

RADIOCARBON, WINE JARS AND NEW KINGDOM CHRONOLOGY*

By David Aston

Despite the impassioned plea of Sturt Manning that ‘Radiocarbon dating should become the friend of Egyptologists’,¹ Radiocarbon and Egyptology do not seem to make the best bedfellows, particularly in regard to the offset of about 100–120 years between the suggested radiocarbon dates and the archaeological dates proposed by the excavators of the Second Intermediate Period levels at Tell el-Daba.² In addition, radiocarbon dating of olive branches, supposedly killed by the Santorini eruption, also leads to a considerably earlier date than the traditionally perceived archaeological one.³ During the succeeding New Kingdom, however,

there is much more of a consensus between the archaeological and the radiocarbon dates, and, indeed in recent issues of this journal, a number of articles have shown that the relationship between the radiocarbon dates and the traditionally assigned archaeological dates find a close correlation.⁴ It might therefore be worth considering whether the recently posited radiocarbon dates for the New Kingdom⁵ can be ‘proved’ or rather ‘supported’ by new ‘archaeological’ data which comes from a combined study of New Kingdom wine docketts found on Egyptian amphorae,⁶ the presumed links between the reigns of Horemheb and

* This is a combination of two papers, ‘In Vino Veritas, A Docketed History of the New Kingdom from Year 1 of Tuthmosis III to Year 1 of Ramesses II’ and ‘Radiocarbon and the Reign of Tuthmosis III’ originally written in 2009 and 2011 respectively. The former has been widely distributed to interested colleagues, and the chance is here taken to include some of the main conclusions of that paper. I would also like to express my gratitude to Rolf Kraus and Gernot Wilhelm for their comments on a preliminary draft of In Vino Veritas and to Malcolm Wiener for comments on this combined paper. I am also grateful to F. Höflmayer for additional bibliography on radiocarbon dating.

¹ S. MANNING, Radiocarbon Dating and Egyptian Chronology in, E. Hornung, R. Krauss and D. Warburton eds., *Ancient Egyptian Chronology*, 2006, 354.

² Cf. M. BIETAK and F. HÖFLMAYER, High and Low Chronology, in M. BIETAK and E. CZERNY eds., *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC III*, 2007, 13–23; W. KUTSCHERA et al, The Chronology of Tell el-Daba: A Crucial Meeting Point of ¹⁴C Dating, Archaeology, and Egyptology in the 2nd Millennium BC., *Radiocarbon* 54, 2012, 407–422. On this point, cf. also F. HÖFLMAYER, Aegean-Egyptian Synchronisms and Radiocarbon Chronology, in D. WARBURTON, ed., *Time’s Up, Dating the Minoan Eruption of Santorini*, 2009, 187–195. Note that the length of the Tell el-Daba offset is dependent on the start date of the beginning of the New Kingdom. The low chronology followed in both Bietak’s and Höflmayer’s article, and that of Kutschera et al, with Tuthmosis III coming to the throne in 1479 BC, and Tuthmosis II having a short reign of 3 years, places the beginning of the New Kingdom at around 1540 BC.

³ Latest discussion, F. HÖFLMAYER, The Date of the Minoan Santorini Eruption: Quantifying the “Offset”, *Radiocarbon* 54, 2012, 3–4, 435–448. Cf. also S. MANNING and B. KROMER, Considerations of the Scale of Radiocarbon Offsets in the East Mediterranean, and considering a case for the latest (most recent) likely date for the Santorini Eruption, *Radiocarbon* 54, 3–4, 2012, 449–474.

⁴ A. HASSLER and F. HÖFLMAYER, Mostagedda 1874 and Gurob 23: Notes on some recent radiocarbon dates and their Importance for Egyptian Archaeology and Chronology, *ÄuL* 18, 2008, 145–155; F. Höflmayer, Das Ende von SM IB: naturwissenschaftliche und archäologische Datierung, *ÄuL* 18, 2008, 157–171; H. FRANZMEIER, F. HÖFLMAYER, W. KUTSCHERA, E.M. WILD, Radiocarbon Evidence for New Kingdom Tombs: Sedment 254 and 246, *ÄuL* 21, 2011, 15–29. Cf. also S. MANNING and B. KROMER, Radiocarbon Dating Archaeological Samples in the Eastern Mediterranean, 1730 to 1480 BC: Further Exploring the Atmospheric Radiocarbon Calibration Record and the Archaeological Implications, *Archaeometry Online*, October, 2010, which points to the same conclusion.

⁵ C. BRONK RAMSEY et al, Radiocarbon-Based Chronology for Dynastic Egypt, *Science* 328 (2010), 1554–1557.

⁶ J. VAN DIJK, New Evidence on the Length of the Reign of Horemheb, *JARCE* 44, 2008, 193–200; D. ASTON, In Vino Veritas: A Docketed History of the New Kingdom between Year 1 of Tuthmosis III and Year 1 of Ramesses II, in press.

Mursilis II,⁷ and the acceptable lunar dates recorded during the reigns of Tuthmosis III, Ramesses II, Tauseret and Ramesses III.⁸ However since a number of uncertainties still exist concerning the end of the Nineteenth Dynasty, this paper will concentrate on the period covered by the reigns of Tuthmosis III to Ramesses II, a period which covers approximately two hundred years.

A) Radiocarbon Dates, 2010

King	68%	95%
Tuthmosis III	between 1494 and 1483 BC	between 1498 and 1474 BC
Amenophis II	between 1441 and 1431 BC	between 1445 and 1423 BC
Amenophis III	between 1404 and 1393 BC	between 1408 and 1386 BC
Akhenaten	between 1365 and 1355 BC	between 1370 and 1348 BC
Tutankhamun	between 1349 and 1338 BC	between 1353 and 1331 BC
Ramesses II	between 1292 and 1281 BC	between 1297 and 1273 BC

The number of C14 samples for the above kings vary enormously, however, with twenty-four samples being dated to the reign of Tuthmosis III, twenty-five to Hatshepsut, (which, for the purposes of this paper will be considered together), one for Amenophis II, two for Amenophis III, seventeen for Akhenaten, seven for Tutankhamun, and, perhaps remarkably, only two for Ramesses II. The C14 results were then fed into a model in which the presumed order of the kings, and their supposed length of reign, was added although no real dates were actually included. This database was subsequently enlarged by the addition of samples from Deir el-Medineh, which, comprised, on the one hand, floral bouquets from the tomb of Sennefer, which were thought to date from the beginning of the reign of Tutankhamun to the beginning of the reign of Horemheb, and, on the

The New Kingdom radiocarbon chronology of Bronk Ramsey et al, was originally based on 80 samples which extend over the reigns of Hatshepsut/Tuthmosis III to Ramesses IX, results in the following accession dates at a 68% (1 sigma) and a 95% (2 sigma) probability (only the reigns from Tuthmosis III to Ramesses II, for which carbon 14 dates exist are listed):

other, a number of baskets reputedly dating from the beginning of the Eighteenth Dynasty up to, and including the reign of Tuthmosis III. These results were then combined with an Elephantine Sothic date of 1443.5 ± 4.5 BC which is mentioned on a block, decorated during the reign of Tuthmosis III, and, in their opinion not before Year 33.⁹ This was combined with a Bayesian analysis of the Tuthmosis III lunar dates which resulted in a model with Year 1 of Tutankhamun falling in 1356.5 ± 4.5 years BC and Year 1 of Horemheb in 1312.5 ± 4.5 years. The accession date of Tuthmosis III was then calculated by adding the conventional reign lengths of the earlier Eighteenth Dynasty kings, from Tuthmosis III to Ankhethkeperure to the presumed start date of Tutankhamun, with the following result:¹⁰

⁷ G. WILHELM, Mursilis II. Konflikt mit Ägypten und Haremhab's Thronbesteigung, *WdO* 39, 2009, 108–116. This follows on the work of J.L. Miller, Amarna Age Chronology and the Identity of Nibhururiya in the Light of a Newly Reconstructed Hittite Text, *AoF* 34, 2007, 252–293; IDEM, The rebellion of Hatti's Syrian vassals and Egypt's meddling in Amurru, *SMEA* 50, 2008, 533–554, but see also Z. Simon, Kann Arma mit Haremhab gleichgesetzt werden?, *AoF* 36, 2009, 340–348 in which he argues that the basic identification of Arma with Horemheb is linguistically impossible. For a summary see Th. Schneider, Contributions to the Chronology of the New Kingdom and Third Intermediate Period, *AuL* 20, 2010, 397–400.

⁸ R. KRAUSS, An Egyptian Chronology for Dynasties XIII to XXV, in M. BIETAK and E. CZERNY eds. *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC. III*, 180–181.

⁹ A. QUILS et al, Bayesian modelling of an absolute chronology for Egypt's 18th Dynasty by astrophysical and radiocarbon methods, *JAS* 40, 2013, 425–427. However a note of caution has to be sounded here since both the attribution of the decoration to Tuthmosis III, and a post Year 32 date is dependent on unpublished studies. I thank F. Höflmayer for bringing this paper to my attention.

¹⁰ A. QUILS et al, Bayesian modelling of an absolute chronology for Egypt's 18th Dynasty by astrophysical and radiocarbon methods, *JAS* 40, 2013, 430, Table 3.

B) Radiocarbon Dates, 2013

King	68%	95%
Ahmose	between 1557 and 1547 BC	between 1564 and 1528 BC
Amenophis I	between 1533 and 1514 BC	between 1540 and 1505 BC
Tuthmosis I	between 1513 and 1493 BC	between 1520 and 1485 BC
Tuthmosis II	between 1504 and 1485 BC	between 1510 and 1477 BC
Tuthmosis III	between 1496 and 1477 BC	between 1502 and 1470 BC
Amenophis II	between 1451 and 1434 BC	between 1456 and 1419 BC
Tuthmosis IV	between 1427 and 1410 BC	between 1432 and 1395 BC
Amenophis III	between 1418 and 1401 BC	between 1423 and 1386 BC
Akhenaten	between 1380 and 1363 BC	between 1385 and 1348 BC
Smenkhare/	between 1363 and 1346 BC	between 1368 and 1331 BC
Ankhetkeperure	between 1363 and 1346 BC	between 1368 and 1331 BC
Tutankhamun	between 1360 and 1342 BC	between 1365 and 1328 BC
Ay	between 1356 and 1332 BC	between 1361 and 1316 BC
Horemheb	between 1352 and 1329 BC	between 1357 and 1312 BC
Ramesses I	between 1334 and 1309 BC	between 1340 and 1292 BC

The 2010 result has been summarily dismissed by Huber with the comment that ‘one should not put too much trust in the radiocarbon dates – Ramsey *et al* achieve a deceptively high accuracy by pooling data from different reigns [and] their radiocarbon dates are insecure since they combined the data with the help of unreliable lengths of reign.’¹¹ However one wonders whether Huber comes to this conclusion simply because they do not ‘fit’ with his own astronomically based chronology which results in his preference for Year 1 of Tuthmosis III in 1504 BC, and Year 1 of Ramesses II in 1315 BC.¹² The 2013 model allows for a short or long reign for Tuthmosis I, Tuthmosis II and Horemheb, but makes no attempt to link Egyptian chronology with the neighbouring Near East.

Conventional Egyptian chronology, at least before 2008, was based, to a large extent, on lunar correlations, most notably the Year 52 Ramesses II Piramesse lunar date and the Year 23 Tuthmosis III Megiddo lunar date, which indicate that a minimum 197 years elapse between Year 1 of Tuthmosis III and Year 1 of Ramesses II, and, since “there are

some indications that this minimum is smaller than the historically correct interval”, this is usually rounded up to approximately 200 years.¹³ For various reasons, this crystallised into a high chronology with the limits being 1504 and 1304 BC, a middle chronology with 1490 and 1290 BC as the borders and a low chronology of 1479 and 1279 BC. During the reign of Tuthmosis III there are references to two lunar dates which record that the Battle of Megiddo took place exactly (*r mtj*) on a first lunar day in Year 23 I Shemu 21, whilst in Year 24 III Peret 1 preparations were made for the foundation ceremonies of the Akh Menu in civil day 180 anticipating that the first day of the next lunar month would occur on civil day 181.¹⁴ Between 1504 and 1454 BC, the only perfect match for both these dates would indicate that Year 1 of Tuthmosis III fell in the year 1479 BC, hence the generally accepted position. Moreover the same data tends to rule out 1490 BC, since the error in the two lunar dates would amount to more than one day, which is astronomically unacceptable.¹⁵ At the same time 1454, 1468 and 1504 are also acceptable since again an error of only one day in one of the two

¹¹ P.J. HUBER, The Astronomical Basis of Egyptian Chronology of the Second Millennium BC, *JEH* 4, 2011, 186.

