1003	10	6	42	14		
1002	11	1	43	15	Siamun	
1001	12	2	44	16		
1000	13	3	45	17		
999	14	4	1 Rezon (Ezrôn)	18		1Ki 11:23-25
998	15	5	2	19		
997	16	6	3	20		
996	17	7	4	21		
995	18	8	5	22		
994	19	9	6	23		
993	20	10	1 7	24 ***	Psusennes II	1Ki 9:10-17
992	21	11	2 8	25		
991	22	12	3 9	26		
990	23	13	4 10	27		
989	24	14	5 11	28		
988	25	15	6 12	29		
987	26	16	7 13	30		
986	27	17	8 14	31		
985	28	18	9 15	32		
984	29	19	10 16	33		
983	30	11	17	34		
982	31	12	18	35		
981	32	13	19	36		
980	33	14	20	37		
979	34	1	21	38 [1]	Shoshenq I	1Ki 11:40-42
978	35	2	22	39 [2]		
977	36	3	23	40 [3]	ISRAEL	
976	37	4	24	1 Rehoboam	1 Jeroboam I	1Ki 14:20-21
975	38	5	25	2	2	
974	39	6	1 Hezion I	3	3	
973	40	7	2	4	4	
972	41	8	3	5	5 ***	2Ch 12:2-13
971	1 Aššur-rêš-iši II	9	4	6	6	
970	2	10	5	7	7	
969	3	11	6	8	8	
968	4	12	7	9	9	
967	5	13	8	10	10	
966	1 Tiglath-pileser II	14	9	11	11	
965	2	15	10	12	12	
964	3	16	11	13	13	
963	4	17	12	14	14	
962	5	18	13	15	15	
961	6	19	14	16	16	
960	7	20	15	17	17	
959	8	21	1 Tabrimmon	1 Abiya	18	1Ki 15:1-2

958	9		2	2	19	
957	10		3	3 Asa	20	1Ki 15:9-10
956	11		4	1	21	
955	12		5	2	22 Nadab	1Ki 15:25
954	13		6	3	1 Baasha	1Ki 15:28-33
953	14		7	4	2	
952	15		8	5	3	
951	16		9	6	4	
950	17		10	7	5	
949	18		11	8	6	1Ki 15:18
948	19		12	9	7	
947	20		13	10	8	
946	21		14	11	9	
945	22		15	12	10	
944	23		1 Bar-Hadad I	13	11	
943	24		2	14	12	
942	25		3	15	13	2Ch 15:10
941	26		4	16	14	
940	27		5	17	15	
939	28		6	18	16	
938	29		7	19	17	
937	30		8	20	18	
936	31		9	21	19	
935	32		10	22	20	
934	1 Aššur-dân II		11	23	21	
933	2		12	24	22	
932	3		13	25	23	
931	4		14	26	24-1 Elah	1Ki 16:8
930	5		15	27	1- 2 Omri	1Ki 16:10-16
929	6		16	28	2 /Tibni	
928	7		17	29	3	
927	8		18	30	4	
926	9		19	31	5 Omri	1Ki 16:21-23
925	10		20	32	6	
924	11		21	33	7	
923	12		22	34	8	
922	13		23	35	9	
921	14		24	36	10	
920	15		25	37	11	
919	16		1 Bar-Hadad II	38	12-1 Ahab	1Ki 16:29
918	17		2	39	2	
917	18		3	40	3	
916	19		4	41 Josaphat	4	1Ki 22:41-42
915	20		5	1	5	
914	21		6	2	6	
913	22		7	3	7	
912	23		8	4	8	
911	1 Adad-nîrârî II		9	5	9	
910	2		10	Naaman	10	2Ki 5:1
909	3		11	<i>Army chief</i>	11	
908	4		12		12	
907	5		13		13	
906	6		14		14	
905	7		15		15	
904	8		16		16	
903	9		17		17	
902	10		18		18	
901	11		19		19	
900	12		20		20	
899	13		21		21 Ahaziah	1Ki 22:51
898	14		22		22 Joram (A)	2Ki 3:1
897	15		23		1	
896	16		24		2	
895	17		25		3	2Ki 5:1

894	18		26		22		4		(2Ch 20:22)
893	19		27		23	0	5		2Ki 8:16-17
892	20		28		24	1	6		
891	21		29		25	2	7		1Ki 22:50
890	1	Tukultî-Ninurta II	30	Hazael	3	Joram (J)	8		
889	2		31	<i>Army chief</i>	4		9		
888	3		32		5		10		
887	4		33		6		11		2Ch 21:12-20
886	5		34		7		12		
885	6		35/0		8	Athaliah	Jehu		2K 9:27,10:36
884	7		1	Hazael	1		1		2Ki 11:2-4
883	1	Aššurnasirpal II	2		2		2		
882	2		3		3		3		
881	3		4		4		4		
880	4		5		5		5		
879	5	TYRE	6		6		6		
878	6	Mattan I	28	7	1	Joash	7		2Ki 12:1
877	7		29	8	2		8		
876	8	Pygmalion	1	9	3		9		
875	9		2	10	4		10		
874	10		3	11	5		11		
873	11		4	12	6		12		
872	12		5	13	7		13		
871	13		6(0)	14	8		14		142
870	14	(Baal-manzer)	7(1)	15	Hadad-ezer	9	15		143
869	15		8(2)	16	<i>Army chief</i>	10	16		
868	16		(3)	17		11	17		
867	17		(4)	18		12	18		2Ki 10:31-34
866	18		(5)	19		13	19		2Ki 12:17-19
865	19		(6)	20		14	20		
864	20		(7)	21		15	21		
863	21		(8)	22		16	22		
862	22		(9)	23		17	23		
861	23		(10)	24		18	23		
860	24		(11)	25		19	24		
859	25		(12) 0	26		20	25		
858	1	Shalmaneser III		27		21	26		
857	2			28		22	27		
856	3			29		23	28	Jehoahaz	2Ki 13:1
855	4			30		24	1		
854	5			31		25	2		
853	6	<i>Battle of Qarqar</i>		32	***	26	3		
852	7			33		27	4		
851	8			34		28	5		
850	9			35		29	6		
849	10			36		30	7		
848	11			37		31	8		
847	12			38		32	9		
846	13	Aššur-danin-pal	(0)	39		33	10		
845	14		(1)	40	***	34	11		
844	15		(2)	41		35	12		
843	16		(3)	42		36	13		
842	17		(4)	43		37	14	0	2Ki 13:10
841	18		(5)	44	***	38	15	1	
840	19		(6)	45		39	16	2	
839	20		(7)	1	Bar-Hadad III	40	Amaziah	17	Jehoash 2Ki 14:1-2
838	21		(8)	2		1	1		
837	22		(9)	3		2	2		
836	23		(10)	4		3	3		
835	24		(11)	5		4	4		
834	25		(12)	6		5	5		
833	26		(13)	7		6	6		
832	27		(14)	8		7	7		
831	28		(15)	9		8	8		

830	29	(16)	10	9	9	
829	30	(17)	11	10	10	
828	31	(18)	12	11	11	
827	32 <i>Revolt</i>	(19)	13	12	12	
826	33	(20) (0)	14	13	13	
825	34	(21) (1)	15	14	14	
824	35	(22) (2)	16	15	15	
823	(1) <i>Jonah 1:6</i>	(23) (3)	17	16		Jeroboam II 2Ki 14:17-25
822	2 <i>Samšî-Adad V</i>	(24)	18	17	1	
821	3	(25)	19	18	2	
820	4		20	19	3	
819	5		21	20	4	
818	6		22	21	5	
817	7		23	22	6	
816	8		24	23	7	
815	9		25	24	8	
814	10		26	25	9	
813	11		27	26	10	
812	12		28	27	11	
811	13 <i>/Sammu-ramât</i>	(0)	29	28	12	
810	1 <i>Adad-nîrârî III</i>	(1)	30	29 Uzziah	13	2Ch 26:1-3
809	2	(2)	31	1	14	
808	3	(3)	32	2	15	
807	4	(4)	33	3	16	
806	5		34/0	4	17	
805	6		<i>1 Mari'</i>	5	18	
804	7		2	6	19	
803	8		3	7	20	
802	9		4	8	21	
801	10		5	9	22	
800	11		6	10	23	
799	12		7	11	24	
798	13		8	12 Zk 14:5 0	25	Am 1:1-5
797	14		9	13 1	26	
796	15		10	14 Azariah 2	27	2Ki 15:1-2
795	16		11	15	28	(2Ch 26:3)
794	17		12	16	29	
793	18		13	17	30	
792	19		14	18	31	
791	20		15	19	32	
790	21		16	20	33	
789	22		17	21	34	
788	23		18	22	35	
787	24		19	23	36	
786	25		20	24	37	
785	26		21	25	38	
784	27		22	26	39	
783	28		23	27	40	
782	1 <i>Shalmaneser IV</i>		24	28	41	
781	2 <i>Pulu I/Bar Ga'yah</i>	(1)	25	29	1 Zekariah	2Ki 14:29
780	3	(2)	26	30	[2]	
779	4	(3)	<i>1 Hezion II</i>	31	[3]	
778	5	(4)	2	32	[4]	
777	6	(5)	3	33	[5]	
776	7	(6)	4	34	[6]	
775	8	(7)	5	35	[7]	
774	9	(8)	6	36	[8]	
773	10	(9)	7	37	[9]	
772	1 <i>Aššur-dân III</i>	(10)	8	38	[10]	2Ki 15:8
771	2	(11)	9	39	[11] Shallum	2Ki 15:13
770	3	(12)	10	40	1 Menahem	2Ki 15:17
769	4	(13)	11	41	1	
768	5	(14)	12	42	2	
767	6	(15)	13	43	3	

766	7	(16)	14	44	4	(Is 10:5-8)
765	8	(17)	15	45	5 (Pulu I)	2Ki 15:19-20
764	9	(18)	16	46	6	
763	10	(19)	17	47	7	Bur-Sagale
762	11	(20)	18	48	8	
761	12	(21)	19	49	9	
760	13	(22)	20	50	10 Pekayah	2Ki 15:22-23
759	14	(23)	21	51	1	
758	15	(24)	22	52 Jotham	2 Pekah	2Ki 15:27-33
757	16	(25)	23	1	1	
756	17	(26)	24	2	2	
755	18	(27)	25	3	3	
754	1 Aššur-nîrârî V	(28)	1 Rezin	4	4	
753	2	(29)	2	5	5	
752	3	(30)	3	6	6	
751	4	(31)	4	7	7	
750	5	(32)	5	8	8	
749	6	(33)	6	9	9	
748	7	(34)	7	10	10	
747	8	(35)	8	11	11	
746	9 Revolt	(36)	9	12	12	
745	10	0	10	13	13	
744	1 Tiglath-pileser III	(1)	11	14	14	
743	2	(2)	12	15	15	
742	3	(3)	13	16	16	
741	4	(4)	14	1 Ahaz 17	17	2Ki 16:1,7-10
740	5	(5)	15	[2] 18	18	2Chr 28:16
739	6	(6)	16	[3] 19	19	2Ki 16:5,6
738	7	(7)	17	[4] 20	20 Hosea I	2Ki 15:27-30
737	8	(8)	18	5	[1]	
736	9	(9)	19	6	[2]	
735	10	(10)	20	7	[3]	
734	11	(11)	21	8	[4]	2Ki 16:7-9
733	12	(12)	BABYLONIA	9	[5]	
732	13	(13)	Nabû-mukîn-zêri	10	[6]	
731	14	(14)	1	11	[7]	
730	15	(15)	2	12	[8]	
729	16	(16)	3	13	[9] Hosea II	2Ki 17:1
728	17	(17)	1 Pulu II	14	1 [10]	
727	18	(18)	2	15	2 [11]	
726	1 Shalmaneser V	[1]	1 Ulûlaiu	16 Hezekiah	3 [12]	2Ki 18:1
725	2	[2]	2	1	4 [13]	
724	3	[3]	3	2	5 [14]	
723	4	[4]	4	3	6 [15]	2Ki 17:2-5
722	5	[5]	5 Merodachbaladan II	4	7 [16]	2Ki 18:9
721	1 Sargon II		1	5	8 [17]	
720	2 Fall of Samaria		2	6	9 [18]	2Ki 18:10
719	3		3	7	[19]	
718	4		4	8	[20]	
717	5		5	9	[21]	
716	6		6	10	[22]	
715	7	(0)	7	11	[23]	
714	8	(1)	8	12	[24]	
713	9	(2)	9	13	[25]	
712	10 Ashdod / Lachish	(3)	10	14	[26]	Is 36:1;39:1
711	11	(4)	11	15	[27]	1
710	12	(5)	12	16	[28]	2
709	13	(6)	1 Sargon II	17	[29]	3
708	14	(7)	2	18	[30]	4
707	15	(8)	3	19	[31]	5
706	16	(9)	4	20	[32]	6
705	17	(10) 0	5	21	[33]	7
704	1 Sennacherib		1 Sennacherib	22	[34]	8
703	2		2	23	[35]	9