¹² It will become clear that I place no faith in Huber’s chronology since, once he leaves the field of astronomy, he makes too many assumptions, and happily admits that his Egyptian chronology does not match the Assyrian and Kassite synchronisms.

¹³ R. KRAUSS, *Sothis und Monddaten*, Hildesheim, 1985, 123; IDEM, An Egyptian Chronology for Dynasties XIII to XXV,

in M. BIETAK and E. CZERNY eds. *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC*, III, 2007, 181–182.

¹⁴ Cf. R. KRAUSS, *Sothis und Monddaten*, 121–23; IDEM, An Egyptian Chronology for Dynasties XIII to XXV, in M. BIETAK and E. CZERNY eds. *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC*, III, 181.

¹⁵ *IBID.*, 182.

lunar dates occurs, whilst 1493 is also a possibility but in this case there would be an error of one day in each of the two lunar dates, and as Krauss makes clear, “1468 is more probable than 1454 and 1504, while 1493 is less probable than 1468, 1454 and 1504 BC.”¹⁶ All other years between 1504 and 1454 are excluded since the astronomical error is too great to be acceptable (at least to modern astronomers). Since 1479 BC had to be equivalent to Year 1 of Tuthmosis III, this resulted in the conventional ‘low chronology’ (after KRAUSS, 2007¹⁷):

KRAUSS 2007

Tuthmosis III	1479–1425 BC
Amenophis II	1425–1400 BC
Tuthmosis IV	1400–1390 BC
Amenophis III	1390–1353 BC
Akhenaten	1353–1336 BC
Smenkhare	1336–1333 BC
Ankhetkeperure	1333–1332 BC
Tutankhamun	1332–1323 BC
Ay	1323–1320 BC
Horemheb	1319–1292 BC
Ramesses I	1292–1291 BC
Sety I	1290–1279 BC
Ramesses II	1279–1213 BC

This rather neat picture was, however, exploded by the recent re-clearance of the tombs of Horemheb and Sety I in the Valley of the Kings, since in Horemheb’s tomb no wine dockets later than Year 14 were found, whilst no wine dockets later than Year 8 were associated with material from the tomb of Sety I. Wine dockets, applied to the shoulder of amphorae at the time they were filled, unfortunately do not name the pharaoh; inscriptions, at their most complete, being generally confined to a year date, the type of product, its quantity and quality, the source of production, and in the case of wine, the vintner responsible.¹⁸ Their attribution to a given pharaoh is then based on external factors such as find location and the names of the various vine-

yards, since obviously wine from the Estate of Tutankhamun l.p.h., must have been produced during the reign of that king, and similar dockets which omit the l.p.h., can be no earlier than the reign of that king, but could be later if the vineyard concerned continued to produce wine, without changing its name to that of the new pharaoh. There is, however, no proof of this, despite claims that wine was made in the Estate of Tuthmosis IV long after the death of the king, but as I will show below, this need not necessarily be true. The earliest ‘datable’ New Kingdom wine docket is generally assumed to date to Year 26 of Amenophis II, since a single amphora bears the name of Amenophis II on one side, and a Year 26 docket on the other, and, although, there is no direct proof (since the vessel could have been reused), it is usually assumed that the year 26 does indeed refer to Amenophis II.

One of the beauties of wine is that, barring unforeseen destruction of the grapes, it is produced each year, thus in theory, there should, in a perfect world, exist dockets for every year of the New Kingdom, or at least from the reign of Amenophis II, thus making it very easy for the compiler of historical records to produce a ‘fixed’ chronology.¹⁹ Of course, this is not the case, since owing to the vagaries of archaeological preservation we do not have an unbroken record, however, a fairly full sequence is known from the last decade of Amenophis III to the end of the reign of Merenptah, after which very few datable wine dockets are known. Nevertheless the extant wine dockets have been utilised by various scholars, in conjunction with other evidence, – the more so as Manetho is, for the Eighteenth and early Nineteenth Dynasties very corrupt, – as a basis for determining the reign lengths of certain kings, although, with the exception of Helck,²⁰ this was, at least before 2008, often done in a somewhat inconsistent manner, thus Akhenaten is attributed a reign of seventeen years based on dockets of that year found at Amarna, even though his (otherwise) highest attested Year date is 14^{20a}; Tutankhamun is

¹⁶ *IBID*, 182.

¹⁷ *IBID*, 173–190. This is the same as that given in E. HORNING, R. KRAUSS and D. WARBURTON eds., *Ancient Egyptian Chronology*, 2006, 492–493, the New Kingdom chapter, pages 197–217, being written by E. HORNING.

¹⁸ B.J.J. HARING, *Divine Households*, 346; P. TALLET, Les ‘étiquettes’ de jarres à vin du Nouvel Empire, 1125.

¹⁹ In theory grain and flax harvesting dates would serve the same purpose, but such references are very rare. Cf. R. KRAUSS, Dates Relating to Seasonal Phenomena and Miscellaneous Astronomical Dates, in, E. HORNING, R. KRAUSS

and D. WARBURTON, *Ancient Egyptian Chronology*, 2006, 368–379.

²⁰ W. HELCK, Erneut das angebliche Sothis-Datum des Pap. Ebers und die Chronologie der 18. Dynastie, *SÄK*, 15, 1988, 149–164.

^{20a} Since writing this article, an inscription of Akhenaten’s Year 16 has been recognized, see A. van der Perre, The Year 16 Graffito of Akhenaten in Dayr Abu Hennis, *JEGH* 6, 2013, in press. I am grateful to Athena van der Perre for bringing this to my attention.

usually allowed ten or eleven years on the basis of a Year 10 docket found on a wine jar buried with him in KV 62; whilst Horemheb, pre 2008 was often accredited with twenty-eight years – despite the fact that the latest published docket refers only to a Year 14. Thus for Akhenaten the wine dockets are considered of primary importance, but for Horemheb the lack of wine dockets from Years 15 to 27 were never questioned. Logically, if all wine dockets were extant, the highest regnal year date should be equal to, or no later than one year after, the latest attested docket, if the king died in the following year before that year's harvest. Based on the finds from the intact tomb of Tutankhamun, it is probably also safe to assume that at his burial the king was buried with the newest wine available along, perhaps, with some particularly good wines from earlier years. Thus, allowing for the fact that we have to contend with both ancient plundering and the earlier excavations of our colleagues, any discrepancies in the wine docket dates and highest attributable regnal year dates would need to be explained. Since it is known that Tuthmosis III died on 30 III Peret in his Year 54,²¹ the lack of wine dockets known for Tuthmosis III's reign is immaterial. For Amenophis II, monumental evidence gives clear proof of year dates for Years 3, 4, 5, 6, 7, 9 and 23, hence it is not too far-fetched to assume that the year 26 amphora mentioned above does indeed refer to the reign of Amenophis II. The only indisputable attested regnal dates for

Tuthmosis IV comprise Years 1, 4, 5, 6, 7, and 8.²² Unfortunately wine jar dockets found in Tuthmosis IV's Mansion of Millions of Years bear no Year dates,²³ and none are mentioned in the final report of the excavation of his tomb,²⁴ but a docket found in Gurob bears a Year 6 date.²⁵ Another, found at Deir el-Medineh reads Year 19; Wine of the Estate of Tuthmosis IV from the *mw n Ptah*, from the hand of Hekay.²⁶ This may thus indicate a regnal year 19, but the Estate of Tuthmosis IV is certainly attested long after the death of the king.²⁷ Moreover a wine docket of Year 36 found at Malkata, and therefore usually assigned to the reign of Amenophis III, also refers to wine from the Estate of Tuthmosis IV.²⁸ For Amenophis III, dated objects, not including jar dockets, refer to Years 1, 2, 3, 5, 10, 11, 14, 20, 27, 30, 31, 33, 35 and 36, whilst jar dockets from his palace at Malkata attest Years 1, (usually attributed to Akhenaten), 8, 9, 20, 24, 25, 26, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37 and 38.²⁹ Dockets from Deir el-Medineh refer to Years 3, 14, 17, 30 and 36,³⁰ whilst a Year 23 docket attributed to Amenophis III comes from Dahshur.³¹ Dockets found in his tomb, KV 22, mention Years 32 and 37.³² The close correlation of the monumental evidence with the wine jar dates clearly indicate that Amenophis III must have died in the thirty-eighth or thirty-ninth year of his reign. The Amarna interlude which follows, however, is slightly confusing but it is clear that Akhenaten died after the wine harvest of his Year 17, whilst, in

²¹ *Urkunden* IV 895, 16–17.

²² B. BRYAN, *The Reign of Tuthmosis IV*, Baltimore, 1991, 5–6, to which add R.G. BIGLER and B. GEIGER, Eine Schenkungsstele Tuthmosis' IV., *ZÄS* 121, 1994, 11–17.

²³ W.M.F. PETRIE, *Six Temples at Thebes 1896*, London, 1897, 29. Surprisingly whilst stamped jar sealings of Tuthmosis IV are presented in the final publication of the pottery from the re-clearance of this temple – M.C: GUIDOTTI and F. SILVANO, *La ceramica del tempio di Thutmosi IV a Gurna*, Pisa, 2003, – no jar dockets seem to have been found, or at least none are presented in that volume.

²⁴ T. M. DAVIS, *The Tomb of Thoutmosis IV*, London, 1904.

²⁵ G. BRUNTON and R.E. ENGELBACH, *Gurob*, 1927, pl. 28.11.

²⁶ Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, Cairo, 1980, no. 6337.

²⁷ Cf. References in the reigns of Ay – G. DARESSY, Notes et remarques, *RT* 16, 1894, 123, cviii – and later, – A.H. GARDINER, *Ramesside Administrative Documents*, London, 1948, 70 no. 6.

²⁸ W.C. HAYES, *JNES* 10, 1951, 44, 97 no. 45.

²⁹ W.C. HAYES, Inscriptions from the Palace of Amenhotep III, *JNES* 10, 1951, 56, fig. 16, M.A. LEAHY, *Excavations at the Birket Habu 1971–1974. The Inscriptions*, Warminster, 1978, 9, 13, 14, 19, 25.

³⁰ Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, 1980, pls. 41–41a, 44, 49–49a; D. VALBELLE, *Les ouvriers de la tombe. Deir el-Médineh à l'époque ramesside*, 1986; 23, L. BAVAY, S. MARCHAND and P. TALLET, Les jarres inscrites du Nouvel Empire provenant de Deir al-Médina, *CCÉ* 6, 2000, 81.

³¹ S. YOSHIMURA, et al, Preliminary report of excavations at Dahshur North, Egypt. *Mediterranean* 21, 1998, 23–24.