702	3		1 Bêl-ibni	24	[36]	10
701	4		2	25	[37]	11
700	5		3	26	[38]	12
699	6 /Arda-Mulissu	(0)	1 Aššur-nâdin-šumi II	27	[39]	13
698	7	(1)	2	28	[40]	14
697	8	(2)	3	29 Manasseh	[41]	15
696	9	(3)	4	1	[42]	2Ki 21:1
695	10	(4)	5	2	[43]	
694	11	(5)	6	3	[44]	
693	12	(6)	1 Nergal-ušeziḫ	4	[45]	
692	13	(7)	1 Mušeziḫ-Marduk	5	[46]	
691	14	(8)	2	6	[47]	
690	15	(9)	3	7	[48]	
689	16	(10)	4	8	[49]	
688	17	(11)	1 Sennacherib	9	[50]	
687	18	(12)	2	10	[51]	
686	19	(13)	3	11	[52]	
685	20	(14)	4	12	[53]	
684	21	(15)	5	13	[54]	
683	22	(1)	6	14	[55]	
682	23	(2)	7	15	[56]	
681	24	(3)0	8	16	[57]	2Ki 19:37
680	1 Esarhaddon		1 Esarhaddon	17	[58]	
679	2		2	18	[59]	
678	3		3	19	[60]	
677	4		4	20	[61]	
676	5		5	21	[62]	
675	6		6	22	[63]	
674	7 /Sin-nâdin-apli	(0)	7	23	[64]	
673	8 (<i>Manasseh deported</i>)	(1)	8 (<i>2Ch 33:11</i>)	24	[65]	Ezr 4:2,10
672	9	(0)	9	(0) 25	<i>Isa 7:8,9</i>	2Ch 33:11-13
671	10 <i>Memphis attacked</i>	(1)	10	(1) 26		
670	11	(2)	11	(2) 27		
669	12	(3) 0	12	(3) 28		
668	1 Aššurbanipal		1 Aššurbanipal	(4) 29		
667	2		1 Šamaš-šumu-ukin	30		
666	3		2	31		BM 45640
665	4		3	32	EGYPT	
664	5 <i>Thebes sacked</i>		4	33	26 Taharqa	(2Ki 19:9)
663	6 (<i>Na 3:8</i>)		5	34	1 Psamtik I	
662	7		6	35	2	
661	8		7	36	3	
660	9		8	37	4	
659	10		9	38	5	
658	11		10	39	6	
657	12		11	40	7	
656	13		12	41	8	
655	14		13	42	9	
654	15	(0)	14	43	10	
653	16	(1)	15	44	11	
652	17	(2)	16	45	12	
651	18	(3)	17	46	13	
650	19	(4)	18	47	14	
649	20	(5)	19	48	15	
648	21	(6)	20	49	16	
647	22	(7)	1 Kandalanu	50	17	
646	23	(8)	2	51	18	
645	24	(9)	3	52	19	
644	25	(10)	4	53	20	
643	26	(11)	5	54	21	
642	27	(12)	6	55 Amon	22	2Ki 21:1,19
641	28	(13)	7	1	23	
640	29	(14)	8	2 Josiah	24	2Ki 22:1
639	30	(15)	9	1	25	

638	31	(16)	10		2		26	
637	32	(17)	11		3		27	
636	33	(18)	12		4		28	
635	34	(19)	13		5		29	
634	35	(20)	14		6		30	
633	36	(21)	15		7		31	
632	37	(22)	16		8		32	
631	38	(23)	17		9		33	
630	[39]	0	18		10		34	
629	1 Aššur-etel-ilâni	[40]	19		11		35	
628	2	[41]	20		12		36	
627	3	[42]	(21) Sin-šum-lišir		13	[0]	37	Jr 25:3,11
626	4	0	(22) Sin-šar-iškun		14	[1]	38	Ezk 4:6
625	1 Sin-šar-iškun		1 Nabopolassar		15	[2]	39	
624	2		2		16	[3]	40	
623	3		3		17	[4]	41	
622	4		4		18	[5]	42	
621	5		5		19	[6]	43	Alm. V,14
620	6		6		20	[7]	44	
619	7	(0)	7		21	[8]	45	
618	8	(1)	8		22	[9]	46	
617	9	(2)	9		23	[10]	47	
616	10	(3)	10		24	[11]	48	
615	11	(4)	11		25	[12]	49	
614	12	(5)	12		26	[13]	50	
613	13	(6)	13		27	[14]	51	
612	14 Nineveh destroyed	(7) 0	14		28	[15]	52	Nah 3:15-19
611	1 Aššur-uballit II		15	(0)	29	[16]	53	
610	2		16	(1)	30	[17]	54	
609	3 Battle of Harran	[0]	17 BM 21901	(2)	31 Joiaqim		1 Necho II	2Ki 23:29,36
608		[1]	18	(3)	1	[19]	2	Jr 25:11-12
607		[2]	19 BM 22047	(4)	2	[20]	3	
606		[3]	20	(5)	3	[21]	4	
605	Battle of Carchemish	[4]	21	(6)	4	[22]	5	Jr 25:1; 46:2
604		[5]	1 Nebuchadnezzar II		5	[23]	6	
603		[6]	2		6	[24]	7	
602		[7]	3		7	[25]	8	
601		[8]	4		8	[26]	9	
600		[9]	5		9	[27]	10	
599		[10]	6		10	[28]	11	
598		[11]	7 BM 21946		11 Zedekiah		12	Jr 52:1,28
597		[12]	8		1	[30]	13	2Ki 24:12
596		[13]	9		2	[31]	14	
595		[14]	10		3	[32]	15	
594		[15]	11		4	[33]	16	
593		[16]	12		5	[34]	1 Psamtik II	
592		[17]	13		6	[35]	2	
591		[18]	14		7	[36]	3	
590		[19]	15		8	[37]	4	
589		[20]	16		9	[38]	5	
588		[21]	17		10	[39]	6/1 Apries	Ezk 29:1
587		[0]	18 ***		11	[40]	2	Jr 44:30
586		[1]	19		12 Jehoiachin		3	
585		[2]	20		13		4	
584		[3]	21		14		5	
583		[4]	22		15		6	
582		[5]	23		16		7	
581		[6]	24		17		8	
580		[7]	25		18		9	
579		[8]	26		19		10	
578		[9]	27		20		11	
577		[10]	28		21		12	
576		[11]	29		22		13	
575		[12]	30		23		14	

574		[13]	[35]	31	24		15	
573		[14]	[36]	32	25		16	
572		[15]	[37]	33	26		17	
571		[16]	[38]	34	27		18	Ezk 29:17-20
570		[17]	[39]	35	28		19	
569		[18]	[40]	36	29		1/20 Amasis	
568		[19]	[41]	37 VT 4956	30		2/21	Jr 43:10-13
567		[20]	[42]	38 Egypt attacked	31		3/22 [0]	Jr 44:30
566		[21]	[43]	39	32		4 [1]	
565		[22]	[44]	40	33		5 [2]	
564		[23]	[45]	41	34		6 [3]	
563		[24]	[46]	42	35		7 [4]	
562		[25]	[47]	43	36		8 [5]	
561		[26]	[48]	1 Amel-Marduk	37		9 [6]	Jr 52:31
560		[27]	[49]	2			10 [7]	
559		[28]	[50]	1 Neriglissar	(0)		11 [8]	
558		[29]	[51]	2	(1)		12 [9]	Pap. E 7848
557		[30]	[52]	3	(2)		13 [10]	
556		[31]	[53]	4 Labashi-Marduk	(3)		14 [11]	
555		[32]	[54]	1 Nabonidus	(4)		15 [12]	
554		[33]	[55]	2	(5)		16 [13]	
553		[34]	[56]	3 Belshazzar 0	(6)		17 [14]	
552		[35]	[57]	4 1	(7)		18 [15]	
551		[36]	[58]	5 2	(8)		19 [16]	
550	Harpagus Median king	[59]	[60]	6 3 ***	(9)	(0)	20 [17]	Dn 8:1,20-21
549	vassal of Cyrus II	[38]	[60]	7 4	(10)	(1)	21 [18]	
548		[39]	[61]	8 5	(11)	(2)	22 [19]	
547		[40]	[62]	9 6	(12)	(3)	23 [20]	
546		[41]	[63]	10 7	(13)	(4)	24 [21]	
545		[42]	[64]	11 8	(14)	(5)	25 [22]	
544		[43]	[65]	12 9	(15)	(6)	26 [23]	
543		[44]	[66]	13 10	(16)	(7)	27 [24]	
542		[45]	[67]	14 11	(17)	(8)	28 [25]	
541		[46]	[68]	15 12	(18)	(9)	29 [26]	
540		[47]	[69]	16 13	(19)	(10)	30 [27]	
539	Fall of Babylon.	[48]	[70]	17 *** 14	(20)	(11)	31 [28]	Jr 25:11-12
538	(Darius the Mede)	[49]		1 Cyrus II	Ugbaru [1]		32 [29]	Is 45:1
537		[50]		2	1		33 [30]	
536		[51]		3	2		34 [31]	
535		[52]		4	Gubaru		35 [32]	
534		[53]		5			36 [33]	
533		[54]		6			37 [34]	
532		[55]		7			38 [35]	
531		[56]		8			39 [36]	
530		[57]		9			40 [37]	
529		[58]		1 Cambyses II			41 [38]	
528		[59]		2			42 [39]	
527		[60]		3			43 [40]	Ezk 29:12-16
526	Psamtik III	[61]	1	4	1		44/1	
525		[62]	2	5	2		2	
524		[63]		6	3			
523		[64]		7 0 Bardiya	4			
522	Nebuchadnezzar III		0	8 1 ***	5		Artaxerxes 0	Ezr 4:7
521	Nebuchadnezzar IV		1	1 Darius I	1			
520		[67]		2	2			Hg 1:1-9

The period of “devastation and desolation of the land¹⁶⁷” of Israel (587-517) was to last 70 years (Dn 9:2) and that of the land of Egypt (566-526) was to last 40 years (Ezk 29:12). The prophecy of the 40-year desolation of the land of Egypt was uttered in 571 BCE against Apries/Hophra (Ezk 29:12-20), began to be fulfilled by Nebuchadnezzar from 568 BCE (Jr 43:10-13) to 566 BCE (Jr 44:30). It ended with the death of Amasis in 526 BCE, not a “living god to worship” but an ungodly general (The Histories II:174).

¹⁶⁷ When we read: *my house is in ruins, while each of you runs around taking care of his own house* (Hg 1:1.9), a text written in Year 2 of Darius (in 520 BCE), we can understand that the temple was a desert of worshippers (as in Ezekiel 30:7,13), not of people. Apries reigned for 19 years but died in Year 4 of Amasis, in 566 BCE (Ladynin: 2006, 31-56).

FOUNDATION OF CARTHAGE IN 870 BCE

The date of 814 BC for the founding of Carthage is universally accepted, although it is based on several erroneous hypotheses. The only historian of the past to have had access to Tyre's archives is Menander of Ephesus (c. 200 BCE) who translated them into Greek. Flavius Josephus quoted them (c. 95 CE), in particular the chronology of the kings of Tyre, from Hiram I to Pygmalion, specifying that Carthage had been founded in the 7th year of Pygmalion's reign, 143 years and 8 months after the foundation of the temple which had begun in the 4th year of Solomon's reign. From 1951 onwards historians used the biblical chronology of Thiele, who had calculated the reign of Solomon (970-930), to fix his 4th year in 966 BCE (= 970 - 4), which made it possible to calculate the foundation of Carthage in 823 BCE (= 966 - 143). Some historians have considered that this date corresponds to that of Pompeius Trogus, quoted by Justinus, who fixed the foundation of Carthage 72 years before Rome, i.e. in 825 BCE (History XVIII:6:9). However, as archaeologists stratigraphically date the oldest stratum (Tanit I) of Carthage c. 730 BCE (Pilkington: 2013, 139) they prefer that of Timaeus of Sicily, quoted by Dionysius of Halicarnassus, who fixed the foundation of Carthage 38 years before the 1st Olympiad, i.e. in 814 BCE (Roman Antiquities I:74:1). The date of 814 BCE is thus obtained from the biblical chronology of Thiele, which is erroneous by about 50 years, and from calculations that respect neither the rigorous chronological data of Menander of Ephesus, nor those of the Bible. The main disagreement between historians and archaeologists in writing history concerns the dating methods used to establish a reliable chronology. Historians calculate dates from chronological information in historical texts, which can sometimes be verified by astronomical back-calculations, whereas archaeologists calculate dates from archaeological strata. Archaeological dating is approximate as it only provides a duration of one or two centuries to a stratigraphic layer. The main methods for refining dating are those that use: the written name of a known person (such as kings), the type of pottery, ¹⁴C dating (when there is carbonaceous debris in the stratum) and the palaeographic style of the inscriptions. The discovery of late geometric Greek ceramics in the early occupation levels of Carthage, including, interestingly for their antiquity, proto-Corinthian *kotylai* of the type known as "Aetos 666" and Euboean cups decorated with metopes, allows the dating of the first built structures to 775-750 BCE. Other imports, such as Cypriot ceramics and a number of Andalusian-type amphorae, show that 8th-century Carthage was a highly organised city with regular trade contacts with Greece, Pithecusae and the Phoenician colonies in southern Spain (Aubert: 2001, 218-226). The stratigraphy of Carthage initially gave four layers (Pilkington: 2019, 79-83), but excavations from 2008 have shown that the Byrsa Hill would have been in a fifth layer (Tanit 0) when Kition was colonised by Tyre c. 900-850 BCE (Fales: 2017, 185). The Greek chronology of the First Iron Age has recently been re-evaluated (in 2020) and the Middle Geometric period (850-750), when Carthage was founded, has been shifted back 50 years to 900-800* (Gimatidis, Weninger: 2020,1-28).