³² For the jar labels found in the tomb see J. KONDO, Hieratic Inscriptions from the Tomb of Amenophis III, *Orient* 26, 1989, 94–95; IDEM, A preliminary report on the re-clearance of the Tomb of Amenophis III (WV 22) in C.N. REEVES ed., *After Tutankhamun*, London, 1992, 50; S. YOSHIMURA and J. KONDO, The Tomb of Amenophis III. Waseda University Excavations 1989–2000, *ASAE* 78, 2004, 207.

terms of the wine docket it is clear that between the death of Akhenaten and the abandonment of Amarna during the reign of Tutankhamun, only two different Year 1s, a Year 2, and a Year 3 are attested, hence a maximum of four wine harvests elapsed between Akhenaten's death and Tutankhamun's move to Memphis.³³ Wine docket found in Tutankhamun's tomb document Years 4 (six times), 5 (twelve times), 9 (six times), 10 (once) and 31 (once), all without references to the king concerned, although four of the Year 5, and one of the Year 9 docket do say that the wine comes from the Estate of Tutankhamun, and thus a correlation with Tutankhamun is certain.³⁴ Since no-one has tried to argue for a reign of 31 years for Tutankhamun, this jar can only have been bottled in the reign of Amenophis III. A possible attribution to Tuthmosis III is ruled out by the shape of the amphora concerned, since such narrow pointed amphorae were not in use at that time. The otherwise highest extant year date for Tutankhamun is Year 8 which occurs on two stelae, now in Liverpool.³⁵ One thus has to question the Year 10 docket, and indeed Tallet has convincingly demonstrated that the Year 10 must refer to a wine from the time of Akhenaten.³⁶ Based on the wine docket Tutankha-

mun died in his year 9, or 10 before the wine harvest, at the latest. The only dated wine docket attributed to Ay are three of Year 1 and one of Year 2, but monuments attest his Years 3 and 4, so a reign of four years is clear. Under Horemheb wine docket are known for Years 2,³⁷ 3,³⁸ 4,³⁹ 5,⁴⁰ 6,⁴¹ 10,⁴² 12,⁴³ 13,⁴⁴ and 14⁴⁵. Significantly no docket are recorded for any later years, except for one tantalising example which has been read as Year 34, wine of the Estate of Horemheb, but no facsimile has been published,⁴⁶ and, as the year date is partly restored in the hieroglyphic translation, Helck has suggested the year date should be better restored as Year 14.⁴⁷ Other sources give years 1, 3, 6, 7, 8, 9, 12, 27 (?) and 58 or 59. The latter occurs in a Ramesside inscription, but this is usually seen as a Ramesside absorption of the years of the 'heretic Amarna' pharaohs, leaving Horemheb with an own reign of twenty-five to twenty-six years.⁴⁸ If this were the case then the graffito found on a statue fragment in Horemheb's Mansion of Millions of Years with a Year 27 date may also belong to him. However, this is disputed with some scholars accepting the date, and others believing it to have been added by Ramesses II or III. If it were to date to the reign of Horemheb then

³³ Krauss suggests that the docket of Smenkhare's Years 1 and 2, and Years 2 and 3 refer to only two vintages since Smenkhare's accession date fell during the harvest season, hence a maximum of only three and not four years should be considered – R. KRAUSS, *Das Ende der Amarnazeit*, 1978, 178–181; IDEM, *Zur Chronologie der Nachfolger Achenatens unter Berücksichtigung der DOG-Funde aus Amarna*, *MDOG*, 129, 1997, 246–247.

³⁴ J. ČERNÝ, *Hieratic Inscriptions from the Tomb of Tutankhamun*, Oxford, 1965, 1–4.

³⁵ Liverpool Institute of Archaeology E 90 and E 583. C.N. REEVES, *The Complete Tutankhamun*, London, 1990, 29. Liverpool E 583 A.A. AMER, *Tutankhamun's Decree for the Chief Treasurer Maya*, *RdE* 36, 1985, 17–20.

³⁶ P. TALLET, *Une jarre de l'an 31 et une jarre de l'an 10 dans le cave du Toutânkhamon*, *BIFAO* 96, 1996, 375–382. Cf. also R. KRAUSS, *Zur Chronologie des Neuen Reiches* *OLZ* 90, 1995, 245–246.

³⁷ G. NAGEL, *La céramique du Nouvel Empire*, Cairo, 1938, 15.6.

³⁸ P. TALLET, *Les 'étiquettes' de jarres à vin du Nouvel Empire*, in C.J. EYRE ed., *Proceedings of the Seventh International Congress of Egyptologists*, Leuven, 1998, 1132.

³⁹ Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, 1980, pl. 33, no. 6295.

⁴⁰ K.A. KITCHEN, *Ramesside Inscriptions* VII, 1989, 58,11.

⁴¹ Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, 1980, pls. 50–50a, no. 6403.

⁴² K.A. KITCHEN, *Ramesside Inscriptions* VII, 1989, 86,10.

⁴³ G.T. MARTIN, *Three Objects of New Kingdom Date from the Memphite Area and Sedment*, in T.G.H. JAMES, A. LEAHY and A.F. SHORE eds. *Pyramid Studies and Other Essays Presented to I.E.S. Edwards*, London, 1988, 114–120.

⁴⁴ G.T. MARTIN, *Excavations at the Memphite Tomb of Horemheb* 1978, *JEA* 65, 1979, 15, pl. III.2. C.J. EYRE, *Hieratic Dockets on Pottery Vessels*, 12 no. 22; Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, 1980, pls. 33–33a, no. 6299.

⁴⁵ N. SARTORI, *Jarres inscrites de la Vallée des rois*, forthcoming.

⁴⁶ Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, 1980, pl. 42, no. 6345.

⁴⁷ W. Helck, *Zur Chronologiediskussion über das Neue Reich*, *ÄuL* 3, 1992, 65 n.1.

⁴⁸ von Beckerath makes the ingenious suggestion that it is an ancient mistranscription from hieratic into hieroglyphic for a Year 28 (or 29) – J. VON BECKERATH, *Das Kalendarium des Papyrus Ebers und die Chronologie des ägyptischen Neuen Reiches. Gegenwärtiger Stand der Frage*, *ÄuL* 3, 1992, 26.

so might the ostracon IFAO 1254, which refers to Years 26 and 27 of an unnamed king.⁴⁹ The only certain dates known for Ramesses I are Year 1 on the stela Strasbourg 1378, and a stela unearthed in Karnak, whilst Year 2 is found on the Louvre stela C57 from Buhen.⁵⁰ Amongst the pottery recovered, by the University of Basle MISR expedition in the Valley of the Kings, from a deposit which evidently derived from the tomb of Seti I were approximately 500 amphora sherds all inscribed with Sety I's Year 8,⁵¹ whilst other wine docketts from the reign of Sety I are only known for Years 1 through 4 and 8.⁵² Additionally there is an abundance of other types of datelines for Seti I which refer to Years 1–9,⁵³ and in Year 9 work commenced in the Aswan quarries on a number of obelisks that were clearly finished by his successor, Ramesses II, which implies that Seti I could not have lived much past his ninth year.⁵⁴ No records are known for Years 10 and higher with the exception of one reputedly mentioning a Year 11. The latter usually read as Year 11 IV Shemu day 13 is inscribed on a stela found at Gebel Barkal.⁵⁵ That stela, however, had been reused as a paving slab in a later building, and the part showing the date was in a 'crumbling condition'.⁵⁶ From the published photograph of the reconstructed upper part of the stela there is clear damage where the year date is inscribed, and what is interpreted as the Year 10 sign (X) is suspiciously overlarge, and as van Dijk plausibly suggests, this apparent oversizing of the hieroglyph is probably the result of damage to the stone, the actual year date being, in reality, Year 3 (III) with the apparent curve linking the first and second strokes of the year 3, being nothing but an

illusion caused by the break in the stone.⁵⁷ Moreover the figure of Seti I on this stela, is shown standing erect rather than bowing (or stooping) forward. Before Year 4 all representations of Seti I carved on stelae depict him as standing upright, and only from Year 4 onwards does the stooping posture begin to replace the erect one, which is then used simultaneously with the traditional upright stance for a few years, with the bowing posture becoming predominant in his later years.⁵⁸ Dated to Year 11, the Gebel Barkal stela would thus be an anomaly, which can only be explained as a) an exception to the rule, b) an 'old fashioned' provincial sculptor, or c) a misreading of the Year date. If, with van Dijk, the stela is reassigned to Year 3, where stylistically it clearly belongs, then the highest attested year date for Seti I is Year 9, known in several instances. This makes the wine jar docketts found in the Valley of the Kings highly significant since, as in the case of Horemheb, these Year 8 docketts most likely refer to the last vintage before the death of the king.⁵⁹

Since the evidence provided by the intact tomb of Tutankhamun indicates that the pharaoh would have been buried with new wine, it is surprising that no wine younger than Year 14 was found in the tomb of Horemheb, even allowing for the fact that the tomb was plundered and none later than Year 8 was found associated with the tomb of Seti I. Moreover, as Harris long ago pointed out, if Horemheb reigned for a minimum twenty-seven years then the chief of police Mininiuy, who seems to have been in office from at least Year 7 of Horemheb to at least Year 21 of Ramesses II, would have been in

⁴⁹ R. KRAUSS, Nur ein kurioser Irrtum oder ein Beleg für die Jahre 26 und 27 von Horemheb, *DE* 30, 1994, 73–85.

⁵⁰ K.A. KITCHEN, *Ramesside Inscriptions* I, 1975, 3–4; Idem *Ramesside Inscriptions Translated and Annotated: Translations* I, 1993, 3–4.

⁵¹ To be published by Nicholas SARTORI, *Jarres inscrites de la Vallée des rois*, forthcoming. I am grateful to Nicholas for sharing information on these docketts in advance of his publication.

⁵² K. KITCHEN, *Ramesside Inscriptions* VII, 1989, 55.7, 60.9, 86.11 and 89.11.

⁵³ K. KITCHEN, *Ramesside Inscriptions* I, 1975, passim; *Ramesside Inscriptions Translated and Annotated: Translations* I, 1993, 6–342; K.A. Kitchen, *Ramesside Inscriptions Translated and Annotated: Notes and Comments* I, Oxford, 1993, passim; P. Brand, *The Monuments of Seti I*, Leiden, 2000.

⁵⁴ P. BRAND, The 'Lost' Obelisks and Colossi of Seti I, *JARCE* 34, 1997, 101–114

⁵⁵ G. REISNER and M. REISNER, Inscribed Monuments from Gebel Barkal. Part 3. The Stela of Sety I, *ZÄS* 69, 1933, 73–78; K. Kitchen, *Ramesside Inscriptions* I, 1975, 75–76; *Ramesside Inscriptions Translated and Annotated: Translations* I, 1993, 64–65; K.A. KITCHEN, *Ramesside Inscriptions Translated and Annotated: Notes and Comments* I, 1993, 56–66 §128.

⁵⁶ REISNER and REISNER, *ZÄS* 69, 73.

⁵⁷ J. VAN DIJK, The Date of the Gebel Barkal Stela of Seti I, in D. ASTON, B. BADER, C. GALLORINI, P. NICHOLSON and S. BUCKINGHAM eds., *Under the Potter's Tree, Studies on Ancient Egypt presented to Janine Bourriau, on the occasion of her 70th Birthday*, 2011, 325–332.

⁵⁸ P. BRAND, *The Monuments of Seti I*, 2000, 14.

⁵⁹ K. KITCHEN, *Ramesside Inscriptions* VII, 1989, 55.7, 60.9, 86.11 and 89.11.

active service for a minimum of fifty four years – possible but unlikely.⁶⁰ If Horemheb reigned for only fifteen years, and Seti I, only nine, then Mininiuy's career spanned, a perhaps more reasonable, forty years. From the wine docket it would appear that Horemheb must have died in his fourteenth, or at latest, fifteenth regnal year.⁶¹ In this sense Hari's emendation of the Horemheb text London UC 14291 to Year [1]5 is possible but to year [2]5 is unlikely.⁶² Even before the excavation of the Memphite tomb of Horemheb and the re-clearance of KV 57, Harris, based on the career of Mininiuy, had dared to suggest that Horemheb reigned for only between eight and twelve years, whilst Helck, in a series of articles going back over thirty-five years has long argued that the Year 27 date had nothing to do with Horemheb and attributed him a reign of twelve to fourteen years,⁶³ an argument in which he was supported, without explanation, by Baines and Malek.⁶⁴ The fact that Horemheb reigned for a maximum fifteen years is now finding widespread accord, and if that is accepted, then, by the same argument, Tutankhamun must have died before his Year 10 grape harvest, and Sety I before the wine harvest of his year 9.