N°	Layer	BCE	Main objects in the layer	Attic Geometric pottery	BCE
1	Tanit III	200-146	Written steles in limestone		
2	Tanit IIb	400-200	Steles in limestone and stucco stoneware		
3	Tanit IIa	600-400	Urns and small thrones in stoneware		New dating
4	Tanit I	750-600	Urns and betyles in stoneware	Late Geometric	800-600*
5	Tanit 0	850-750	Foundation of Carthage (hill of Byrsa)	Middle Geometric	900-800*
		900-850		Late Protogeometric	950-900*

Carbon-14 dating is extremely difficult because the remains of the fifth layer are almost non-existent, but some measurements have allowed us to date it to 835-800 BCE (Sagona: 2008, 247,379). These recent discoveries prove that the oldest stratigraphic layer (Tanit 0), in which the foundation of Carthage was located, must be dated between 900 and 750 BCE. The Phoenician settlements in southern Spain—which were dated to 770-760 BCE for the oldest (the time of the oldest layer of Carthage), until a few years ago—have been dated from 2011 to around 900 BCE (Demand: 2011, 221-223). Thanks to the radiometric sequences for the Phoenician-Punic world in the Peninsula, the beginnings of Phoenician colonisation in the Malaga-Algorrobo region date back to the period 895-835 BCE¹⁶⁸, when Carthage was founded, more precisely in **870 BCE** according to the chronology of Menander of Ephesus.

¹⁶⁸ For example, a short Phoenician inscription (of four letters) on an amphora fragment, found in Huelva, dated to the 9th century BCE, and several Greek ceramics belonging to the Euboean III sub-prototype (850-750 BCE), imply (now) that the oldest layer in Huelva was dated to 900-750 BCE (Horn: 2007, 62-63). In Andalusia, an important characteristic must be highlighted: in many cremation burials in Almuñecar and in a burial found in Lagos, the ashes are placed in expensive alabaster or marble urns, made in Egypt (the time of their arrival in Spain is unknown, but it must have been shortly after their manufacture). The fact is that in Almuñecar some of them are decorated with inscriptions and emblems of the pharaohs of the 22nd dynasty, such as Osorkon II (909-865), Takelot II (865-840) and Shoshenq III (840-800). It is interesting to note that the oldest alabaster urn is dated before 865 BCE (Aubert: 2001, 329-337, 372-381).

The coincidence of the date of the foundation of Carthage, in 870 BCE, and the tribute paid by [the king of] Tyre and Sidon to King Aššurnasirpal cannot be accidental. According to his annals: *I marched to the Great Sea (Mediterranean Sea) of the land Amurru. [I received] the tribute of [the kings on the seashore], of the people [inhabitants] of Tyre, Sidon, Byblos, [... I washed] my weapons in the Great Sea.* There is a distinction in this text between the "kings" of the seashore and the "inhabitants" of Tyre, Sidon, and Byblos, three port cities that are systematically associated. In the annals of Shalmaneser III there is an additional precision: *Ba'al[-manzer?] the man of [T]yre, submitted to me (and) I received tribute from him. I erected my royal statue in the temple of the city Laruba, his fortified city. Now the tribute of the inhabitants of the lands Tyre, Sidon, (and) Byblos I received.* This text confirms two points: the king of Tyre is only qualified as a man of Tyre, in the sense of a representative of Tyre, but the tribute he paid is attributed to the cities of Tyre and Sidon. These oddities can be explained by the historical context of the city of Tyre¹⁶⁹, which did not play an important role in the Mediterranean from Hiram I onwards who sent ships to Tarshish (1Ki 10:22) in southern Spain. The king of Tyre was called king of the Sidonians because he ruled over both Tyre and Sidon, but his role was mainly commercial as he established trading posts around the Mediterranean or contracts, not alliances, with other kingdoms. The king of Tyre was thus a powerful merchant prince of the Mediterranean¹⁷⁰ (Ezk 27:1-33). It was the abundance of Tyre's wealth, which became proverbial in the 9th century BCE, that prompted King Aššurnasirpal II to conquer this Phoenician city. Several elements represented on the gates of Balawat show that Tyre (& Sidon) did not pay tribute but was plundered and that the booty must have been considerable. Although this important Mediterranean campaign was mentioned on all the inscriptions of the Northwest Palace of Kalhu¹⁷¹, surprisingly it is never dated (Russell: 1999, 19,61), the date of 870 BCE is obtained only by cross-checking all the inscriptions (Younger: 2016, 262,320).

The most ancient representation of the city of Tyre that has been preserved is in the form of a bas-relief on the gates at Balawat, dated to the middle of the ninth century BCE, in which Tyre is shown on its rocky island, surrounded by a wall with five towers. Two gates in the wall, with arches, might represent access respectively to the two harbours of the city. As for the elevation of the wall of Tyre, it is reported that on its eastern side, it reached a height of 45 m (Aubet: 2001, 37). We know from the Aššurnasirpal II gates found by Rassam that the bronze bands (eight on the left-hand door leaf and eight on the right-hand door leaf) were not fixed randomly on the wooden door-leaves. Rather, they were fixed according to a carefully or predetermined arrangement in which prominence was given to certain scenes and others were arranged so that if possible, they mirrored or complemented the corresponding scenes on the other side of the gate. If this arrangement is correct¹⁷², it is striking that the three representations of tribute (R4, L4 and L5 bands) being brought from Tyre are all clustered together in the centre of the gates (Curtis, Tallis: 2008, 52). Order of the bronze bands of the Mamu Temple gates:

TABLE 45

Left	Left bands of the Mamu Temple gates	Right bands of the Mamu Temple gates	Right
L1	Tribute from Carchemish	Tribute from Suḥu	R1
L2	Campaign to Mt Urina	Campaign against Bīt-Adini	R2
L3	Tribute scene	Tribute from Suḥu	R3
L4	Tribute scene [from Tyre]	Tribute scene [from Tyre]	R4
L5	Tribute scene [from Tyre]	Tribute from Amazu (north of Suḥu)	R5
L6	Tribute from Suḥu	Tribute scene	R6
L7	Campaign scene	Campaign against Bīt-Adini	R7
L8	Tribute of timber	Tribute scene	R8

This episodic and nonchronological series of representations (without any epigraphs) seems closer in spirit to the summary account of the king's achievements recorded in the Standard Inscription (carved across the middle of all the wall relief slabs) than it is to the annals (Russell: 1999, 60-61). Strangely, only three tributes have been preserved, Suḥu, [Tyre] and Amazu, presumably because they were seen as the most

¹⁶⁹ The city of Tyre is mentioned from the 16th century BCE in Egyptian, Ugaritic, Assyrian-Babylonian texts and in the archives of El-Amarna, which shows its maritime power and commercial importance. During the attack of the Sea Peoples in 1185 BCE most of the port cities around the Mediterranean were destroyed, which would explain its disappearance in the maritime exchanges. For example, according to Wenamun's report (in 1085 BCE) Egyptian trade with Phoenicia and Cyprus had resumed through Tyre, Sidon and Byblos (Report of Wenamun I:1-II:11). It is likely that the fortification of the city of Tyre and the development of its port by Hiram I (1025-991) gave this city primacy over Sidon (Joannès: 2001, 865-866).

¹⁷⁰ For example, Zakarbaal (c.1090-1070) mentions a Council of State in the city of Byblos, which may have acted, among other things, as a board of commercial management, presided over by the king and by the 'princes of the sea' (Ezk 26:15-16). It is interesting to note that Zakarbaal mentions being able to consult a journal roll of his ancestors (Report of Wenamun II:9).

¹⁷¹ On the backs of wall slabs, the faces of wall slabs, the throne base, doorway colossi, and thresholds.

¹⁷² The reconstruction of the location of these eight bronze bands, some of which were badly damaged, was carried out on the following principle: It is assumed that the doorposts would have tapered towards the top while at the same time the flat part of the bands should gradually increase in length to compensate for this.

prestigious. The presentation of these tributes is misleading because the city of Tyre paid only one tribute, the one visible on the two central bands (R4 and L4), because the tribute on the 5th bronze band (L5) on the left side of the door is an exact replica of the tribute on the 4th bronze band (L4). This replica made the spectators believe that it was a tribute paid at intervals, like that of Suḫu, whereas in fact it was a plundering of the city. The comparison of the campaigns and tributes represented on the Balawat gates with those mentioned in the annals of Aššurnasirpal II (Table 46) is approximate because according to the annals there were several campaigns against Bīt-Adini from 877 to 867 BCE, which was finally defeated in 866 BCE, but the campaign mentioned on the Balawat gate (R2) should be dated to 883 BCE according to its location. The next campaigns (not mentioned in the annals), from 866 to 859 BCE, were directed against Urartu in the east. Events that can be dated have been highlighted in grey.

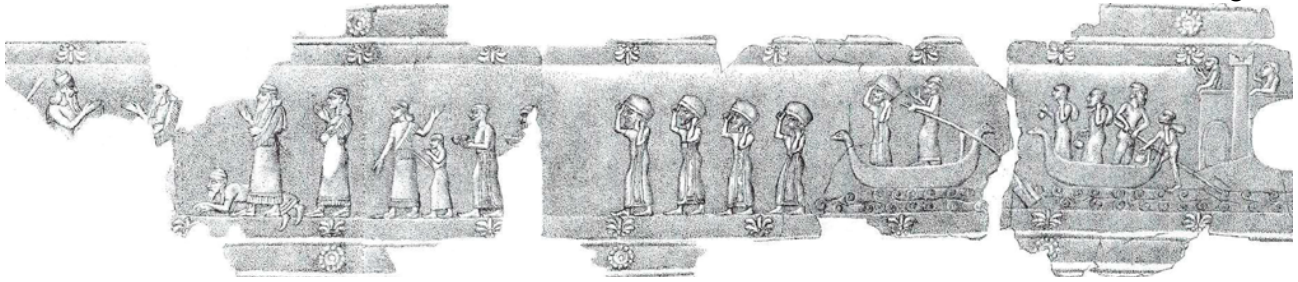
TABLE 46

BCE		Eponym	Annals	Left bronze bands	Right bronze bands
885	6	Na' id-ilu			
884	7 0	Yarî	(Aššurnasirpal II)	Tr. from Carchemish (?)	from Suḫu (R1)
883	1	Aššur-šēzibanni	Cm. to Mt Urinu	Cm. to Mt Urina (L2)	against Bīt-Adini (R2)
882	2	Aššur-nāšir-apli (II)	Tr. from Suḫu	Tribute scene (L3)	from Suḫu (R3)
881	3	Aššur-iddin			
880	4	Miḫti-adur			
879	5	Ša-ilima-damqa			
878	6	Dagan-bēlu-nāšir	Tr. from Bīt-Adini		
877	7	Ninurta-pīya-ušur			
876	8	Ninurta-bēlu-ušur			
875	9	Iššiak-Aššur-lilbur			
874	10	Šamaš-upaḫḫir			
873	11	Nergal-āpil-kūmūa			
872	12	Qurdi-Aššur			
871	13 0	Aššur-lē'i			
870	14 1	Aššur-natkil	Tr. from Tyre, Sidon	Tribute scene (L4)	from [Tyre] (R4)
869	15 2	Bēl-mudammiq			
868	16 3	Dayān-Ninurta			
867	17 4	Ištar-emūqāya			
866	18 5	Šamaš-nūrī	Cm. against Bīt-Adini	Campaign scene (L7)	against Bīt-Adini (R7)
865	19 6	Mannu-dān-ana-ili	Tribute of cedar logs	Tribute of timber (L8)	Tribute scene (R8)
864	20 7	Šamaš-bēlu-ušur	-		
863	21 8	Ninurta-ilāya	(Kalhu inauguration)		
862	22 9	Ninurta-ētiranni	-		
861	23 10	Aššur/Nergal-ilāya	-		
860	24 11	Nergal-nirka-da'in	-		
859	25 0	Ṭāb-bēlu	(Shalmaneser III)		
858	1	Šarru-balti-nišī			
857	2	Shalmaneser (III)			

Unlike the annals, which give an exhaustive list of Aššurnasirpal's campaigns and tributes, the representations on the gates of Balawat of a few prestigious campaigns and tributes (without any epigraphs) were chosen mainly to magnify the king. The tribute, paid by Tyre and Sidon according to his annals, occupies a central place on the gate of Mamu's Temple (R4). It is noticeable that not all of these inscriptions refer directly to the subjects depicted on the slabs with them, but in the case of the historical reliefs at least, the annalistic text and the images tell the same general story, which they both present using the conventions of historical narrative. The comparison of these representations with the annals shows that they kept a summary of the campaigns and tributes by arranging them chronologically but also by grouping them geographically, which modified their dating. Dating the inscriptions is complicated because the Assyriologists who published and translated them reordered the final text to conform it to a chronological scheme that is not present in the original (Russell: 1999, 67-70,75,214). The tribute of Tyre has two incomprehensible elements: 1) although it was a central event in the reign of Aššurnasirpal, it is never dated, and 2) this exceptional tribute was not paid by a king, which is the usual case, but by the inhabitants of Tyre and Sidon. Both of these anomalies can be resolved because in 870 BCE Shalmaneser (III) carried out his first campaign as co-regent of Aššurnasirpal II, so the tribute of Tyre was attributed to the king but without precision since it was Shalmaneser (III) who led the campaign. The king of Tyre is not mentioned because he probably refused to pay the tribute initially demanded, which forced Shalmaneser (III) to plunder the cities of Tyre and Sidon on behalf of Aššurnasirpal II.