The result of the above survey would indicate that, based on the evidence of the extant docket, Sety I's reign should be reduced by two years, Horemheb by at least 13 years and Tutankhamun by one year. However, as the time span between Year 1 of Tuthmosis III and Year 1 of Ramesses II is 'conventionally' fixed at 200 years it would seem impossible to remove some sixteen years from the usually accepted chronology, although recently both Krauss and Warburton, and latterly Schneider, have done just that.⁶⁵ Krauss and War-

burton thus suggest that Tutankhamun dies in his Year 10 before the wine harvest, and Horemheb in his Year 15 before the wine harvest, but they do not take into account the still unpublished jar docket of Seti I from his tomb in the Valley of the Kings. At this point they simply cut out the spurious years of Tutankhamun and Horemheb from the length of the dynasty which implies a down dating of all previous kings. In so-doing they abandon 1479 BC as the accession date for Tuthmosis III, – a date which would be mandatory if Horemheb reigned for twenty-seven years. However, as indicated above, on astronomical grounds, 1468 BC as Year 1 of Tuthmosis III is a possibility, though it involves an error of one day in the lunar calculations on the part of Tuthmosis III's astronomers.⁶⁶ For a while Krauss and Warburton favoured this date since they saw 'no means of accounting for an entire decade of "missing years" in any of the known reigns between Ramesses II and Tuthmosis III.' However the number of years which have to be removed from the reigns of Tutankhamun and Horemheb, based on the wine docket alone, amount to fourteen years, but a down dating of Tuthmosis III from 1479 to 1468 does not account for all the extra years, with the result that they are forced to adjust the reign lengths of the later kings. "If 1468 BC was year 1 of the reign of Thutmose III, the regnal years between Thutmose III and Horemheb would thus have to be shifted accordingly. There is some freedom as it is unclear whether Tutankhamun ruled for 9 or 10 years, and whether Ramesses I may have ruled for 3 years, or indeed whether Sety I ruled for 12, rather than 11 years."⁶⁷

⁶⁰ J.R. HARRIS, How Long was the Reign of Horemheb?, *JEA* 54, 1968, 98–99.

⁶¹ Cf. VAN DIJK, *JARCE* 44, 2008, 196.

⁶² R. HARI, *Horemheb et la reine Moutnedjemet*, Geneva, 1964, 300–302.

⁶³ W. HELCK, Probleme der Zeit Horemhebs, *CdE* 48, 1973, 253–264; IDEM, Erneut das angebliche Sothis-Datum des Pap. Ebers und die Chronologie der 18. Dynastie, *SÄK*, 15, 1988, 154; IDEM, Zur Chronologiediskussion über das Neue Reich, *ÄuL* 3, 1992, 64–65.

⁶⁴ J. BAINES and J. MALEK, *Atlas of Ancient Egypt*, Oxford, 1980, 36, 46.

⁶⁵ R. KRAUSS and D.A. WARBURTON, The basis for the Egyptian dates, in D.A. WARBURTON, ed., *Time's Up. Dating the Minoan Eruption of Santorini*, 125–144.

⁶⁶ R. KRAUSS, An Egyptian Chronology for Dynasties XIII to XXV, in M. BIETAK and E. CZERNY eds. *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC. III*, 182.

⁶⁷ R. KRAUSS and D.A. WARBURTON, The basis for the Egyptian dates, in D.A. WARBURTON, ed., *Time's Up. Dating the Minoan Eruption of Santorini*, 134.

This leads to the resulting chronology:

KRAUSS and WARBURTON, 2009	
Tuthmosis III	1468–1415 BC
Amenophis II	1415–1389 BC
Tuthmosis IV	1389–1379 BC
Amenophis III	1379–1342 BC
Akhenaten	1342–1325 BC
Smenkhare/ Neferneferuaten	1324–1322 BC
Ankhetkheperure	1322–1321 BC
Tutankhamun	1321–1311 BC
Ay	1311–1307 BC
Horemheb	1307–1292 BC
Ramesses I	1292–1291/90 BC
Sety I	1291/90–1279 BC

Such a low chronology has not found much favour among Egyptologists, and for that matter nor among those dealing with synchronisms between Egypt and the Mediterranean world.⁶⁸ However, in a letter of October 2012, Krauss informed me that he no longer believes in this chronology, and, thus one need pay no more attention to it.

A second possibility of simply ‘deleting’ these years from history is to downdate the reigns of the kings after Horemheb, thus Tuthmosis III would still come to the throne in 1479 BC, with the following result:

Tuthmosis III	1479–1425 BC
Amenophis II	1425–1400 BC
Tuthmosis IV	1400–1390 BC
Amenophis III	1390–1353 BC
Akhenaten	1353–1336 BC
Smenkhare	1336–1333 BC
Ankhetkeperure	1333–1332 BC
Tutankhamun	1332–1323 BC
Ay	1323–1320 BC
Horemheb	1319–1304 BC
Ramesses I	1304–1303 BC
Sety I	1303–1294 BC
Ramesses II	1294–1227 BC

However this has great problems since 1294 BC as an accession date for Ramesses II is astronomi-

cally impossible. The nearest possibility is 1290 BC, which would imply a jiggling of the reign lengths of some of the kings between Tuthmosis III and Ay. This is essentially the position also postulated by Schneider,⁶⁹ who starts the reign of Tuthmosis III in, the astronomically impossible, 1476 BC, but cheerily admits another three years would have to be added to his chronology to retain the conventional position, and suggests adding them to the reign of Seti I, despite knowledge of the arguments given above for the length of reign of that king. Wiener⁷⁰ comes to a similar position, though retaining the more correct 1479 date, and both he, and Schneider, suggest adding the ‘deleted’ years to the period between the end of the reign of Merneptah and the beginning of the Twenty-second Dynasty. Schneider would then suggest the following with the dates in brackets being necessary amendments to bring the beginning of the reign of Tuthmosis III back to the astronomically possible date of 1479.⁷¹ In essence this does not differ from Krauss’ 2007 position, the only difference being that Schneider has accepted the shorter reign of Horemheb, following van Dijk’s 2009 publication of the wine docket from his tomb.

SCHNEIDER 2010	
Tuthmosis III	1476–1422 (1479–1425) BC
Amenophis II	1422–1396 (1425–1399) BC
Tuthmosis IV	1396–1386 (1399–1389) BC
Amenophis III	1386–1348 (1389–1351) BC
Akhenaten	1348–1331 (1351–1334) BC
Smenkhare	1331–x (1334–x) BC
Ankhetkeperure	x–1327 (x–1330) BC
Tutankhamun	1327–1318 (1330–1321) BC
Ay	1318–1315 (1321–1318) BC
Horemheb	1315–1301 (1318–1304) BC
Ramesses I	1301–1300 (1304–1303) BC
Sety I	1300–1290 (1303–1290) BC
Ramesses II	1290–1224 BC

Both scenarios, 1468–1279 BC and 1479–1290 BC., however have the problem that they are too short since the Year 52 Ramesses II Piramesse lunar date and the Year 23 Tuthmosis III Megiddo lunar date indicate that a minimum 197 years elapse be-

⁶⁸ Discussed in depth by M. WIENER, Oh, No – Not Another Chronology, in O. GOELET and A. OPPENHEIM (eds.), *The Art and Culture of Ancient Egypt: Studies in Honor of Dorothea Arnold* = *BES* 19, forthcoming.

⁶⁹ Th. SCHNEIDER, Contributions to the Chronology of the New Kingdom and Third Intermediate Period, *ÄuL* 20, 2010, 402, with notes 142 and 145.

⁷⁰ M. WIENER, *BES* 19, forthcoming.

⁷¹ SCHNEIDER *ÄuL* 20, 2010, 402, note 142.

tween Year 1 of Tuthmosis III and Year 1 of Ramesses II.

Rather these missing sixteen years must be accounted for elsewhere.

Theoretically it is possible that a hitherto unknown king (or kings) still await discovery, but this seems somewhat unlikely; rather the missing years should be distributed elsewhere. Since Tuthmosis III's date of death in 30 III Peret of his Year 54 is known with certainty, no years can be added here. The distribution of the jar dockets at Malkata suggests, assuming that there was no co-regency between Amenophis III and Akhenaten, that Akhenaten's Year 1 followed very closely that of Amenophis III's Year 38. By the same token, Smenkhare's Year 1 followed very closely that of Akhenaten's Year 17, as indicated by the dockets found at Amarna. To add a minimum fifteen years to the reigns of Smenkhare/Neferneferuaten and/or Ankhethkeperure is again, based on the wine dockets found at Amarna, unlikely. To add these years to the reign of Ay is theoretically possible, but would seriously lengthen the careers of such men as the Overseer of the Treasury, Maya, and the military commanders and later pharaohs, Horemheb and Ramesses I. A longer reign for Ramesses I seems negated by the fact that his tomb was only hastily finished without the full plan evidenced in those of both his predecessor and his successor.

The only place, therefore, where these sixteen years can be at all easily absorbed is the reigns of Amenophis II – Tuthmosis IV, and indeed several commentators have suggested longer reigns for these kings. Such hypotheses are generally discounted, since previously they could only be accommodated by introducing numerous co-regencies, usually Amenophis II and Tuthmosis IV, Amenophis III and IV, and Akhenaten and Smenkhare, in order to telescope the later years of

the Eighteenth Dynasty so that the fixed number of years between Year 1 Tuthmosis III and Year 1 Ramesses II can be maintained.⁷² The question arises, therefore, as to whether it is possible to add sixteen years to the reigns of these two kings without destroying the underlying chronological structure. That there are a number of problems inherent in establishing the length of these two reigns has long been known, and not only that, I have consistently put forward the view, in various conferences, that from a ceramic point of view, so much happened in this short period that it would be much better if the time span covered by Amenophis II and Tuthmosis IV could be increased. Such a supposition, however, could never be proved, but now that we have an extra sixteen years to play with, perhaps this quandary can be revisited.

An extension of the reign of Amenophis II to 30 years has been proposed on the basis of the year date on papyrus BM 10056. This is almost illegible, yet was read as year 30, and attributed to Tuthmosis III by Glanville,⁷³ but, on the basis of internal evidence, credited to Amenophis II by Redford, who, as a consequence, rejected the date as being unlikely.⁷⁴ Wente and Van Siclen III later brought this text back into play by arguing that as Glanville worked with the original text the reading Year 30 might well be correct, thus giving Amenophis II a reign of at least thirty years. Such a hypothesis cavalierly overrides the close examination of the original text by Edwards, Parker and Černý who indicated that, in their opinion, there were only two numerals and not three, hence a Year 30 is ruled out.⁷⁵ The same may be said of the recent interpretation of Pasquali, who working only from a photograph, contrives to read Year 52, which, if correct, would reassign this papyrus to the reign of Tuthmosis III.⁷⁶ Others have suggested a reign of thirty-one years based on the thirty-one years mentioned in

⁷² For a review of previous discussions and a balanced view of the maximum and minimum dates see V. MÜLLER, *Wie gut fixiert ist die Chronologie des Neuen Reiches wirklich?*, *ÄuL* 16, 2006, 203–230, but add a Year 14 for Akhenaten – J. MALEK, review of C. Vandersleyen, *L'Égypte et le Vallée du Nile* ii; *DE* 32, 1995, 106 and a Year 4 for Sethnakht, – M. BORAİK, *Stela of Bakenkhonsu, High Priest of Amun Re*, *Memnonia* 18, 2007, 119–126 – to the minimum number of years on page 212. For a discussion on the reign length of Tuthmosis II cf. also Th. SCHNEIDER, *Contributions to the Chronology of the New Kingdom and Third Intermediate Period*, *ÄuL* 20, 2010, 389–393.

⁷³ S. GLANVILLE, *Records of a Royal Dockyard of the Time of Tuthmosis III: Papyrus British Museum 10056*, *ZÄS* 66 1931, 120 n.3.

⁷⁴ D.B. REDFORD, *The Coregency of Tuthmosis III and Amenophis II*, *JEA* 51, 1965, 110. From an examination of the published photograph he suggested Year 20.

⁷⁵ C. ALDRED, *The Second Jubilee of Amenophis II*, *ZÄS* 94, 1967, 2.

⁷⁶ S. PASQUALI, *La date du Papyrus BM 10056. Thoutmosis III ou Amenhotep II?*, *RdE* 58, 2007, 77.

Manetho for a king Amenophis who appears in the seventh (so Eusebius) or eighth position (Africanus and Josephus). That this should be Amenophis III seems negated by the next entry which attributes between thirty-six and thirty eight years to a king Oros, and since Amenophis III ruled into his thirty-eighth year at least, then this king Oros is presumably Amenophis III. If the thirty-one years recorded for Amenophis (II) has any credence one could possibly thus give five of these extra sixteen years to Amenophis II which has interesting consequences, the more so as there is also good evidence that Amenophis II's first three years (literally 2 years and four months) were in a co-regency with Tuthmosis III,⁷⁷ which, if added to the thirty one years credited to Amenophis II by Manetho, gives Amenophis II a total reign of thirty-four years. That Manetho only records thirty-one years is explained by the supposition, which seems likely, that the kings of the early Eighteenth Dynasty only counted the years of their sole reign.⁷⁸ Thirty-four years is the length of reign allocated to Amenophis II by Wente and van Siclen III, who have formulated a chronology for the New Kingdom, which is heavily dependent on accepting as littoral truth all references to a celebration of the *Heb sed* festival. Inscriptions at Karnak refer to both a *Heb-sed* and a

renewal of the *Heb sed* under Amenophis II, and since a king usually celebrated his first *Heb sed* festival in Year 30, and his second in Year 34,⁷⁹ Wente and van Siclen III had no hesitation in ascribing Amenophis II a reign of thirty-four years. Their chronology, however, has not found much favour amongst Egyptologists; nevertheless despite the stringent denial by Redford,⁸⁰ their basic argument is still valid. *Heb sed* festivals were almost invariably first celebrated in a king's Year 30, and subsequently at three or four year intervals. There is only one certain exception to this rule, namely Amenophis IV, although early *Heb sed* festivals have also been claimed for Nebtawyre Mentuhotep III, Amenophis I, Hatshepsut, Amenophis II, Tuthmosis IV, Merenptah, Osorkon II, and Psammetichus II. Inscriptions in the Wadi Hammamat refer to a *Heb sed* of Nebtawyre Mentuhotep III with a Year 2 date but it now seems that the two do not belong together.⁸¹ The only certain *Heb sed* festival of Amenophis IV⁸² occurred in his Year 2, and this has been explained either as his attempt to inaugurate his oneness with the Aten,⁸³ or, as adherents of a co-regency would argue, this date coincides with one of his father's jubilees.⁸⁴ If Amenophis I reigned for only twenty-one years, as is implied by the autobiography of the astronomer, Amenemhet,⁸⁵ the

⁷⁷ P. DER MANUELIAN, *Studies in the Reign of Amenophis II*, 1987, 23–40. A shortening of this co-regency to four months not only seems to go against the evidence but also needs an emendation of the death of Tuthmosis III from 30 III Peret to 30 III Achet – R. KRAUSS, Lunar Dates in, E. HORNUNG, R. KRAUSS and D. WARBURTON, *Ancient Egyptian Chronology*, Leiden, 2006, 420.

⁷⁸ D.B. REDFORD, *History and Chronology of the Eighteenth Dynasty*, Toronto, 1967, 54.

⁷⁹ E. HORNUNG and E. STAHELIN, *Studien zum Sedfest*, Geneva, 1974.

⁸⁰ D.B. REDFORD, *Pharaonic King Lists, Annals and Day Books*, Mississauga, 1986, 179–183. Essentially Redford believes that *Heb sed* references recorded on the pillars of various Karnak monuments of Amenophis I, Tuthmosis III, Amenophis II and Tuthmosis IV are nothing but “pillar benedictions” being simply copies of those found on the pillars of the small bark temple of Sesostris I, and thus have no chronological worth. Furthermore he suggests that the festival had fallen out of fashion at the end of the Middle Kingdom and was only properly revived by Amenophis III. His argument might carry more weight if such ritualistic copying was also found on the monuments of Tuthmosis I and II, although, of course, such references might yet come to light.

⁸¹ D. MÜLLER, Review of E. Hornung and E. Staehlin, *Studien zum Sedfest*, *Bi. Or* 33, 1976, 172.

⁸² Some scholars would argue that one or two further Sed Festivals were celebrated in Akhetaten, cf. B. GUNN, Notes on the Aten and his Names, *JEA* 9, 1923, 168–74; E. UPHILL, The Sed Festivals of Akhenaton, *JNES* 22, 1963, 123–127; C. ALDRED, The Beginning of the El-Amarna Period, *JEA* 45, 1959, 28–33.

⁸³ E.F. WENTE and C. VAN SICLEN, A Chronology of the New Kingdom in *Studies in Honour of George R. Hughes*, Chicago, 1976, 221.

⁸⁴ Eg. C. ALDRED, The Beginning of the El-Amarna Period, *JEA* 45, 1959, 28–33. C.N. Reeves' argument – *Akhenaten, Egypt's False Prophet*, London, 2001, 96, – that the Year 2 festival was meant to coincide with one of his father's festivals, but did not because the dates ‘do not quite add up,’ is rather peculiar. They only ‘do not quite add up’ in his reconstruction of a short co-regency, but do correlate for proponents of a long co-regency. Either Akhenaten's festival was indeed the same as one of his father's or was not connected at all.

⁸⁵ L. BORCHARDT, Geschichte der altägyptischen Zeitmessung, in E. v. BASSERMANN-JORDAN, *Geschichte der Zeitmessung und der Uhren*, I, Berlin/Leipzig, 1920, 60–63, Taf. 18.

references to a *Heb sed* festival of his⁸⁶ have been interpreted as the thirty year jubilee of the expulsion of the Hyksos.⁸⁷ Conversely, however, as it is known that Amenophis I certainly began his reign as a co-regent of Ahmose, it is also theoretically possible that the first nine years of his reign were equal to the last nine of his father, and he could have celebrated a *Heb sed* festival in his own right.⁸⁸ References to a *Heb sed* of Hatshepsut occur on an obelisk which was apparently erected in Year 16, but this has been explained by assuming that she simply added on the years from the accession of her father, Tuthmosis I.⁸⁹ References to a *Heb sed* festival of Merenptah are historically suspect, and that of Psammetichus II is based on a reconstruction of a text that is broken off at the relevant point.⁹⁰ That of Osorkon II appears to have taken place in his Year 22, but it now seems more likely that the Year 22 (𓂏𓂏𓂏) is a misreading caused by a break in the text, the apparent 'two' being nothing but the legs of a broken 'ten' thus this festival took place in Osorkon's Year 30.⁹¹ It would seem strange then that the *Heb-sed* festivals of Amenophis II and Tuthmosis IV should not fit into this pattern.⁹² As stated above there are references to a *Heb sed* festival and a renewal for Amenophis II, indicative that he celebrated two such festivals, and, since a second *Heb sed* was usually celebrated in a king's Year 34, Wenté and van Siclen III had no hesitation in attributing a thirty-five year reign to this king. As further support for a thirty-five year reign, they quoted the inscription on the Lateran obelisk, now in Rome, which was originally carved for Tuthmosis III. This bears an inscription added by Tuthmosis IV who records how the obelisk lay on its side

for thirty-five years before he erected it. Although no year dates are given, it can be argued, as Wenté and van Siclen III have, that if it were carved in Tuthmosis III's last year and erected in Tuthmosis IV's first year, then a reign of a minimum thirty-three to thirty-five years could be postulated for Amenophis II.⁹³ However, we do not know from what point Tuthmosis IV reckoned these thirty-five years. Redford, for example, makes the suggestion that the carving of this obelisk was abandoned by Tuthmosis III when he took his son as co-regent, and was erected no earlier than Tuthmosis IV's Year 6, since earlier extant dated records of this king are only known from the north. On his way of thinking, therefore, he allocates three years to Tuthmosis III, twenty-five years to Amenophis II and seven years to Tuthmosis IV, thus allowing Amenophis II a maximum twenty-five years.⁹⁴ Actually this is an odd answer since one would have thought, on his own stated reasoning, he would have argued for twenty-six years for Amenophis II, (which would fit the presumed evidence of the Year 26 wine docket), and six years for Tuthmosis IV. The obelisk inscription, therefore, plays no part in establishing the length of reign of Amenophis II. Yet based on Manetho and the references to the renewal of a *Heb sed* festival it does seem likely that Amenophis II probably did live into his thirty-fourth year, but it still leaves eleven years in the Dynasty unaccounted.

The reign of Tuthmosis IV is more of an enigma. What cannot be denied is that from the foundations of the Third Pylon at Karnak come the remains of a sandstone building of Tuthmosis IV with texts which refer to both a *Heb sed* and a renewal of a *Heb sed* jubilee,⁹⁵ which, at first glance, ought to

⁸⁶ cf. E. HORNUNG and E. STAEHELIN, *Studien zum Sedfest*, 1974, 30–31.

⁸⁷ E. HORNUNG and E. STAEHELIN, *Studien zum Sedfest*, 62–63.

⁸⁸ For a co-regency see G. VITTMANN, Was there a Coregency of Ahmose and Amenophis I?, *JEA* 60, 1974, 250–251; W.J. MURNANE, *Ancient Egyptian Coregencies*, Chicago, 1977, 114–115. The length of this co-regency is uncertain, but it was at least in place by Ahmose's Year 22. E.F. WENTE and C. VAN SICLEN, *A Chronology of the New Kingdom*, 225, suggest six years; however on their own *Heb sed* reasoning, one wonders why they did not argue for nine years.

⁸⁹ E.F. WENTE, Tuthmosis III's Accession and the Beginning of the New Kingdom, *JNES* 34, 1975, 268. E. HORNUNG and E. STAEHELIN, *Neue Studien zum Sedfest*, 2006, 23, 37, 88, now suggest that these references of Hatshepsut are also to be seen as pillar benedictions.

⁹⁰ E.F. WENTE and C. VAN SICLEN, *A Chronology of the New Kingdom*, 221–223

⁹¹ Cf. E.F. WENTE, Review of K.A. Kitchen, 'The Third Intermediate Period in Egypt (1100–650 BC)' *JNES* 35, 1976, 278; K. KITCHEN, The strengths and weaknesses of Egyptian chronology – a Reconsideration, *ÄuL* 16, 2006, 301.

⁹² Cf. W.J. MURNANE, The Sed Festival: A Problem in Historical Method, *MDAIK* 37, 1981, 376.

⁹³ E.F. WENTE and C. VAN SICLEN, *A Chronology of the New Kingdom*, 227–229.

⁹⁴ D.B. REDFORD, *Pharaonic King Lists, Annals and Day Books*, 183.