The king on the far left (Fig. 22) with his Assyrian tiara is Aššurnasirpal II and the fortified city on an island on the far right, from which Phoenician ships sail, can only be Tyre. The numerous bearers probably carrying gold, silver and ivory (R4) as well as those delivering exotic objects or animals (L4/L5), illustrate the wealth of this tribute paid by the king of Tyre.

Fig. 22



There is a major contradiction between the description of the tribute paid by the inhabitants of Tyre and Sidon, according to the annals, while on the bronze band (MM ASH II R4) Aššurnasirpal II is depicted facing a high Tyrian dignitary (Fig. 22 left), just in front of the king of Tyre (wearing a bonnet) and the queen. This representation is very unusual because according to Assyrian stylistic conventions the only high dignitary, of the same height as the king and facing him, can only be his co-regent (Shalmaneser), but as he is dressed in a typically Phoenician costume, he is a representative of the king of Tyre. The representation of the tribute of Tyre appearing on a slab (opposite) from the Palace of Aššurnasirpal at Kalhu (WA 124562) is even stranger since the high dignitary facing the king (not shown) is dressed in Phoenician costume but wears an Assyrian tiara and is followed by an offering bearer with two monkeys dressed in Syrian costume. The first figure is wearing Phoenician dress: a turban, long shirt, cloak over the shoulder and up-turned boots, cracking his thumbs showing submission to the king, the other is in Syrian dress: a bun of hair, a shorter shirt.

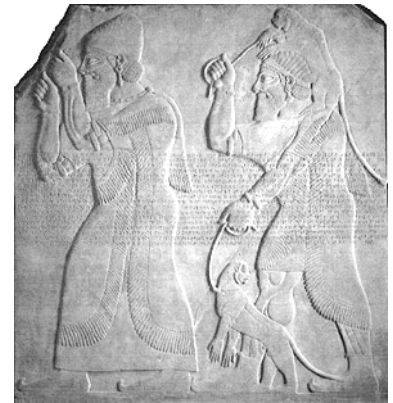
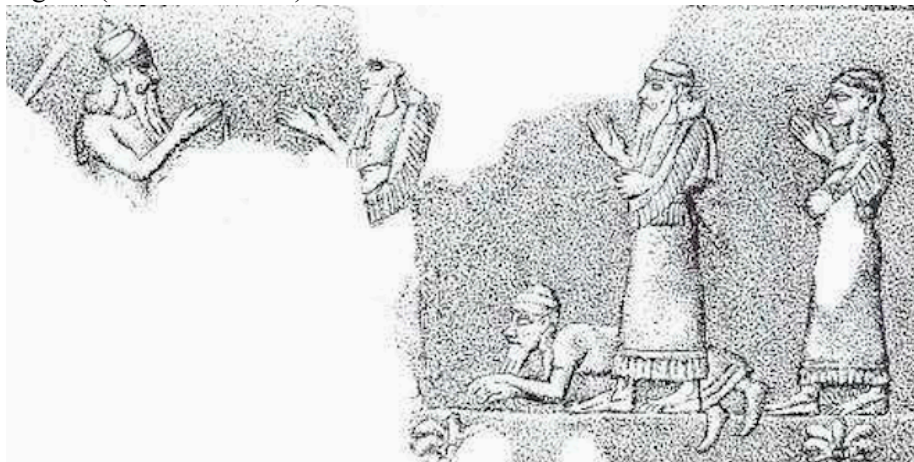


Fig. 24 (WA 124562)

Fig. 23 (MM ASH II R4)



Aššurnasirpal II Shalmaneser (III) Baal-manzer Pygmalion Elissa¹⁷³
(conventional depiction)

As these two scenes represent the tribute of the king of Tyre, paid in 870 BCE, they were done according to Assyrian conventions: Shalmaneser (III), Co-regent of King Aššurnasirpal II, presents the tribute as a representative of the king of Tyre and thus dressed in Phoenician costume. Since the annals of Aššurnasirpal II never mention the king of Tyre who paid the tribute, nor those of Shalmaneser III, and since the tribute was paid by the “inhabitants” (?) of Tyre and Sidon, the high Tyrian figure who parleyed with Aššurnasirpal II must have been a representative of the king of Tyre. The annals of Shalmaneser III give his name (in various forms): *Ba'a'il[-?]* the man of [T]yre, submitted to me (and) I received tribute from him; I received the tribute of Ba'ali-man-zēri, the Tyrian; I received tribute from Ba'a'il-man-zi [of Tyre]. Paradoxically, Ba'al-manzer/Baal-manzi who paid tribute, in 841 BCE according to the annals of

¹⁷³ The English transcriptions of these four proper names from the 9th century BCE are approximate: Shalmaneser (Šulmānu-ašarēd), Baal-manzer (Ba'al-ma'zēr?), Pygmalion (Pumay-yaton), Elissa (Eliša).

Shalmaneser III (Grayson: 2002, 32-84,149), has disappeared from Shalmaneser III's representation of this tribute on the gates of Balawat (Fig. 25), on the other hand, the king of Tyre (Pygmalion) and the queen (Elissa) are this time present on their island as on the representation of the tribute of 870 BCE (Fales: 2017, 226). There are obvious chronological inconsistencies.

Fig. 25 (WA 124661)



This tribute of the Tyrians and Sidonians to Shalmaneser III (Fig. 25), engraved on the bronze bands of the gates of Balawat (Bands L2 and R3), is in fact impossible to date. Though no wall reliefs are known from the reign of Shalmaneser III, he did continue his predecessor's practice of labelling his small-scale reliefs with epigraphs. The largest collection known is on a pair of door leaves from the palace at Imgur-Enlil (Balawat), where similar doors of Aššurnasirpal were also found. The pair of doors comprised 16 bronze bands (L1-L8, R1-R8). Each was divided into two registers of relief, the subjects of which were mainly military conquest and the delivery of tribute. As with the Aššurnasirpal II doors, there were two types of inscriptions. On the vertical edge of each door leaf was a strip of bronze inscribed with an annalistic account of years 1, 3, 4, 8, and 9 (in 850 BCE). In addition, each of the bronze relief bands carried at least one epigraph; some had two and one had three. A total of 24 epigraphs are preserved. The two epigraphs of the tribute from Tyre and Sidon state:

Tribute of the ships of the Tyrians (*šu-ra-a-a*) and Sidonians (*ši-du-na-a-a*), I received; Tribute of the Tyrians and Sidonians: silver, gold, tin, bronze, wool, lapis lazuli (and) carnelian, I received (Russell: 1999, 79-81; Younger: 2016, 338).

It should be noted that Baal-manzer is not mentioned in the epigraphs. The events described in the epigraphs can be dated by comparing them with those in the annals. However, as many campaigns and tributes recur almost identically at different periods, it is difficult to identify the event mentioned in the epigraph and one of those mentioned in the annals. Since an annalistic account of years 1, 3, 4, 8 and 9 was inscribed (on the vertical edge of each door leaf), the events mentioned must have taken place before the year 9 of Shalmaneser III in 850 BCE (Curtis, Tallis: 2015, 59-79).

TABLE 47

	BCE	Left bands (Mamu Temple gates)	Right bands (Mamu Temple gates)	BCE	
L1	?	Campaign against Hamath	Attack on city of Baqanu in Babylonia	850	R1
L2	?	Tribute of the Tyrians and Sidonians	Capture of city of Ubume in Shubria	854	R2
L3	857-853	Tribute from Unqu in North Syria	Tribute of the Tyrians and Sidonians/ Attack on city of Hazazu	?	R3
L4	857-853	Tribute of Sangara of Carchemish	Attack on city of Dabigu in Bit-Adini	857	R4
L5	853	Capture of cities in Hamath/ Capture of Qarqar	Tribute of Bit-Dakuri in Babylonia/ Assyrian army on campaign	850	R5
L6	?	Expedition to source of Tigris/ Capture of city of Kulisi	Sacrifices by Sea of Nairi/ Capture of city of Sugunia in Urartu	859-856	R6
L7	859-856	Capture of an Urartian city/ Tribute of land of Gilzanu	Capture of cities in Hamath/ Submission to Shalmaneser	?	R7
L8	853 ?	Capture of cities belonging to Arame of Bit-Agusi	Attack on an Urartian city	859-856	R8

What can be deduced from this arrangement? Firstly, as is clear from the Table 47 the bands are clearly not arranged in a chronological order. In fact, from a chronological point of view they seem to be random. Given that the gates do not seem to be arranged chronologically or geographically (at least, certainly not rigorously), is there some other guiding principle? It is interesting —it cannot really be put more strongly than that— that in some cases a vaguely symmetrical arrangement can be noted. For example, campaigns

between 858 and 854 BCE (Bands R2–R4) are bracketed between bands showing a campaign or campaigns in Babylonia in 850 BCE (Bands R1, R5). So, is there a geographical arrangement? This does not seem to work either. Thus, we have campaigns in Babylonia on Bands R1 and R5, and campaigns in Hamath on Bands L1, L5, and R7. It is true that there does seem to be a preponderance of campaigns in the west in the upper part of the gates (Tyre and Sidon on Bands L2 and R3, Syria on Bands L1, L3, L4, R4 and L5), and a preponderance of campaigns in the north in the lower part of the gates (source of Tigris on Band L6, Urartu on Bands R6, L7, R8), but this can only have been a general principle and was not rigidly adhered to. So, we have Shubria (located north of the Upper Tigris) near the top of the gates and Bit-Agusi (in North Syria) at the bottom of the gates. Surprisingly, the bands are not even arranged in pairs. For example, one might have expected bands showing Tyre and Sidon and bands showing Urartu to be opposite each other but this is not the case. In any case there is a major contradiction between the tribute of the Tyrians and Sidonians mentioned on the bronze bands (L2 and R3) which must be dated before 850 BCE and that of the annals which describe it precisely and date it to the 18th year of Shalmaneser III in 841 BCE. To resolve this contradiction the Assyriologists date this tribute to the first year of Shalmaneser III, in 858 BCE, because according to his annals he marched to the Mediterranean (Grayson: 2002, 74), but this hypothesis is false since no tribute is mentioned during this campaign, nor even the Tyrians and Sidonians:

In my first regnal year [I crossed] the Euphrates in flood (and) marched to the western [sea. I washed] my weapons in the sea (and) made [sacrifices to my gods]. I climbed up the Amanus range (and) [cut] beams of [cedar (and) juniper]. I climbed up Mount Lallar (and) [erected] therein my royal statue. [In my second regnal year] I crossed [the Tigris] (and) approached the city Til-Barsip ...

The tribute of the Tyrians and Sidonians mentioned in the epigraph (R3) also mentions an attack on the city of Ḫazazu which is not mentioned in the annals of Shalmaneser III but is associated with the tribute of the Tyrians and Sidonians paid in 870 BCE to Aššurnasirpal II (Younger: 2016, 338,503).

I marched to Mount Lebanon. I went up to the Great Sea. I cleansed my weapons in the Great Sea (and) made sacrifices to my gods. At that time I received tribute from the kings of the sea-coast, from the lands of the people of Tyre, Sidon, Amurru, Byblos, Maḡallatu, Kaizu, Maizu, and the city Arvad which is (on an island) in the sea —silver, gold, tin, bronze, bronze casseroles, linen garments with multi-coloured trim, ivory of hippopotamuses (which are) sea creatures. At that time, I received from them with their tribute, large female monkeys (and) small female monkeys. I brought them (the monkeys) to my land Aššur (...) Moving on from the city Carchemish I took the way between Mounts Munzigānu (and) Hamurga. Leaving Mount Ahānu on my left I approached the city Ḫazazu which (was ruled by) Lubarna, the Patinu. I received silver, gold, linen garments (Grayson: 2002, 226-227).

Consequently, Shalmaneser III reinterpreted the tribute he offered to Aššurnasirpal II, in 870 BCE, as co-regent (or his emissary who was able to speak Phoenician) under the name of Baal-manzer, eliminating Aššurnasirpal II and Baal-manzer and keeping only the king of Tyre (Pygmalion) and the queen (Elissa). These anomalies indirectly confirm the accounts of the founding of Carthage, well attested by Greek historians. According to a widespread tradition, Carthage was founded by Queen Elissa, also known as Dido “the wanderer” (Aubet: 2001, 216-218), who fled from Tyre after the murder of her husband by her younger brother Pygmalion, the king of Tyre. According to Justinus' account (History 18:4-6), Queen Elissa (Elisha in Phoenician) was the daughter of King Mattan I (906-877). On his death in 877 BCE, the throne was bequeathed to her jointly with her 11-year-old brother Pygmalion. To enable him to reign and have an heir, Elissa was married (probably at the age of 15) to his uncle Zakarbaal, high priest of Melqart, a man whose authority and wealth were comparable to that of the king¹⁷⁴. However, the people of Tyre preferred to have Pygmalion as their king despite his young age. Therefore, when King Aššurnasirpal came to Phoenicia in 870 BCE (c. 49 years old at that time)¹⁷⁵, accompanied by his son Shalmaneser (c. 34 years old) who was on his first military campaign as co-regent, he met Pygmalion the king of Tyre (c. 18 years old) accompanied by Elissa (c. 22 years old) who was practically a co-regent. As he did not speak Assyrian, King Pygmalion must have addressed King Aššurnasirpal through an emissary (Ba'al-manzer), presumably a prince of his Tyrian royal court who spoke Assyrian. The four figures on the bronze band (R4) are therefore (from left to right): King Aššurnasirpal, Ba'almanzer, the Phoenician emissary of the co-regent Shalmaneser, King Pygmalion and Queen Elissa (the only Phoenician queen represented by the Assyrians).

¹⁷⁴ In addition to becoming the tutelary deity of the great Tyrian maritime enterprises, the figure of Melqart was linked with exceedingly complex political and economic interests. In Carthage, for example, the cult of Melqart was introduced at the very origin of the city. Elissa, the foundress, had brought objects sacred to the god with her to northwest Africa. Her husband, Zakarbaal, had been the chief priest in the temple at Tyre, so he had ranked immediately after the king on the social scale. So, in one way or another, the royal family and the temple of Tyre are behind the myth of the founding of Carthage. The story goes that from then on the Carthaginians sent an annual offering or tribute to the god Melqart of Tyre, which consisted of a tenth of the public treasury. This custom continued until the Hellenistic period (Diodorus 20:14,2; Polybius 31,12; Arrianus 2:24,5).

¹⁷⁵ This age is calculated by assuming an average lifespan of 60 years for these Assyrian kings.

It is possible to reconstruct the sequence of this meeting between the two kings (in 870 BCE). King Pygmalion had to agree to pay a gigantic tribute, but Zakarbaal who managed the immense wealth of the temple of Melqart had to refuse to give it to the Assyrian king, which obliged Pygmalion to have him assassinated. His widow, Elissa, together with a group of Tyrians loyal to her husband, who were known as princes¹⁷⁶ (Is 23:8), fled secretly to Cyprus after paying homage to Melqart. The Tyrian diaspora was thus the immediate consequence of political tension in Tyre, which had brought a young monarch, supported by the people, face to face with part of the city aristocracy, led by the king's own uncle, Zakarbaal. Consequently, King Aššurnasirpal had his initial meeting with King Pygmalion and Elissa, his co-regent, represented on the gates of Balawat to negotiate the tribute to be paid through Ba'almanzer. However, after the murder of Zakarbaal, the priest of the temple of Melqart, and the flight of his wife, Queen Elissa, Aššurnasirpal was obliged to extort the originally planned tribute, which was supposed to be less because Elissa had taken with her a large part of the temple's wealth in order to safeguard it and build a new city called Carthage ('new city' in Phoenician) in order to preserve the Phoenician sovereignty. These events forced Shalmaneser III to modify several elements on the representation of this famous tribute, paid by the inhabitants of the city of Tyre, in 841 BCE according to his annals. There are several notable modifications: 1) as Shalmaneser III takes credit for this tribute, negotiated by his father, no Assyrian king appears on the bronze band, 2) the inhabitants of Tyre have been replaced by king Pygmalion and queen Elissa (to make it look as if this tribute had been paid voluntarily when it was an extortion), 3) Ba'almanzer, who had paid the tribute, according to the annals, disappeared from the scene, and finally, 4) the precious objects of the initial tribute were replaced by several piles of (silver) lingots.

Shalmaneser III appropriated the tribute of Tyre, paid in 870 BCE to Aššurnasirpal II, by falsifying it, as can be seen by comparing its representation on the gates of Balawat with its description in his annals, which mention it during his 18th year of reign, in 841 BCE, when he finally crushed Hazael's army. This coincidence is not fortuitous, because the Assyrian expansion towards the west (as far as the Mediterranean), initiated by Aššurnasirpal (from the beginning of his reign) was continued by Shalmaneser (from the beginning of his reign) but with an unforeseen obstacle. Indeed, during the heavy tribute extorted from the king of Tyre in 870 BCE, Hazael (885-840), the king of Syria (Damascus), understood that these Assyrian attacks were going to continue, so he organised a powerful army under the leadership of a commander-in-chief, Hadadezer (870-845) and made alliances with all the other Aramaic kings, except with Jehu (885-856) the king of Israel. Shalmaneser (859-824) first led several campaigns against the kingdom of Bit-Adini, from 859 to 856 BCE, before annexing it definitively after the capture of Ahuni, then against the kingdom of Syria, from 855 to 841 BCE, before definitively annihilating the army of Hazael (885-840?) but without being able to annex it. After having plundered the cities of Hazael, including the rich city of Hazor, Shalmaneser considered that this rich booty, part of which came from the cities of Jehu plundered by Hazael (2Ki 10:31-33), was somehow an indirect tribute paid by Jehu (rather than a plunder of the cities of Hazael) and to increase his prestige, Shalmaneser associated it with the one in which he had participated as co-regent during his first military campaign against Tyre.

The tragic events that led Queen Elissa to leave the city of Tyre, to travel the Mediterranean and to found a new Tyre, had a strong influence on her contemporaries, especially the Greeks living in the Mediterranean ports in contact with the Phoenicians. According to Strabo (Geography III:2:13-14):

The expedition of Odysseus, as it seems to me, since it actually had been made to Iberia, and since Homer had learned about it through inquiry, gave him an historical pretext; and so he also transferred the Odyssey, just as he had already transferred the Iliad, from the domain of historical fact to that of creative art, and to that of mythical invention so familiar to the poets. The Phoenicians, I say, were the informants of Homer; and these people occupied the best of Iberia and Libya before the age of Homer and continued to be masters of those regions until the Romans broke up their empire.

According to the Parian Chronicle (dated 264 BCE) Homer was born in 907 BCE and lived at the time of Diognetus (892-864), an archon of Athens and according to Herodotus (485-425), who wrote his histories around 430 BCE, Homer lived 400 years before him (Histories IV:53), that is, around 830 BCE (?). According to this chronological information Homer wrote his two famous stories around 860-850 BCE, just

¹⁷⁶ Bitias, the commander of the Tyrian fleet (Virgil, *Aen.* I:738) and Barcas, the ancestor of the Barcidas (Silius Italicus, *Punica* I:72-75), figured among the princes who accompanied Elissa in her flight. In Gadir and Carthage, the figure of Melqart finds its way even into the story of the foundation. This is probably a reflection of the firm intention to associate the origins of these western settlements with the city of Tyre and, by extension, with its temple and its king. Not only did the god appear in association with the oldest settlements in the west, but, occasionally, the building of a temple preceded the founding of the city. This seems to have been the case at Cadiz. Moreover, in certain foundations, the figure of Melqart had considerable weight, as, again, in Gadir. Only in Gadir and Tyre were the god and his relics worshipped and his resurrection commemorated annually (Silius Italicus 3:22). Two other very ancient temples were established in the west at the same time as the founding of the Tyrian colony: in Utica (Pliny N. Hist. 16:40) and in Lixus in Atlantic Morocco (Pliny 19:63).

after the flight of Queen Elissa to found Carthage. Velleius Paterculus states that the founding of Carthage coincided with Lycurgus (Roman History I:6), the legendary lawgiver of Sparta who reigned 130 years before King Theopompus (720-675), according to Plutarch (Life of Lycurgus §IX). According to Tatian, Lycurgus made his laws 100 years before the Olympics, or 876 BCE (Discourses to Greeks XLI). Lycurgus is credited with the formation of many Spartan institutions integral to the country's rise to power, which proves that Greek writing existed at that time¹⁷⁷. The chronological indications of Homer's life (907-c.840) in the Parian Chronicle appear to be reliable¹⁷⁸. According to these historians, Homer's work and Lycurgus' laws are dated over the period 870-850 BCE. All this historical information is consistent with the assumption that Queen Elissa's travels around the Mediterranean inspired the poet Homer to create the travels of Ulysses (Elissa also inspired the character of Penelope, the wise and faithful wife of Ulysses).

By virtue of the implicit archaeological principle that “the absence of evidence is the evidence of absence”, archaeologists have claimed (before 2000) that Homer's stories could not have been written before 750 BCE, because the oldest Greek inscription (‘Nestor's Cup’)¹⁷⁹ was dated around 730 BCE. Since 2000, several Greek inscriptions dated to about 800 BCE have been discovered, as well as several groups of Phoenician letters dated to about 900 BCE, which do not form Phoenician words, have been found in Crete, leading scholars to believe that the Cypro-Minoan syllabary (inspired by Linear B used in Athens from 1450 to 1150 BCE), which was used in Cyprus until 1050 BCE, was gradually replaced from c. 1000 BCE by the Greek alphabet inspired by Phoenician alphabet (Bourogiannis, 2019, 151-180). Since Homer's dialect is mainly Ionic and includes many Aeolic forms, he must have lived in Euboea. By cross-checking all this information, some specialists believe now that Homer (907-c.840) may have lived in Lefkandi, a coastal village on the island of Euboea about 50 kilometres north of Athens. The historical information was therefore relatively reliable, despite its imperfect transmission.

CONCLUSION

The Assyrian chronology of the first millennium BCE is perfectly determined, but contrary to the belief of Assyriologists, co-regencies were frequent among Assyrian reigns, which consequently significantly alters the dating of the synchronisms with Israelite chronology. The biblical chronology of the divided kingdom, from Solomon (1017-997) to Zedekiah (598-587), calculated from the unmodified Masoretic text is impressively consistent and contains no errors either in the dating of the reigns or in the dating of the synchronisms with the Assyrian reigns, especially during the co-regencies. Edwin Thiele's hypothesis of an absence of Assyrian co-regencies and of his arbitrary addition of nine additional Hebrew co-regencies is doubly false. The synchronisms that Thiele has used to anchor his biblical chronology are all wrong. For example, the tribute paid by Jehu (885-856) to Shalmaneser III (859-824) in 841 BCE is a falsification of a plundering of Hazael's cities when his army was destroyed, which itself came from a plundering of Jehu's cities by Hazael (885-840). The tribute paid by Menahem (771-660), which Tiglath-pileser III (745-727) reports in 738 BCE, when he placed Hosea (738-729) on the throne, had been paid in 765 BCE when he was co-regent as Pulu “heir” (782-746), named Bar Ga'yah “Son of majesty” in Aramaic. Similarly, the tribute paid by Hezekiah (726-697) in 712 BCE corresponds exactly to the 3rd campaign of Sennacherib when he was co-regent (715-705) to Sargon II (722-705). Finally, Thiele confused Ahab, King of Israel, with Ahabbu, King of Sam'al, because of the similarity of their names. Ahabbu (855-825) was an Asrielite¹⁸⁰ (*sir-'a-la-a-a*), not an Israelite (*mār Hu-um-ri-i*), he had joined the coalition led by the powerful Syrian army chief Hadadezer (870-845) against King Shalmaneser III at the battle of Qarqar in 853 BCE, while the Israelite king Ahab (919-898) was attacked by the Syrian king Ben-Hadad II (920-885) who once defeated returned the cities taken by Ben-Hadad I (1Ki 20:1-34).

The fact that there are no errors among the hundred or so biblical dates shows that the biblical writers were eyewitnesses to the events they described and that later copyists were extremely meticulous.

¹⁷⁷ Similarly, the list of Athenian archons, which goes back to Medon (1068-1048), proves that Greek writing existed at the time of Medon to record him in the Athenian archives.

¹⁷⁸ The style of the Chronicle's entries suggests that the ultimate source of the information in the Parian Chronicle was the archives of the city of Athens. Authors Rodger Young and Andrew Steinmann base their views on three key inferences from the available evidence. 1) The naming of the reigning king or archon in Athens for each entry is consistent with an Athenian provenance of the material. 2) The source behind each entry must have provided a year-number from which the author of the Parian Chronicle was able to calculate the years to his own time, thus suggesting that the archives from which the information was taken were keeping track of the years since the founding of the kingship in Athens under Cecrops. Such framing chronicles are known to have been kept in Rome: the *Anno Urbis Conditae*, from which events were reckoned. 3) The annalistic style of the Chronicle is in keeping with the genre of annalistic records such as the Assyrian Eponym Canon, in which the purpose was not so much to describe events as to give an accurate record of when the events occurred, as related to the years since the founding of the kingship and also tying the event to the king or archon who was currently reigning (Young, Steinman: 2012, 223-248).

¹⁷⁹ If Nestor's cup (Iliad 11:632-641) was legendary in 730 BCE Homer's account must have been written a century earlier.

¹⁸⁰ Asriel was in north-eastern Samaria (Nb 26:31) and therefore not Israel (Lemaire: 1973, 239-243).

Annex –Are the first three kings of Israel historical or fictional?

The historicity of the first three kings of Israel, Saul, David and Solomon, was disputed from the 1980s onwards, especially by archaeologists who could find no archaeological evidence of the famous King Solomon. A controversy therefore began between the classical historians, who relied mainly on written sources and the synchronisms between the different chronologies, and the archaeologists, who relied more on archaeological finds and carbon-14 dating. From then on, the classical historians were called maximalists and the archaeologists minimalists (some prefer to be called ‘critical archaeologists’).