⁹⁵ B. LETELLIER, La Cour à Peristyle de Thoutmosis IV à Karnak, in *Hommages à la Mémoire de Serge Sauneron* I, 1979, 52–71; EADEM, La Cour à Peristyle de Thoutmosis IV à Karnak, *BSFE* 84, 1979, 33–49; B. BRYAN, *Tuthmosis IV*, 167–169.

suggest that Tuthmosis IV also reigned into his thirty-fourth year. Moreover this is not an isolated instance since texts referring to a renewal of the *Heb sed* of Tuthmosis IV are also found in a temple at Amada, originally built by Tuthmosis III and Amenophis II.⁹⁶ Consequently Wenté and van Siclen III had no hesitation in ascribing a reign of thirty-four years to this king as well. If they are correct, then the docket found in Deir el-Medineh which reads Year 19; Wine of the Estate of Tuthmosis IV from the *mw n Ptah*,⁹⁷ may indeed give a nineteenth regnal year date for this king. At this point it is worth recalling that Helck has argued for the fact that the wines delivered to Deir el-Medineh ‘immer nur aus Anlagen des regierenden Königs beliefert wird’.⁹⁸ If Tuthmosis IV thus reigned for a minimum thirty-four years the wine docket of Year 36 found at Malkata, could also come into play; however, if that were contemporary with the reign of the king then that jar, assuming it had not been reused, would be between nine (the Malkata Year 8 docket being attributed to Amenophis III, see below) and twenty-one years older (the Malkata Year 8 and 9 dockets being attributed to Akhenaten) than any other jar (or at least docket) found at Malkata

However, to add on a minimum twenty-three years to the eleven years credited to this king by Krauss in the chronology used here – other authors postulate even shorter reigns of from eight to ten years – is unacceptable since this would bring the accession date of Ramesses II down to an impossible 1256 BC. Still if the remaining free years in the period 1479–1279 are given to Tuthmosis IV then he would have reigned for approximately twenty-two years, and the Year 19 wine docket cited above could still be contemporary with his reign. However, if Tuthmosis IV reigned for only

twenty-two years, one would then have to accept that the references to Tuthmosis IV’s *Heb sed* festivals are nothing but “pillar benedictions” as postulated by Redford, or “unfulfilled wishes”, as (formerly) suggested by Hornung and Staehelin,⁹⁹ but justifiably condemned by Murnane.¹⁰⁰ The only logical answer to this conundrum is to fall back on the old theory of a co-regency either between Amenophis II and Tuthmosis IV, a possibility put forward by Aldred,¹⁰¹ – but considered dubious by Murnane,¹⁰² and rejected by everyone else, – so that Tuthmosis IV would have had a joint reign of circa twelve years with his father, and a sole reign of around twenty-two years, or between Amenophis III and Amenophis IV, so that Tuthmosis IV would have a sole reign of thirty-four years. The idea of a co-regency between Amenophis III and Amenophis IV used to be very fashionable, and it could, in fact, as Fairman pointed out long ago, be supported by the dockets since dockets of years 21, 28, 30 and 31 of (obviously) Amenophis III found at Amarna could only have got there in Year 5 of Akhenaten at the earliest.¹⁰³ Assuming no co-regency then these dockets would be between twelve and twenty-two years old at the very least. Of course the fact that a wine jar of Year 31 of (presumably) Amenophis III was found in the tomb of Tutankhamun is an important caveat to bear in mind. At Malkata, only three different years are represented on dockets with a year date before Year 20, namely Years 1, 8 and 9. With no co-regency then the Year 1 would be of Akhenaten, and Years 8 and 9 would be of Amenophis III, with an eleven year break until the next extant year, Year 20. However if there were a (long) co-regency, then the Years 8 and 9 could also be of Akhenaten, and there would thus be no apparent eleven year gap in the extant Malkata dockets, whilst the Year 31 amphora from the

⁹⁶ P. BARGUET and M. DEWACHTER, *Le temple d'Amada IV*, Cairo, 1967; B. BRYAN, *Tuthmosis IV*, 199–203.

⁹⁷ Y. KOENIG, *Catalogue des étiquettes des jarres hiératiques de Deir el-Medineh, II*, Cairo, 1980, no. 6337.

⁹⁸ W. HELCK, Erneut das angebliche Sothis-Datum des Pap. Ebers und die Chronologie der 18. Dynastie, *SÄK*, 15, 1988, 154; IDEM, Zur Chronologiediskussion über das Neue Reich, *ÄuL* 3, 1992, 65. However, by accepting only a short reign for Tuthmosis IV he has, *SÄK* 15, 1988, 152, to lamely postulate that this is an exception to the rule.

⁹⁹ E. HORNUNG and E. STAEHELIN, *Studien zum Sedfest*, 63–64. In the meantime they seem to have accepted Redford’s idea

of a pillar benediction, E. HORNUNG and E. STAEHELIN, *Neue Studien zum Sedfest*, 2006, 34, 37.

¹⁰⁰ W.J. MURNANE, The Sed Festival: A Problem in Historical Method, *MDAIK* 37, 1981, 369–376.

¹⁰¹ C. ALDRED, The Second Jubilee of Amenophis II, *ZÄS* 94, 1967, 3–6.

¹⁰² W.J. MURNANE, *Ancient Egyptian Coregencies*, 1977, 117–123.

¹⁰³ H. W. FAIRMAN, The Inscriptions, in J.D.S. PENDLEBURY, *The City of Akhenaten II*, London, 1951, 152–157.

tomb of Tutankhamun would not be as old as it might appear.¹⁰⁴ Similarly if the chief vintner Nakht who was responsible for wine bottled in Year 35 of Amenophis III, were the same as that who made the Year 5 wine of Tutankhamun,¹⁰⁵ then the period between these two attestations would fall within a shorter period of time. A long co-regency was strongly championed by Aldred,¹⁰⁶ but then fell out of favour only to be reintroduced into play by Allen¹⁰⁷ and Johnson,¹⁰⁸ during the mid-1990's. Without wishing to take sides or get involved in the questions, was there, or was there not, a co-regency, and if there were, was it long or short, a twelve year co-regency, as suggested by Aldred,¹⁰⁹ would neatly fill the missing years which have to be added to the reign of Tuthmosis IV if we assume his *Heb sed* festival references really do belong to jubilees celebrated in his Years 30 and 34. However a long co-regency is currently unfashionable, and, if Fritz's reconstruction of the Year date on Amarna tablet KN 27 is correct,¹¹⁰ somewhat unlikely.

There are a surprisingly large number of Theban elite tombs which can be dated to the reign of Tuthmosis IV, and it is interesting to compare these numbers with those dated to the reigns of Amenophis II and Amenophis III.¹¹¹ For Amenophis II,

minimum secure date twenty-three years: forty tombs.¹¹² For Amenophis III, minimum secure date thirty-eight years: thirty-seven tombs.¹¹³ For Tuthmosis IV, minimum secure date eight years: twenty-one tombs.¹¹⁴ It is unclear whether tombs TT 98 and TT 101 should be assigned to Amenophis II or Tuthmosis IV; and whether tombs TT 52, TT 77 and TT 91 should be assigned to Tuthmosis IV or Amenophis III. It should also be noted that Kampp had problems with, for example, TT 38, which should date to the reign of Tuthmosis IV, because she was unsure that such a large decoration programme could have been achieved in only eight to ten years,¹¹⁵ whilst TT 64 was used for a father and son, both of whom appear to have died in the reign of Tuthmosis IV,¹¹⁶ although this could be explained by a late or early death. Nevertheless a minimum of twenty-one, rising to a maximum twenty-six, elite tombs, carved in the reign of Tuthmosis IV is, in comparison with those cut during the reigns of Amenophis II and Amenophis III, a surprisingly high number for a reign which only lasted eight to eleven years at most.

One could presumably suppose that a number of high officials, having served through the reign of Amenophis II, and being of the same generation as

¹⁰⁴ Of course the jars bearing docketts mentioning Years 8 and 9 at Malkata, and Years 21, 28, 30 and 31 found at Amarna and in the Theban tomb of Tutankhamun, cited above could all have been reused at a later date, without the original docketts being erased. However it is strange that the same historians who would argue that these jars were reused, do not suggest that the Year 26 docket found on a jar which also, in a different inscription, bears the name of Amenophis II, whose otherwise highest attested date is Year 23, is not a reused jar originally filled in the reign of Tuthmosis III!

¹⁰⁵ L.H. LESKO, Egyptian Wine Production During the New Kingdom in, P. E. McGovern, S.J. Fleming and S. H. KATZ eds., *The Origins and Ancient History of Wine*, 1995, 225–226.

¹⁰⁶ His arguments are conveniently summarised in C. ALDRED, Year 12 at El-Amarna, *JEA* 43, 1957, 114–117; IDEM, Two Theban Notables during the Later Reign of Amenophis III, *JNES* 18, 1959, 113–120; The Beginning of the El-Amarna Period, *JEA* 45, 1959, 28–33, and *Akhenaten, Pharaoh of Egypt – A New Study*, London, 1968, 97–116.

¹⁰⁷ J.P. ALLEN, Further evidence for the Coregency of Amenhotep III and IV, *GM* 140, 1994, 7–8, in which he published a fragmentary graffito reputedly mentioning year 32 of Amenophis III in conjunction with Akhenaten; however, he subsequently retracted his reading in favour of Year 32 of

Tuthmosis III – J. P. ALLEN, Addendum, in D. FORBES ed., *Amarna Letters* 3, 1994, 152.

¹⁰⁸ W.R. JOHNSON, Amenhotep III and Amarna: Some New Considerations, *JEA* 82, 1996, 65–82.

¹⁰⁹ C. ALDRED, Year 12 at El-Amarna, *JEA* 43, 1957, 116.

¹¹⁰ W. FRITZ, Bemerkungen zum Datierungsvermerk auf der Amarnatafel KN 27, *SAK* 18, 1991, 207–214.

¹¹¹ Numbers achieved by counting the requisite tombs as dated in F. Kampp, *Die Thebanische Nekropole*, Mainz, 1996, passim. This point has already been mentioned by Wente and van Siclen III, though with slightly different numbers – *A Chronology of the New Kingdom*, 230.

¹¹² Tombs TT 17, 20, 22, 29, 42 (coregency with Tuthmosis III), 45, 72, 79, 80, 84, 85, 88, 92, 93, 94, 95, 96, 97, 100, 112, 129, 140, 142, 143, 169, 172 (coregency with Tuthmosis III), 200 (coregency with Tuthmosis III), 205, 229, 248, 256, 276, 367, 401, A9, C3, E5, -92-, -153- and -154.

¹¹³ Tombs TT 8, 30, 47, 48, 54, 57, 58, 68, 69, 78, 89, 90, 102, 107, 118, 139, 147, 151, 161, 162, 165, 175, 181, 201, 226, 239, 247, 249, 253, 257, 334, 383, A21, C1, C4, C6, E2.

¹¹⁴ Tombs TT 38, 43, 56, 62, 63, 64, 66, 74, 75, 76, 108, 116, 176, 258, 295, 350, 400, A22, -8-, -28- and -70-.

¹¹⁵ F. KAMPP, *Die Thebanische Nekropole*, 228.

¹¹⁶ F. KAMPP, *Die Thebanische Nekropole*, 283.

the king, all then died during the reign of his successor, but if that were true, there ought to have been a corresponding dearth of elite tombs during Amenophis II's reign, but this is not the case. In addition several elite tombs were cut in the Valley of the Kings at this time. KV 48 is ascribed to the reign of Amenophis II,¹¹⁷ and KV 36 (Maiherpere) to the reign of Tuthmosis IV,¹¹⁸ whilst KV 37 contained a socle of Tuthmosis IV, but whether this dates the tomb or came here as a result of looting from elsewhere is uncertain.¹¹⁹ KV 42, clearly made during the reign of Tuthmosis III, was only utilised during the reign of Amenophis II at the earliest,¹²⁰ but the pottery found does not exclude a date as late as the reign of Tuthmosis IV,¹²¹ and, indeed, some have suggested that the tomb was utilised for the burial of the nurse Sentnay not before the reign of Tuthmosis IV.¹²² Pottery found in KV 21, 27, 44, and 45 has also led to the suggestion that KV 21 dates to the reign of Amenophis II at the earliest, KV 28 to that of Tuthmosis IV, and KV 27 and KV 45 to the period Tuthmosis IV – early Amenophis III.¹²³

The contra argument of Bryan that the career of Horemheb, owner of TT 78, to which one could also add Khay, owner of TT 8, who served under Amenophis II, Tuthmosis IV and Amenophis III indicates a short reign for Tuthmosis IV is, whilst relevant, not insurmountable since there is no proof that either Horemheb and/or Khay began their careers in Year 1 of Amenophis II. A more likely argument against a long reign for Tuthmosis IV is the fact that his tomb, KV 43, was not finished in the sense that, although large, it was only sparsely decorated. However this is of little consequence. The example of Sety I shows what could be achieved in a nine (to eleven) year reign, thus Tuthmosis IV could have 'completed' his tomb in the (first) ten

years of his reign. That he apparently did not may indicate that it was considered 'complete' since it is the first tomb which marks a change in the style of decoration from that exemplified in the tombs of Tuthmosis III and Amenophis II, to a new polychrome style in which neither the king, his priests, nor his workmen were entirely clear on how to proceed. Moreover it should not be forgotten that KV 43 was not the only tomb begun by Tuthmosis IV. Foundation deposits in front of KV 22, the tomb later refashioned and used by his son, Amenophis III, clearly show that that tomb, too, was begun by Tuthmosis IV.¹²⁴ Furthermore Romer argues that the burial chamber of KV 22 has a smaller burial chamber than KV 43, thus betraying its foundation as a prince's burial place, hence he implies that the tomb was carved by Tuthmosis IV for his son whilst he was still a prince.¹²⁵ However if Tuthmosis IV's masons had got as far as cutting out the burial chamber, then two large royal tombs were created during his reign, a somewhat strange state of affairs for a king who only reigned between eight and eleven years. In addition KV 32, evidently designed for a queen,¹²⁶ may also have been carved during Tuthmosis IV's reign. The recent re-clearance of this tomb by the University of Basle MISR mission, strongly suggests that the occupant of this tomb was queen Tiaa, (a minor) wife of Amenophis II, and mother of Tuthmosis IV.¹²⁷ Tiaa clearly survived into the reign of Tuthmosis IV since she is shown in association with him on various monuments, and Bryan tentatively suggests that she died in Year 7.¹²⁸ As only a minor wife of Amenophis II, Tiaa owes her exalted position to Tuthmosis IV, who continually stressed her role as his mother, so it was probably he who had KV 32 carved for her burial. Thus a third royal tomb may also have been cut during his reign.

¹¹⁷ C.N. REEVES, *The Valley of the Kings*, London, 1990, 140.

¹¹⁸ C.N. REEVES, *The Valley of the Kings*, 147.

¹¹⁹ C.N. REEVES, *The Valley of the Kings*, 168.

¹²⁰ Cf. C.N. REEVES, *The Valley of the Kings*, 25.

¹²¹ P.J. ROSE, Pottery from KV 42, unpublished manuscript. I am grateful to Pamela Rose for a copy of this paper.

¹²² E. THOMAS, *The Royal Necropolis of Thebes*, Princeton, 1966, 80, 239.

¹²³ D. ASTON, B. ASTON AND D. RYAN, Pottery from Tombs in the Valley of the Kings, *CCÉ* 6, 2000, 14, 16, 18, 21.

¹²⁴ J. ROMER, *The Valley of the Kings*, London, 240; C.N. REEVES, *The Valley of the Kings*, 39.

¹²⁵ J. ROMER, *The Valley of the Kings*, 240.

¹²⁶ Cf. C.N. REEVES On some queen's tombs of the Eighteenth Dynasty, in N. STRUDWICK and J.H. TAYLOR, eds., *The Theban Necropolis, Past, Present and Future*, London, 2003, 71.

¹²⁷ L. GABOLDE, Sur quelques tombeaux mineurs de la Vallée des rois découverts par V. LORET, in J.C. GOYON and C. CARDIN, eds., *Proceedings of the Ninth International Congress of Egyptologists*, Leuven, 2007, 753.

¹²⁸ B. BRYAN, *Tuthmosis IV*, 108.

Discussion of KV 32 brings us neatly to the women in Tuthmosis IV's life. He is usually associated with four Great Royal Wives which has certainly caused problems for at least one commentator to explain how this should be in such a (presumed) short reign.¹²⁹ However one, and perhaps two, of these wives are probably only symbolic. In the early part of the reign, Tuthmosis IV is invariably shown with his mother, Tiaa, who is also given the title, and, unless Tuthmosis married his mother, this may have been retrospective in the sense that Tuthmosis IV was proclaiming, or at least trying to give the impression, that Tiaa was, in fact, a Great Royal Wife of his father, hence strengthening the legitimacy of his kingship.¹³⁰ A similar argument may also be brought forward for Mutemwia, mother of Amenophis III. She, too, is called Great Royal Wife on monuments erected by her son, but on no extant monument does she appear with Tuthmosis IV, however, this does not exclude the possibility that one may yet surface. Two dated inscriptions of Year 7 refer to the king's daughter, king's sister and Great Royal Wife, Iaret, hence Iaret was certainly a Great Royal Wife by that year. That a queen, Nefertiry, was also a Great Royal Wife of Tuthmosis IV is certain,¹³¹ despite Harris' attempts to discredit her on the circular argument that in a short reign there is no place for Tiaa, Mutemwia, Iaret and Nefertiry.¹³² A damaged stela found at Karnak shows, on the left, Tuthmosis IV and his mother adoring Amun-Re, whilst on the damaged right side Tuthmosis IV and another female figure are also shown adoring Amun-Re. The identity of this latter woman is not certain; Abdel Qader Muhammed, the publisher of this piece, assumed that it was probably Tuthmosis IV's wife and claimed to have read an *i* and an *r*,¹³³ which could equally apply both to Iaret and Nefertiry. If it were Nefertiry then she was presumably Great Royal Wife during the early part of the reign whilst Tiaa was still alive, but would have been replaced

by Iaret by Year 7 at the latest. Conversely if the name was Iaret, this would imply that Iaret was not only queen in Year 7, but also whilst Tiaa was still alive. That being the case, then Nefertiry could only have become Great Royal Wife after Iaret's demise. Harris, in his attempt to dismiss Nefertiry as a non-existent queen, surprisingly makes no reference to this particular stela, yet the arguments he cites could equally apply here. He argues that queen Ahmose Nofretari was of major importance to the kings of the early Eighteenth Dynasty, and it is thus possible that the female personage represented behind Tuthmosis IV could indeed be his royal ancestress – the traces read by Abdul Qader Muhammed could equally apply to Ahmose Nofretari as to both Iaret and Nefertiry, – further evidence of Tuthmosis IV's attempts to link himself with the past.¹³⁴ If that were the case, then there is no link between Tiaa and either Iaret or Nefertiry, with the consequence, again, that Nefertiry could have been the Great Royal Wife after Iaret, which would rather imply a longer reign for Tuthmosis IV. In such a scenario Tuthmosis IV would have been always represented along with his mother in the early years of his reign, until, in Year 7, or shortly before, he is accompanied by the Great Royal Wife, Iaret, and subsequently from an unknown point by the Great Royal Wife, Nefertiry, and perhaps even at the end of a long reign by the Great Royal Wife, Mutemwia. It is even possible that, on this scenario, Tuthmosis IV was not married at the beginning of his reign, since there is some evidence to suggest that at the time when he acceded to the throne he was referred to as an *inpw*,¹³⁵ a term usually applied to young princes and kings who had not yet reached puberty,¹³⁶ however, there is some doubt as to whether this refers only to the period before he became king. On the other hand, if Tiaa's and Mutemwia's titles are only symbolic then only two Great Royal Wives are known and they provide no proof positive for either a short or a long reign.

¹²⁹ J.R. HARRIS, Contributions to the History of the Eighteenth Dynasty 1. A Non-Existent Queen of Tuthmosis IV, *SAK* 2, 1975, 95–98.

¹³⁰ Cf. E.F. WENTE and C. VAN SICLEN, *A Chronology of the New Kingdom*, 229.

¹³¹ M. GITTON, Néfertary II, *OLP* 8, 1977, 125–127.

¹³² J.R. HARRIS, Contributions to the History of the Eighteenth Dynasty, *SAK* 2, 1975, 95–98.

¹³³ M. ABDEL QADER MUHAMMED, Preliminary Report on the Excavations carried out in the Temple of Luxor, Seasons 1958–1959 and 1959–1960, *ASAE* 60, 1964, 248–249, pl. xxv.

¹³⁴ HARRIS, Contributions to the History of the Eighteenth Dynasty, *SAK* 2, 1975, 97.

¹³⁵ *Urkunden IV*, 1541:1.

¹³⁶ H. BRUNNER, *Die Geburt des Gottkönigs*, Wiesbaden, 1964, 27–29.

Another argument often used against a long reign for Tuthmosis IV is the presumed age of his mummy; however, over the years the estimated age of Tuthmosis IV at death has been steadily increasing. Assuming that the mummy labelled with the cartouche of Tuthmosis IV, found in the tomb of Amenophis II is really his,¹³⁷ estimates of Tuthmosis IV's age at death have varied from 25 years,¹³⁸ 28 years,¹³⁹ about 30,¹⁴⁰ and, most recently, between 30 and 40 years.¹⁴¹ If the former are correct, then it would indeed be unlikely that Tuthmosis IV had a long reign, but if the last is nearer the truth, then a long reign is possible. However, estimates of the ages of pharaohs based on their mummies are somewhat unreliable. Indeed estimates obtained for the ages of Tuthmosis III and Amenophis III via X-rays give 35–40 and 30–35 years respectively,¹⁴² although extant records prove that Tuthmosis III reigned into his 54th year whilst Amenophis III outlived the wine harvest of his 38th year, and hence both must have lived longer than the estimated ages of their mummies. Indeed Eliot Smith has quoted the example of Tuthmosis IV as being a case in point where perceived anatomical criteria may indeed lead one to an incorrect date. Writing in 1912 he was forced to give a maximum age for Tuthmosis IV, based on Testut's date for the union of the epiphysis, as 28, but at the same time he pointed out that he felt 'much less certain of the youth of Tuthmosis IV' than he did in 1903, when he first examined the mummy. Moreover, even in regard to the estimate of 28 years, he cheerily admitted that, 'judging from the texture of the bones as revealed by the X-rays one would be inclined to admit that

Tuthmosis IV might possibly have been even older than this.'¹⁴³ Bryan has questioned the 30–40 years of Krogman and M. Baer, and, by amassing the opinions of other anthropologists/pathologists, has argued that, in fact, Krogman and Baer's estimates are too high;¹⁴⁴ however no mention is made by Bryan of Krogman and Baer's estimated ages for Tuthmosis III and Amenophis III, which rather suggests that, on the contrary, Krogman and Baer's dates are too low.¹⁴⁵ Nevertheless Bryan concludes that even if Krogman and Baer's dates are accepted this still supports a reign of 8+ years, rather than 33. It should be noted, however, that Klaus Baer went in the other direction and used an age at death of 40 to support a 33 year reign.¹⁴⁶ With Robbins, therefore, I would caution that 'no historical or chronological arguments based solely on evidence of age at death of a mummy can be considered valid', and 'if it goes against what can be deduced from other sources, priority should be given to the latter.'¹⁴⁷

At this point we should also take into account ceramic considerations. Ceramicists conventionally divide New Kingdom pottery into four major phases 1–4, with the last three being divided into sub-phases, hence 1, 2A, 2B, 3A, 3B, and, at least by me, 4A and 4B. Whilst the boundaries may differ slightly from one expert to the next, all are agreed that the pottery from the reigns of Amenophis II and Tuthmosis IV form a distinct entity, easily distinguishable from what comes before and after.¹⁴⁸ Only Hope makes no formal division here but points out that pottery from the reigns of Amenophis II and Tuthmosis IV comprise one of the most

¹³⁷ Note that J.E. HARRIS and F.E. HUSSIEN have tried to overcome the problem by arguing that the bodies of Amenophis II and Tuthmosis IV were mixed in the Twenty-first Dynasty – J.E. HARRIS and F.E. HUSSIEN, *The Identification of the Eighteenth Dynasty Royal Mummies: A Biological Perspective*, *International Journal of Osteoarchaeology* 1, 1991, 238, table 3.

¹³⁸ G. ELIOT SMITH, Report on the Physical Characters, *ASAE* 4, 1903, 113.

¹³⁹ G. ELIOT SMITH, *The Royal Mummies*, Cairo, 1912, ix, 45.

¹⁴⁰ J.E. HARRIS and K.R. WEEKS, *X-Raying The Pharaohs*, New York, 1973, 139.

¹⁴¹ W.M. KROGMAN and M.J. BAER, Age at Death of Pharaohs of the New Kingdom, Determined from X-Ray Films, in: J.E. HARRIS and E.F. WENTE, *An X-Ray Atlas of the Royal Mummies*, Chicago, 1980, 202.