Maximalism and Minimalism are labels for two opinions about the relation between written evidence and archaeology, which sometimes are conflicting. The expressions are used when discussing the past of ancient Israel, but similar debates are known in Roman, Greek, and Iranian archaeology. These two categories of historians reflect two conceptions of historical truth: maximalists interpret uncertain archaeological evidence by relying on historical evidence that is considered more reliable, whereas minimalists interpret uncertain historical evidence by relying on archaeological evidence that is considered more reliable. These two conceptions of truth, the one based on texts versus the one based on observation, resemble the debate on heliocentricity that took place between the scientists of the Pontifical Academy of Sciences and Galileo. The former relied on the biblical texts, which say that the sun rises and sets, to conclude that the sun revolved around the earth, whereas the latter relied on astronomical observation to conclude that the earth revolved around the sun. Most people remembered that, even if Galileo had to disavow his scientific conclusions, religious truth had just been disproved for the first time and that scientific truth based on reason was now to be preferred to religious truth based on faith. The minimalists (the majority) believe that they are basing themselves on a scientific interpretation of the archaeological excavations, whereas the maximalists (a minority, mainly practising believers) are basing themselves on a religious interpretation of the texts. There are thus two truths: one based on reason (scientific truth) and one based on faith (religious truth). According to this binary conception, scientists defend historical truth while religious people defend myths. This simplistic choice was not Galileo's because he was both a great and honest scientist and a devout and honest Catholic, he did not oppose the biblical texts to his scientific observations but only the interpretation of the biblical texts by his Church to the interpretation of his astronomical observations. In fact, he explained to Pope Urban VIII, who was his friend, that there could not be two truths, a scientific truth and a religious truth. The pope pointed out to him that the unity of the Church rested on the uniqueness of the truth validated by the Church, not by science, which could be wrong. Galileo reluctantly accepted this conclusion only because the Catholic Church, even if it made mistakes, ensured his eternal salvation, which was not the case with science. Consequently, there cannot be two truths because interpretations, whether scientific or religious, can be criticised and therefore refuted. On the other hand, the historical truths of the maximalists, based on a critical edition of the texts, and the archaeological truths of the minimalists, based on a critical observation of the archaeological excavations, can only complement each other, and if they oppose each other, then one of them is false because there cannot be two truths.

Early Greek historians were confronted with the distinction between myths “historical events magnified by religious lies” and history “the truth distorted by errors of transmission”. Greek historians were not gullible (any more or less than we are), they knew that Homer's accounts of the Trojan War were myths since no one ever saw the gods and demi-gods of mythology living with humans, but the difficult question to resolve was whether this war had really taken place and had a historical basis. Herodotus, the Father of (chronological) History, and Thucydides, the Father of historical accuracy, solved this difficult question¹⁸¹. The two means developed by Herodotus and Thucydides are the two scientific tools of the historian for separating myths from history. The historian, like the investigating judge, must have the skills to assess the veracity of written evidence and its consistency with physical evidence to establish the truth. The investigating judge must examine partial and sometimes contradictory testimony and compare it with the physical evidence. To resolve certain contradictions between all these elements, he or she proceeds to a chronological reconstruction of the presumed facts to confirm or invalidate the testimonies examined by the court and thus establish the truth and finally condemn the liars. The historian proceeds in the same way. The

¹⁸¹ Herodotus investigated (name of his book) to find out if this war had really happened. He found that the myths were not verifiable, as these stories did not give precise chronological and geographical information but were content with a vague presentation such as “once upon a time in a distant land, king so-and-so...” whereas a historical event could be precisely located in time and space. He understood that chronology must be the backbone of history and so he investigated the Egyptian priests who had records going back to the first pharaohs. With this information, Herodotus (485-425) was able to estimate that this war had taken place about 800 years before his time. The great Alexandrian scholar Eratosthenes even managed to calculate that the 10 years of the Trojan War lasted from 1194 to 1184 BCE. Herodotus concluded that, thanks to chronology, and despite the mythological elements of Homer's stories, there had been a war between Mycenae and Troy. Thucydides (460-398) proceeded in a different way, he noted that unfortunately there were no Greek texts left mentioning these past events, but the archaeological remains of Troy that still existed in his time (c. 400 BCE) proved that this famous city had suffered destruction several centuries in the distant past, these archaeological remains indirectly proving the existence of this war.

historian must examine partial and sometimes contradictory written testimonies and confront them with the elements uncovered by archaeological excavations. To resolve certain contradictions between all these elements, the (honest) historian proceeds to a chronological reconstruction of the presumed facts to confirm or refute the different testimonies and thus establish the truth and finally validate the historical truth and refute the myths¹⁸².

From the 2000s onwards, archaeologists, notably Finkelstein and Silberman in their book: *The Bible Unearthed: Archaeology's New Vision of Ancient Israel and the Origin of Its Sacred Texts*, began to argue that the divided monarchy, as presented in the Bible, was a founding myth of Israel comparable to the story of the Trojan War in the *Iliad and Odyssey*, the founding text of Greek history. In the following years, these two archaeologists went a step further by asserting in their book (in 2007): *David and Solomon: In Search of the Bible's Sacred Kings and the Roots of the Western Tradition*, that these kings of Israel were largely fictional, even though the name of the 'House of David (BYTDWD)' appears on the stela of Tel Dan and Mesha (dating from about 850 BCE).

The denial of historical facts, despite the presence of clear evidence from historians, for racist or political purposes is called negationism, but this definition could be applied to archaeologists who deny certain historical facts from the Bible, despite the presence of clear evidence from historians, for religious purposes (to show that the Bible is historically false and was not inspired by God). The apparently scientific debate between archaeologists (most of whom are atheists) and maximalist historians (most of whom are believers) is an ideological debate between historians, who believe in their probable certainties, and archaeologists, who believe in their probable hypotheses (by being sure of their doubts (!), they are as fanatical as those who are sure of their truths). For example, David (1057-1017) and Solomon (1017-977) would be legendary kings according to archaeologists, but according to the Bible the king of Tyre, Hiram I (1025-991), collaborated with these two Israelite kings to build the Jerusalem temple from 1013 BCE. If they were logical, archaeologists would have to consider Hiram I as fictional as well as all the kings of Tyre before Hiram II (830-800) because there is no archaeological evidence for the existence of these kings. Secondly, how to explain the extraordinary coincidence in the precise chronology of the kings of Tyre transmitted by the Greek historian Menander of Ephesus (c. 200 BCE), which coincides perfectly with that of the Bible, with the astounding precision of the date of the beginning of the construction of the temple, dated 1013 BCE in both chronologies. The only rational explanation for this extraordinary coincidence is to admit that both accounts drew on official records that were written by contemporaries of the events. Archaeologists often use the scarcity of archaeological evidence to cast doubt on the existence of King Solomon. This seemingly logical argument may impress the ignorant, but it should be noted that the absence of archaeological evidence is the rule for the period after the attack on the lands of the Sea, known as the 'Dark Ages' dated approximately from 1150 to 850 BCE. For example, there are no inscriptions or buildings (absolutely none) mentioning the powerful kings of Elam (Joannès: 2001, 272-276) between the Elamite kings Humban-imena I (1080-1055?) and Humban-tahra I (770-756). The absence of evidence is therefore not evidence of absence.

Another means used by archaeologists to discredit maximalist historians is to minimize the archaeological evidence for the biblical account. For example, the reading of the word 'House of David', in the sense of 'dynasty of David', appearing in line 31 of the Mesha stele has long been disputed, but a high-resolution reading has confirmed the reading BT[D]WD (Langlois: 2019, 23-47). This reading poses a problem for archaeologists, for if David was only the head of a local chieftom, as Finkelstein claims, how can one explain that Mesha (900-870), a powerful Moabite king, was defeated by Jehoram (897-885), the king of Israel, when he joined forces with Jehoshaphat (916-893), the king of Judah (1Ki 3:1-19) of the 'House of David' (BTDWD). At that time the 'house of David' (BTDWD) was therefore more powerful than the kings of Israel. We also note on the Mesha stele several elements identical to the biblical account, such as the "King of Israel" (line 5), the name "YHWH" (line 18) and the phrase "the sheep of the land. And he lived in Horonen, the House of David" (line 31). The Mesha stele thus confirms the biblical account, but of course it turns a defeat into a victory:

As regards Mesha the king of Moab, he became a sheep raiser, and he paid to the king of Israel 100,000 lambs and a 100,000 unshorn male sheep. And it came about that as soon as Ahab died, the king of Moab began to revolt against the king of Israel. Consequently, King Jehoram went out on that day from

¹⁸² This method of historical validation makes it possible, for example, to classify the famous King Arthur among the mythical characters, not among the historical kings, because the oldest writings relating to his existence do not give any place that can be located, nor any name of a character that can be identified, nor any event that can be precisely dated. The Battle of Badon was credited as a major victory for the Britons, stopping the encroachment of the Anglo-Saxon kingdoms for a period. The earliest references to the battle by the British cleric Gildas date to the 6th century. It is chiefly known today for the supposed involvement of King Arthur, a tradition that first clearly appeared in the 9th-century *Historia Brittonum*, possibly written by Nennius. Because of the limited number of sources, there is no certainty about the date, location, or details of the fighting.

Samaria and mustered all Israel (...) When the king of Moab saw that the battle had proved too strong for him, he at once took with him 700 men drawing sword to break through to the king of Edom; but they were not able to. Finally, he took his firstborn son who was going to reign in place of him and offered him up as a burnt sacrifice upon the wall. And there came to be great indignation against Israel, so that they pulled away from against him and returned to their land (2Ki 3:4-27).

Another example that proves that the 'House of David' was known in the 9th century BCE comes from the Tel Dan stele of which Hazael (885-840), the powerful king of Syria, is the author. In this stele he attributes the simultaneous execution of Jehoram (897-885) king of Israel and Ahazyahu (886-885) king of the 'House of David', who were killed by Jehu (885-856) according to the biblical text.

He went with Jehoram the son of Ahab to the war against Hazael the king of Syria at Ramoth-gilead, but the Syrians struck down Jehoram. So Jehoram the king returned to get healed at Jezreel from the wounds that the Syrians got to inflict upon him at Ramah when he fought Hazael the king of Syria. As for Ahazyahu the son of Jehoram the king of Judah ('House of David'), he went down to see Jehoram the son of Ahab in Jezreel, for he was sick (...) Jehoram the king of Israel and Ahazyahu the king of Judah went out, each in his own war chariot. As they continued on out to meet Jehu, they got to find him in the tract of land of Naboth the Jezreelite (...) And Jehu himself filled his hand with a bow and proceeded to shoot Jehoram between the arms, so that the arrow came out at his heart, and he collapsed in his war chariot (2Ki 8:28-9:29).

The Tel Dan stele thus confirms the biblical text on the following points: 1) the name and title of the kings, [Jeho]ram king of Israel and [Ahaz]yahu king of the House of David, 2) simultaneous execution of these two kings in 885 BCE at the beginning of the reign of Hazael. It is remarkable that this powerful Syrian king (he had opposed Shalmaneser III on several occasions) refers to the king of Judah as king of the house of David, which proves that this expression was better known in his time and therefore that David was considered the founder of the dynasty. If David had only been the head of a local chiefdom, how could he have been known to Mesha, the king of Moab and Hazael, the king of Syria.

Whenever there is evidence pointing to a kingdom centred on Jerusalem before the late 9th century BCE, Israel Finkelstein is quick to dismiss that evidence to defend his model of the Northern Kingdom of Israel forming into a state first and Jerusalem continuing to be a small highland village well into the 9th century BCE. However, six clay seals from the 10th century BCE unearthed at Khirbet Summeily (Hardin, Rollston, Blakel: 2014: 299-301), an early Iron Age site in southern Israel, suggest that there was more political complexity in the region at that time than had been previously thought. The very existence of those six bullae (right) strongly supports the idea that Khirbet Summeily was a "governmental installation" across the transitional Iron Age I/IIA (c. 1000 BCE) landscape (Katz, Faust: 2014, 103-112). This has been acknowledged by many recent scholars who tend to dismiss



any emergence of political complexity occurring prior to the arrival of the Assyrians in the region in the later 8th century BCE. If the great empires such as Egypt, Assyria and Babylonia had no conflict with Israel during the reigns of David and Solomon (and therefore no supporting documents existed) this was not the case of many kingdoms around: Phoenicia and Syria in the north, Amon, Moab and Edom in the east, Philistia in the south, to mention only the most important. As these kingdoms have all disappeared after the reign of Nebuchadnezzar II (605-562), their records did not exist for a long time, however two kings (those of Syria and Moab) erected steles attesting that a Judean kingdom was widely known at the 9th century BCE as House-of-David. Another evidence, King Solomon's famous copper mines, long considered legendary, actually existed and were located in the Timna Valley. The most important site is Site 34 ("Slaves' Hill"), one of the largest smelting camps, which has been dated by the CTV project (¹⁴C) to around 1000 BCE¹⁸³, which corresponds exactly to the beginning of Solomon's reign (1017-977)¹⁸⁴.

If nothing remains of the temple built by Solomon (in 1013 BCE), on the other hand, the biblical text gives an information which confirms its date:

In the meantime, Hiram sent to the king 120 talents of gold. Now this is the account of those conscripted for forced labour that King Solomon levied to build the house of Jehovah and his own house and the Mound and the wall of Jerusalem and Hazor and Megiddo and Gezer (1Ki 9:14-15).

Archaeological excavations have revealed that these three cities: Hazor, Megiddo, and Gezer were indeed fortified and, moreover, at the same time (Mazar: 1990, 384). Indeed, the existence without known parallel of a "triple pincers" gate (Fig. 22) at the entrance of each city implies a simultaneous construction. Yadin had logically attributed all these constructions to Solomon, but Finkelstein showed that the dating of

¹⁸³ <https://cordis.europa.eu/project/id/334274/reporting>

¹⁸⁴ According to Thiele's biblical chronology, Solomon's reign (971-931) is moved forward by 46 years.

these buildings was not certain and could also be later, under the reign of Omri. According to the biblical text, Omri only built and fortified the city of Samaria (1Ki 16:23-27).

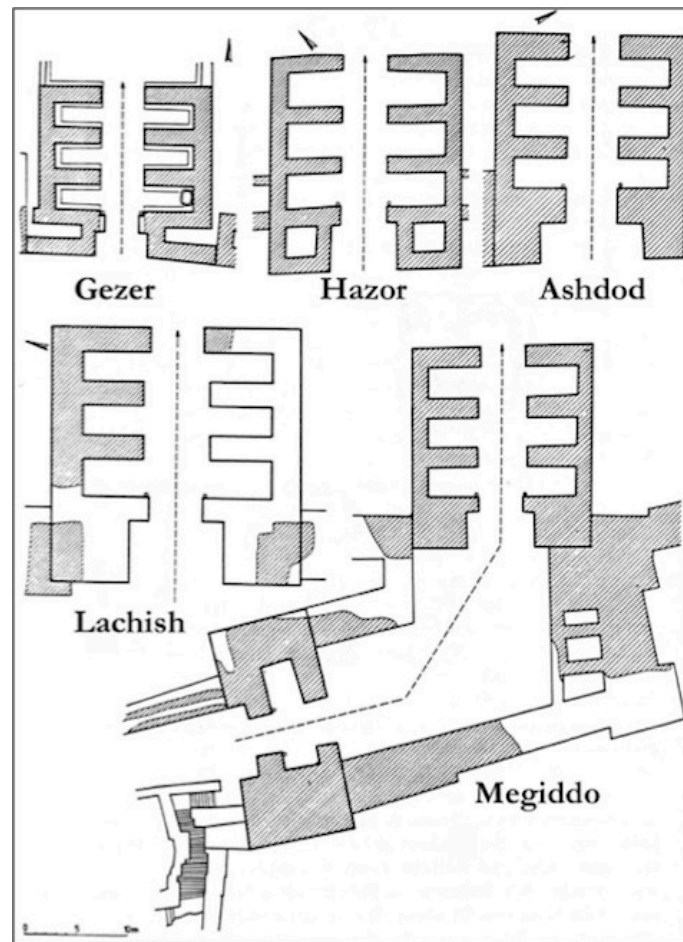


Fig. 22

The dating of these buildings is difficult to establish because these cities were rearranged several times by successive kings. Moreover, the dating of the stones by ^{14}C being impossible, all archaeological speculations are possible. The existence of the six-chamber gates at the entrance of each city is unparalleled outside Israel and requires a simultaneous construction. As these gates were restored by later kings the dating of original buildings is ambiguous, however because Hazor and Megiddo belonged to northern Israel (which became Samaria later) while Gezer, Ashdod and Lachish belonged to southern Israel (which became Judea later) this simultaneity in the building implies that it occurred only when the kingdom of Israel was united under Solomon's reign. Once again Finkelstein's argument is dishonest, for while it is true that it is indeed impossible to date these buildings by ^{14}C , but the very particular (and unique) shape of the gates of Hazor, Megiddo and Gezer, built by Solomon according to the biblical text, constitutes a coincidence that is reasonably difficult to deny. In fact, the main argument of Finkelstein is as follows: *if you trust in the Bible, you are a little bit naïve, not to say gullible.*

Minimalist archaeologists use three main techniques to discredit historians, who are called maximalists by these archaeologists: 1) to assert peremptorily and dogmatically that the Bible contains myths 2) and gross anachronisms, 3) when an archaeological discovery confirms the biblical account, minimalist archaeologists systematically attack both the dating and the translation of the inscription (they propose another possible but implausible translation).

1. According to Israel Finkelstein and Thomas Römer the Torah of Moses was not written in the 15th century BCE, as the text claims, but by unknown authors in the 6th century BCE (Finkelstein, Römer: 2019, 17-30) after the return from the Babylonian exile. To prove this implausible claim (Jewish scholars would have ignored these unknown authors) Finkelstein proposes the following explanation: during their stay in Babylon the Jews discovered the existence of the Tower of Babel (built by Marduk at the beginning of mankind according to Babylonian tradition) and integrated into their writings this Babylonian myth relating the end of a unique language (around 3000 BCE according to the Septuagint). For archaeologists, there was never a confusion of languages, because according to the theory of evolution, languages appeared gradually over several tens of thousands of years. This evolutionary dogma is contradicted by archaeological findings which have shown that the three oldest known written

languages, Sumerian, Egyptian and Proto-Elamite, appeared suddenly and simultaneously around 3000 BCE. Moreover, all three languages were complex from the start.

2. According to Israel Finkelstein, the story of Abraham, set at the beginning of the 2nd millennium BCE according to the Bible, mentions the use of camels (Gn 12:4-9) that would not have been domesticated until the end of the 2nd millennium BCE, a gross anachronism of one millennium. This claim is picked up on by most minimalist archaeologists because of Finkelstein's academic prestige but is never verified. If these archaeologists had verified this claim, which is the source of his media prestige, they would have discovered that Finkelstein was familiar with Professor Richard W Bulliet's book: *The camel and the wheel* (1975), in which he demonstrates that the camel was domesticated towards the end of the 3rd millennium BCE. Bulliet, who was a professor of history at Columbia University, received the Dexter Prize from the Society for the History of Technology (in 1977) for this book. Finkelstein is therefore an impostor who falsifies history (to the great joy of atheists). If these minimalist archaeologists were honest, they would have cited the numerous works that show that the camel was indeed domesticated towards the end of the 3rd millennium BCE¹⁸⁵, as Richard Bulliet had already demonstrated in 1975. Finkelstein refuses to cite these numerous works (Kitchen: 2003, 338-339,640) because they have not been published in peer-reviewed journals. Again, this is a gross lie, as several peer-reviewed journals¹⁸⁶ have validated Richard Bulliet's seminal work.
3. The few inscriptions discovered by archaeologists that confirm the biblical account, especially the period of the first three kings of Israel, are systematically discredited by minimalist archaeologists. For example, according to the Bible, Taita (1045-1000) as king of Hamath, congratulated King David when he defeated Hadadezer, in 1042 BCE, a king of Aram-Zobah (2Sa 8:5-10; 1Ch 18:9-10). Archaeologists had originally claimed that Taita (I) was a fictitious king invented to glorify David's power, but a hieroglyphic Luwian inscription was discovered in 2003 in the temple of Aleppo that belonged to a king of Palastin (a Syrian land including Hamath and Aleppo that was called Peleşet 'Philistine' in Egyptian) named Taita. Concerning the dating of Taita's reign, a temple beam attributed to Taita I was dated to 1045 BCE +/- 45 by ¹⁴C dating (Kohlmeyer: 2009, 190-202). This discovery thus confirmed the name of the king mentioned in the Bible, the name of his capital (Hamath) and the period of his existence in the mid-11th century BCE (Dušek, Mynářová: 2019, 203-204). The dating of this inscription, which indirectly confirmed the reign of David (1057-1017) as well as the strength of his armed forces, was redated based on another inscription in the name of Taita found and dated by epigraphy to the mid-10th century BCE. As the two Taita are separated by a century, archaeologists concluded that the ¹⁴C dating of the first one was wrong, and that the dating of the second Taita should be retained, but it is more logical to conclude that there was a Taita I (c.1045-1000) and a Taita II (c.980-950), grandson of Taita I (Hawkins: 2011, 35-54; Novák: 2019, 92-101).

The above examples show that when archaeological excavations confirm biblical events, minimalist archaeologists reject these interpretations not on scientific grounds but only because these interpretations contradict their prejudices. For example, Professor Mazar's claim that she had discovered the remains of David's palace¹⁸⁷ has provoked much discussion inside and outside academic circles. Some archaeologists rejected the claim that the foundation walls were the remains of David's palace only out of scepticism. These archaeologists claimed that the remains could not be linked to David and his kingdom because they were convinced that this famous figure was a myth. The discovery was also rejected by the Palestinians who claimed that the Jewish presence in Jerusalem was a religious myth created by the Israelis to justify Jewish historical claims to the city. Palestinians also claimed that the Israelis were trying to put the archaeological findings into a biblical context to justify Israel's occupation of an Islamic holy place. For many Palestinians, Mazar's claim was further evidence of Jewish colonialism. The dating of the archaeological finds is therefore contested not on scientific grounds, but because of religious prejudice. Interestingly, Finkelstein, who was

¹⁸⁵ <https://biblearchaeology.org/research/contemporary-issues/3832-the-date-of-camel-domestication-in-the-ancient-near-east/>

¹⁸⁶ Abdullah al-SAUD, *The Domestication of Camels and Inland Trading Routes in Arabia*, *Atlatl. The Journal of Saudi Arabian Archaeology* 14, 1996, 129-136. Edward LIPINSKI, *Itineraria Phoenicia*, *Orientalia Lovaniensia Analecta* 127, 2004, 205-212.

Steven A. ROSEN, Benjamin A. SAIDEL, *The Camel and the Tent: An Exploration of Technological Change among Early Pastoralists*, *Journal of Near Eastern Studies* 69:1, 2010, 74-76.

¹⁸⁷ The archaeological remains of Solomon's temple are as weak as those of the City of David and pose the same dating difficulties. A 3,000-year-old defensive wall, probably built by King Solomon, was uncovered in Jerusalem (2010) by Dr. Eilat Mazar, who directed the excavation for the Hebrew University of Jerusalem. The 10th century BC wall is 70 metres long and about 6 metres high. It stands along what was then the boundary of Jerusalem, between the Temple Mount, which remains the city's main landmark, and the ancient City of David, now a modern Arab neighbourhood called Silwan. The stone barrier is part of a defensive complex comprising a gatehouse, an adjacent building and a watchtower, which has only been partially excavated. Comparison of the latest finds with city walls and gates from the First Temple period, as well as pottery found at the site, allow us to state with great certainty that the wall uncovered is the one built by King Solomon in Jerusalem in the 10th century BCE. The pottery shards found in the backfill of the lower floor of the royal building, near the gatehouse, also attest to the dating of the complex to the 10th century BCE.

not involved in the excavations, does admit the possibility that King Solomon built the wall (who else could have built this imposing wall?), but he cautions against interpreting the findings too biblically: *in David's time, Jerusalem was little more than a "mountain village", David himself was a ragged upstart similar to Pancho Villa, and his legion of followers looked more like 500 people, sticks in hand, shouting, swearing and spitting - nothing like the great chariot armies described in the text. Of course, we are not looking at David's palace!* Finkelstein howls with laughter at the mere mention of Mazar's discovery: *I mean, come on. I respect her efforts. I like her - a very nice lady. But this interpretation is - how shall I put it? -... a bit naive.*

Contrary to their claims, archaeologists do not have the means to write history, but only to confirm it, because history is written based on texts and the establishment of a reliable chronology. Archaeology can only be an auxiliary science of history, which is no longer accepted by archaeologists since the 1980s. To dispute the existence of kings David and Solomon is to deny historical facts. The only thing a historian can do about the kings of the past is to check whether the chronological information given in the king lists is accurate (which archaeologists cannot do with ¹⁴C dating). For example, the historian can verify that the Assyrian king Aššur-dân III reigned 18 years from 773 to 755 BCE, thanks to the total eclipse of the sun that took place during the 10th year (in 763 BCE) and that the Assyrian king Aššur-dân I reigned 46 years from 1179 to 1133 BCE. Concerning the biographies of these kings, the historian is obliged to establish them by using the Chronicles of these kings, but he can detect errors, or lies, by cross-checking certain events with other chronicles, especially when there are synchronisms. For example, the Babylonian king Ninurta-nâdin-šumi (1133-1127) began to reign in the same year (in 1133 BCE) as the Assyrian king Aššur-rêš-iši I (1133-1115). If this method of verification is applied to the chronology of the king lists in the Bible, it can be seen that all synchronisms with other chronologies are met.

- Taita I (1045-1000) as king of Hamath, known in the Bible as To'i/To'u, congratulated David (1057-1017) when he defeated Hadadezer, in **1042 BCE**, a king of Aram-Zobah (2Sa 8:5-10; 1Ch 18:9-10).
- Year 40 of David (2Sa 5:11; 1Ch 14:1), in **1017 BCE**, and Year 11 of Solomon (1017-977), in **1006 BCE** (1Ki 6:37-38), must be included in the reign of Hiram I (1025-991).
- The temple was built in Year 12 of Hiram I or Year 4 of Solomon, exactly in **1013 BCE**
- The city of Gezer was burned by Siamun (1003-984), 20 years after its construction (1Ki 9:10-17), which had begun in early Year 4 (1Ki 6:37-7:1), or in Year 24 of Solomon, in **993 BCE**.
- Flight of Jeroboam I to Shoshenq I (980-959) in the last years of Solomon's reign (1Ki 11:40-42), or during Years 39 and 40 (**978-977 BCE**).
- Shoshenq I attacked Jerusalem in Year 5 of Rehoboam (977-960), in **972 BCE**, he is called Shishaq in the Hebrew Bible (1Ki 14:25,26; 2Ch 12:2-9) and Sousakim in the Septuagint.

These synchronism dates confirm the 40-year reigns of David (1057-1017) and Solomon (1017-977). Despite this remarkable chronological agreement, two elements are suspect: the fact that a king who reigned for 40 years has a son who succeeds him with a 40-year reign, which never happened in Egyptian, Assyrian and Babylonian chronologies, where a long reign is usually followed by a reign of half that length, and a succession of three 40-year reigns with Saul is an extraordinary coincidence that is difficult to believe, especially since this succession of three 40-year periods is found in the life of Moses, which implies symbolic periods. Solomon's unusual second reign of 40 years is explained by the fact that he was born when David was 52 years old, so he was a son of old age. On the other hand, the succession of three 40-year reigns is explained by the chronological context of certain messianic prophecies. These 40-year periods, although literal, had a providential duration. In contrast to the usual king lists, the Bible provides a lot of chronological information about the lives of the kings, especially the kings of Judah, for example it gives (from Rehoboam onwards) at what age they ascended the throne (X1 age of accession to the throne) and how long they reigned (X3 reign length) which makes it possible to determine at what age they died (X4 = X1 + X3) and at what age they gave birth to their successor (X2 = date of birth of the king — date of birth of his successor). The chronological data of King Saul (1Sa 13:1) has been lost (or eliminated)¹⁸⁸ but can be recovered using the chronological data of his sons, Jonathan and Ish-bosheth¹⁸⁹ (Jones: 2007, 97).

¹⁸⁸ After meeting a medium at Endor, King Saul was rejected by God. After briefly and illegally seizing the throne, his son Ish-baal's name was changed to Ish-boshet "man of shame".

¹⁸⁹ The giving of Ish-bosheth's age as being 40 (2Sa 2:10) when his father died is a chronological key. Since he is not listed as one of Saul's sons when Saul began to reign (1Sa 14:49) but is included in the complete listings (1Ch 8:33; 9:39), he must be the youngest and been born after Saul became king, thereby indicating at least a 40-year reign for Saul. As David was 30 and Ish-bosheth 40 (2Sa 2:10) when Saul was slain, Ish-bosheth was 10 years older than David. The original heir to Saul's throne (1Sa 20:30-31), Jonathan was clearly eldest of the four brothers and thus at least 3 years older than Ish-bosheth. Upon the death of Saul (1Sa 31), 30-year-old David became King over Judah and ruled from the capital at Hebron for 7 years and 6 months (2Sa 2:1-11; 5:3-5). This allows us to fix the year of David's birth as being 10 years into Saul's reign and about 8 years after Jonathan's sortie against the Philistines. Therefore, Jonathan's age must exceed that of David's by at least 28 years. It is therefore possible to calculate the lifetimes of Jonathan (1115-1057) and Ish-boshet (1097-1050).

TABLE 48

	King of Judah	X1	X2	X3	reign	X4 (age)	lifespan	reference
1	Saul	34	16	40	1097-1057	74	1131-1057	Ac 13:21
2	David	30	52	40	1057-1017	70	1087-1017	2Sa 5:4
3	Salomon	18	17	40	1017-977	58	1035-977	1Ki 11:42
4	Rehoboam	41	?	17	977-960	58	1018-960	1Ki 14:21
10	Joash	7	23	40	879-839	47	886-839	2Ch 24:1
11	Amasiah	24	37	29	839-810	54	863-809	2Ch 25:1
12	Uzziah	16	44	52	810-758	68	826-758	2Ch 26:1
13	Jotham	25	21	16	758-742	41	782-741	2Ch 27:1
14	Ahaz	20	11	16	742-726	36	762-726	2Ch 28:1
15	Hezekiah	25	43	29	726-697	54	751-697	2Ch 29:1
16	Manasseh	12	45	55	697-642	67	709-642	2Ch 33:1
17	Amon	22	-	2	642-640	24	664-640	2Ki 21:19
	average	23	32	34		57		

There are no chronological inconsistencies or anomalies in this partial list of the kings of Judah. If we compare it to the list of kings of Israel and the list of kings of Egypt, we see that the average length of the reigns (34 years) is about 10 years longer than for the other two lists. This discrepancy is due to the following factor, the kingdom of Israel was very unstable (ten kings were assassinated while there were only two for the kingdom of Judah), the average duration of non-assassinated kings being 18 years. A second reason comes from the age of paternity, because the kings of Judah begat their successors at the age of 32 whereas the kings of Israel begat their successors at the beginning of their kingship at around 20 years old, which shortened their life and their reign by a dozen years. The kings of Egypt, who had an average reign of 22 years, also had to sire their successors at the beginning of their kingship at around 20 years. The high average length of reign for the kings of Judah (34 years) is therefore mainly explained by the high age of fatherhood (32 years), almost 10 years after (not before) the beginning of the reign (23 years). The kingdom of Judah in the south, although less powerful than the kingdom of Israel in the north, had a strategic advantage because of its geographical position, for the many Assyrian attacks were mainly aimed at the kingdom of Israel and the one time they targeted Jerusalem with Sennacherib, God intervened to protect the small kingdom of Judah (in 712 BCE).

The average lifespan of 57 years for the kings of Judah is consistent with the little information we have about this period. For example, historian Herodotus wrote: *Solon (638-558) who was an Athenian statesman (aged 80!) said: Croesus, you ask me about human affairs, and I know that the divine is entirely grudging and troublesome to us. In a long span of time it is possible to see many things that you do not want to, and to suffer them, too. I set the limit of a man's life at 70 years.* Herodotus also wrote: *When they came to Tartessus [South of Spain] they made friends with the king of the Tartessians, whose name was Arganthonius (690-570); he ruled Tartessus for 80 years and lived a 120* (The Histories I:32,163). Consequently, the average life expectancy rarely exceeds 70 years but can exceptionally reach 120 years. This conclusion is in line with what Moses wrote: *The span of our life is 70 years — 80 for those who are strong — but their whole extent is anxiety and trouble, they are over in a moment and we are gone* (Ps 90:10). However, these remarks only concern normal longevity, but God can modify it, as illustrated by the case of Moses himself. He could have lived longer¹⁹⁰, but because of his disobedience at Meribah, God restricted this extra time to 40 years (Dt 32:49-51). This 40-year period represents a testing period (Dt 29:5). It is noticeable that while Moses' longevity was increased, the life expectancy of his contemporaries was restricted to 60 years they all died after staying 40 years in the wilderness (Nb 32:11-13). All the generation of Moses, except Joshua and Caleb, was restricted strictly to 60 years. These examples show that God can sometimes increase the life expectancy of one of his servants, for example he added 15 years to Hezekiah (Is 38:5) and 140 years to Job (Job 42:16), but he can also decrease it as in the case of Solomon. At the beginning of his reign, God promised Solomon that he would have a reign of peace (1Ch 22:9) and long life if he obeyed (1Ki 3:14). He could therefore have had an exceptional reign of peace of 80 years, like Ehud (Jg 3:30), but because he condoned the idolatry of his many wives, God shortened his life to 58 years, whereas his father David, who had lived a hard life as a warrior, had lived 70 years. Compared to the average lifespan of 57 years for the kings of Judah, David lived 13 years longer, while Solomon, who was promised a long life by God, did not get it. The 40-year periods are therefore not a coincidence because they have been fixed by God. It is interesting to note a commonality between the 40-year reign of Moses over Lower Egypt, then the 40-year

¹⁹⁰ The exceptional longevity of Moses (120 years), Aaron (123 years) and Miriam (130 years) was providential because all three died in the same year on the date set by God. Similarly, the high priest Jehoiada (986-856) who had a favourable effect on King Joash (879-839) enjoyed an exceptional longevity of 130 years (2Ch 24:15-16).

reign in Sinai, and the 40-year reigns of Saul, David and Solomon, for each time the one who ruled had been chosen by God and should have had a long reign which was restricted to only 40 years because of major disobedience¹⁹¹. The literal durations of 40 years were therefore providential. It may be shocking, especially to an atheist, that God can sometimes intervene in the lives of some humans, but these providential interventions are consistent with the general theme of the Bible of a God who has a purpose to fulfil¹⁹², particularly the numerous chronological prophecies in the book of Daniel.

The Bible's perfect chronology for the Mesopotamian reigns of the 1st millennium BCE (Masoretic text), since it contains no date errors, is the guarantee of its historicity. By comparison, the Seder Olam Rabba was written, around 160 CE, by Yose ben Halafta, to provide a reliable chronology of events, Greek and Roman, that occurred recently. However, more than half of the names are distorted and almost all the chronological records and dates are wrong, which is paradoxical for a book on chronology. Even the most recent data (30 years earlier) is inaccurate because Koziba's real name was Kosba and his war actually lasted 3.5 years (from December 131 CE to April 135 CE) instead of 2.5 years (Guggenheimer, 2005, 260-263). These numerous errors in dates and names show that oral transmission is not reliable. On the contrary, an accurate recording of names and dates proves that the historical and chronological data come from eyewitnesses who were written down during their lifetime. The modern attitude of scepticism about the Aramean oppression of Israel in the reign of Jehu is not warranted by the evidence. More than one hundred years of research of extrabiblical sources provide sufficient corroboration of the accuracy of the biblical text, though the fragmentary nature of these sources provides significant latitude in interpretation. As a result, the biblical texts were written by contemporaries who had high ethical standards and a strong commitment to truth (Bolen: 2013, 9-39)¹⁹³. Nelson Glueck¹⁹⁴ wrote in *Rivers in the Desert* « As a matter of fact, however, it may be categorically stated that no archaeological discovery has ever controverted a Biblical reference » (Glueck: 1959, 31). In other words, archaeology didn't have to prove the Bible's account of history, but it did prove it, or at least never disproved it —and he himself, he wrote with pride, had discovered Solomon's copper mines of Timna (dated c. 1000 BCE by carbon-14)¹⁹⁵. Whenever there is evidence pointing to a kingdom centred on Jerusalem before the late 9th century BCE, Israel Finkelstein is quick to dismiss that evidence to defend his hypothetical model of the Northern Kingdom of Israel forming into a state first and Jerusalem continuing to be a small highland village well into the 9th century BCE. However, six clay seals from the 10th century BCE unearthed at Khirbet Summeily (Hardin, Rollston, Blakel: 2014: 299-301), an early Iron Age site in southern Israel, suggest that there was more political complexity in the region at that time than had been previously thought. The very existence of those six bullae strongly supports the idea that Khirbet Summeily was a "governmental installation" across the transitional Iron Age I/IIA (c. 1000 BCE) landscape (Katz, Faust: 2014, 103-112). The city of Gezer was burnt down by Pharaoh Siamun (Kitchen: 2003, 108-110) 20 years after its construction (1Ki 9:10-17), which had begun at the beginning of year 4 (1Ki 6:37-7:1), i.e. in Solomon's Year 24, 993 BCE, which corresponds to Siamun's Year 10 (1003-984).

If the Bible had been written only in the 6th century BCE, as most current scholars ("biblical minimalism") would have us believe, it would have benefited from a "miraculous" oral transmission of hundreds of dates and proper names over half a millennium¹⁹⁶. This academic dogma is therefore an intellectual swindle used to discredit the historicity of the biblical text.

¹⁹¹ Both Uzziah and Manasseh were seriously disobedient while ruling for over 50 years, but their reigns were not linked to a divine covenant.

¹⁹² The 40-year prophetic period (Ezk 4:6) mentioned in 593 BCE (Ezk 1:2) extends from the year 13 of Josiah (Jr 25:3,11), in 627 BCE, to the destruction of the Temple in 587 BCE.

¹⁹³ Todd Bolen, PhD, Professor of Biblical Studies at The Master's University.

¹⁹⁴ Nelson Glueck was an American rabbi, academic and archaeologist. He served as president of Hebrew Union College from 1947 until his death in 1971, and his pioneering work in biblical archaeology resulted in the discovery of 1,500 ancient sites.

¹⁹⁵ In February 2013, Dr. Ben-Yosef and a team of researchers and students excavated a previously untouched site in the valley, known as the Slaves' Hill. The area is a massive smelting camp containing the remains of hundreds of furnaces and layers of copper slag, the waste created during the smelting process. The world-renowned Oxford Radiocarbon Accelerator Unit at the University of Oxford in England dated 11 of the items to the 10th century BCE. The findings from the Slaves' Hill confirm those of a 2009 dig Ben-Yosef helped to conduct at "Site 30," another of the largest ancient smelting camps in Timna Valley. Then a graduate student of Prof. Thomas E. Levy at the University of California, San Diego, he helped demonstrate that the copper mines in the valley dated from the 11th to 9th centuries BCE —the era of Kings David and Solomon (1017-977)— and were probably Edomite in origin. The new chronology enabled studying social and technological processes in high time resolution, based on the materials surveyed and excavated in various copper mining and smelting sites within the Timna Valley. The most important site, which was excavated in all of the field seasons and yielded the most substantial assemblages of material culture, is Site 34 ("Slaves' Hill"). This is one of the largest smelting camps in the Timna Valley; it was dated as part of the CTV Project to the late 11th – 10th centuries BCE (c. 1000 BCE), a key period in the history of the region as this is the time ascribed by the accounts in the Old Testament to the United Monarchy in Jerusalem (<https://cordis.europa.eu/project/id/334274/reporting>).

¹⁹⁶ For example, Mesha had been king of Moab from 900 to 870 BCE (2Ki 3:1-4), similarly, Baalis (594-582) had been king of the "sons of Amon" (Jr 40:14), this surprising title is absolutely correct (Deutsch: 1999, 46-49).

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