¹⁴² W.M. KROGMAN and M.J. BAER, in J.E. HARRIS and E.F. WENTE, *An X-Ray Atlas of the Royal Mummies*, 202, 208–211.

¹⁴³ G. ELIOT SMITH, *The Royal Mummies*, 45.

¹⁴⁴ B. BRYAN, *Tuthmosis IV*, 9–13.

¹⁴⁵ Cf. also K.A. KITCHEN, review of J.E. HARRIS and E.F. WENTE, *An X-Ray Atlas of the Royal Mummies*, *JNES* 44, 1985, 235–237.

¹⁴⁶ K. BAER, Age at Death of Pharaohs of the New Kingdom, Determined from Historical Sources, in: J.E. HARRIS and E.F. WENTE, *An X-Ray Atlas of the Royal Mummies*, Chicago, 1980, 252–254.

¹⁴⁷ G. ROBBINS, The value of the estimated ages of the royal mummies at death as historical evidence, *GM* 45, 1981, 66.

¹⁴⁸ Cf. R.S. MERRILLEES, *The Cypriote Bronze Age Pottery Found in Egypt*, Lund, 1968, 4; J. BOURRIAU, *Umm el Ga'ab. Pottery from the Nile Valley*, Cambridge, 1981, 72; C.A. HOPE, review of the latter, *JEA* 71, 1985, Reviews Supplement, 4–5; J. BOURRIAU, Canaanite Jars from New Kingdom Deposits at Memphis, Kom Rabi'a, *Eretz Israel* 21, 1990,

innovative phases of the New Kingdom.¹⁴⁹ Without going into great detail, the pottery of this period forms a distinct transitional phase between Phases 2A and 3, in that ceramic fabrics and wares which were to become common during the reign of Amenophis III are first attested whilst the typical shapes of the “early Eighteenth Dynasty” begin to change into those of the “late Eighteenth Dynasty”; and both old styles of decoration were modified and new ones introduced. In addition Hope has plausibly dated a series of true blue-painted vessels found in tombs at Giza into the reigns of Amenophis II–Tuthmosis IV,¹⁵⁰ which would suggest that such pottery was already being produced at this time, though its major *floruit* was not to come until Phase 3A. Furthermore Bourriau has recently suggested that the pottery of Phase 3A also began to appear during the reign of Tuthmosis IV.¹⁵¹ In view of the above it would thus appear that, from a ceramic point of view, the length of time occupied by the reigns of Amenophis II and Tuthmosis IV ought, if at all possible, to be increased.

To add to the debate, Wilhelm, as the result of a new publication of the joining of Hittite text, KBo 50.24 + KUB 19.15,¹⁵² has plausibly equated Year 1 of Horemheb with Year 8/9 of Mursilis II.¹⁵³ Attributed to Year 10 of Mursilis II is a disputed record of a solar eclipse, which, if it really refers to an eclipse, is generally equated with the one experienced at Hattusha on June 24, 1312 BC.¹⁵⁴ Thus if Year 10 of Mursilis II is equivalent to 1312 BC, then Horemheb, who, following Wilhelm, became king of Egypt in Mursilis II’s Year 8/9, should have acceded to the throne in 1314/1313 BC, and with a

short reign of fifteen years would have died in 1300/1299 BC. This has the consequence that Ramesses I with a two year reign should date to 1299–1298 BC, and if Sety I only reigned for nine years, as the wine docket would tend to indicate, then Sety I must rule in the years 1298–1290 BC, and Ramesses II would have come to the throne in 1290 BC. This has long been considered as a possible start date for the reign, and is again coming back into fashion, and, if Wilhelm is right, then it is mandatory. In fact Wilhelm, himself, had long argued that Ramesses II came to the throne in 1290 BC,¹⁵⁵ but presumably bowing to the pressure of conventional chronology, had, in his discussion of the Hittite text, KBo 50.24+KUB 19.15, placed Ramesses II in 1279 BC,¹⁵⁶ thus ending up with an eighteen year reign for Sety I, since if Year 10 of Mursilis II is equivalent to 1312 BC, then Horemheb, who became king of Egypt in Mursilis II’s Year 8/9, should have acceded to the throne in 1314/1313 BC, and with a short reign of fifteen years would have died in 1300/1299 BC. By following the Egyptian low chronology, (as Wilhelm did in that article), then twenty years elapse between the death of Horemheb and the accession of Ramesses II. Since Ramesses I does not appear to have ruled for more than two years, then Sety I is left with a reign of approximately eighteen years. However, as noted above it is unlikely that Sety I outlived his ninth year, thus Wilhelm’s original position is not only likely to be correct, but would also be confirmed by his linking of Horemheb and Mursilis II, a correlation which is now accepted in Schneider’s latest analysis.¹⁵⁷

19*, slightly revised in J. BOURRIAU et al, *The Memphite Tomb of Horemheb III*, London, 2005, 8; D. ASTON, New Kingdom Pottery Phases as Revealed Through Well-Dated Tomb Contexts, in, M. BIETAK (ed), *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium B.C. II*, Vienna, 2003, 140; IDEM, *Untersuchungen im Totentempel des Merenptah in Theben IV. The Pottery*, Mainz, 2008, 375–389.

¹⁴⁹ C.A. HOPE, Innovation in the Decoration of Ceramics in the mid-18th Dynasty, *CCÉ* 1, 1987, 98; Cf also C. GUIDOTTI, Ceramica dipinta dell’epoca di Tutmosi IV a Gurna, *EVO* 4, 1981, 95–107.

¹⁵⁰ C.A. HOPE, Some Memphite Blue-Painted Pottery of the mid-18th Dynasty, 249–286, in J. PHILLIPS ed., *Ancient Egypt, The Aegean and the Near East. Studies in Honor of Martha Rhoads Bell*, San Antonio, 1997, 249–86.

¹⁵¹ In J. BOURRIAU et al, *The Memphite Tomb of Horemheb III*, 2005, 8.

¹⁵² J.L. MILLER, Amarna Age Chronology and the Identity of Nibhururiya in the Light of a Newly Reconstructed Hittite Text, *AoF* 34, 2007, 252–293; IDEM, The rebellion of Hatti’s Syrian vassals and Egypt’s meddling in Amurru, *SMEA* 50, 2008, 533–554.

¹⁵³ G. WILHELM, Mursilis II. Konflikt mit Ägypten und Horemhebs Thronbesteigung, *WdO* 39, 2009, 113.

¹⁵⁴ Ibid, 116. However this is a matter of dispute. Cf. most recently, R. PRUZINSZKY, *Mesopotamian Chronology of the 2nd Millennium B.C.*, Vienna, 2009, 76.

¹⁵⁵ J. BOESE and G. WILHELM, Assur-dan I, Ninurta-Apil-Ekur und die mittelassyrische Chronologie, *WZKM* 71, 1979, 19–38.

¹⁵⁶ G. WILHELM, Mursilis II. Konflikt mit Ägypten und Horemhebs Thronbesteigung, *WdO* 39, 2009, 116.

¹⁵⁷ Th. SCHNEIDER, Contributions to the Chronology of the New Kingdom and Third Intermediate Period, *AuL* 20, 2010, 397–400.

Since the wine docket indicates that Horemheb reigned no more than fifteen years and Seti I no more than nine years, then the following scenario unfolds viz: Horemheb 1313 – 1299 BC, Ramesses I 1299 – 1298 BC, Sety I 1298 – 1290 BC with the consequence that Ramesses II would have come to the throne in 1290 BC, and, if exactly two hundred years elapsed between Year 1 of Tuthmosis III and Year 1 of Ramesses II, then Year 1 of Tuthmosis III would fall in 1490 BC, however as pointed out above, this is astronomically unacceptable. The nearest acceptable date, however would be 1493 BC. If the date of 1479 BC for the accession of Tuthmosis III is abandoned, then astronomically, both 1504 BC and 1493 BC as the start of Tuthmosis III's reign are 'acceptable' since, in both cases, the error in the astronomical correlations for Years 23 and 24 of Tuthmosis III, would again be within an 'acceptable' one day.¹⁵⁸ It may be significant that with an accession date of 1504 BC for Tuthmosis III, it would be very possible for Tuthmosis IV to have reigned long enough to celebrate two *Heb-sed* festivals, and, moreover, the wine docket of Year 36 of the Estate of Tuthmosis IV found at Malkata could have been produced during the lifetime of the king. This leads to the following high and ultra-high chronologies:

	<i>high</i>	<i>ultra-high</i>
Tuthmosis III	1493–1440 BC	1504–1451 BC
Amenophis II	1442–1409 BC	1453–1420 BC
Tuthmosis IV	1409–1382 BC	1420–1382 BC
Amenophis III	1382–1344 BC	1382–1344 BC
Akhenaten	1344–1328 BC	1344–1328 BC
Smenkhare/ Neferneferuaten	1329–1326 BC	1329–1326 BC
Ankhetkheperure	1326–1325 BC	1326–1325 BC
Tutankhamun	1325–1316 BC	1325–1316 BC
Ay	1316–1313 BC	1316–1313 BC
Horemheb	1313–1299 BC	1313–1299 BC
Ramesses I	1299–1298 BC	1299–1298 BC
Sety I	1298–1290 BC	1298–1290 BC
Ramesses II	1290–1224 BC	1290–1224 BC

¹⁵⁸ R. KRAUSS, An Egyptian Chronology for Dynasties XIII to XXV, *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC. III*, 182.

¹⁵⁹ Cf. J. BRINKMAN, Nazi-Marrutas, *Realexikon der Assyriologie*, 9, 1999, 190 suggests Kara Indash had been replaced by Kadashman-Harbe I in 1405 BC.; L. SASSMANNSHAUSEN, Babylonian Chronology of the 2nd Half of the 2nd Millennium BC., in H. HUNGER and R. PRUZINSKY eds., *Mesopotamian*

From a purely ceramic point of view, such a revised chronology would be acceptable since the length of time covered by the reigns of Amenophis II and Tuthmosis IV would be raised from thirty six years, on the (2007) KRAUSS chronology quoted here, to between fifty-four and fifty six on the high chronology, and between sixty-five and sixty-seven years on the ultra-high chronology. Moreover the Deir el-Medina Year 19 wine docket of the estate of Tuthmosis IV would again 'obey' Hornung's rule that the wine delivered to the village always came from the vineyards of the ruling pharaoh.

Moreover, that Tuthmosis IV probably came to the throne somewhat earlier than the circa 1400 BC date implied by the accession of Tuthmosis III in 1479 BC is also indicated by the fact that Tuthmosis IV is known to have been in contact with the Babylonian king Kara-indash, (Amarna letters EA:64–65), whose demise is generally placed around 1415/1405 BC,¹⁵⁹ who himself was in contact with the Assyrian Assur-bel-nise-su (1417–1409/1407–1399 BC). On conventional Near Eastern chronologies these two kings are earlier in time than the generally accepted current position of Tuthmosis IV; however if Tuthmosis IV came to the throne somewhat earlier as would be necessary if Tuthmosis III came to the throne in 1504 or 1493 BC, then all three would indeed be contemporary with one another.¹⁶⁰

Arguments against a 1290 BC date for the accession of Ramesses II are often seen in the links between the established Hittite chronology and the

Dark Age Revisited, 2002, 62–63, where Kara-indash is dated to ca. 1450–1415 BC; Cf. also V. MÜLLER, Wie gut fixiert ist die Chronologie des Neuen Reiches wirklich?, *ÄuL* 16, 2006, 213, Abb. 3. There Horemheb is given 27/28 years with Year 1 of Ramesses II in 1279 BC. If that chart is adjusted so that Ramesses II begins in 1290 BC, and the reigns of Sety I and Horemheb are reduced by some fifteen years, the correlation between Tuthmosis IV and the Babylonian Kara indash and the Assyrian Assur-bel-nise-su is still impossible if both the Egyptian and Mesopotamian chronologies are 'correct'.

¹⁶⁰ Egyptologists generally overlook this problem or assume that they are right thus there must be something wrong with the Babylonian chronology which should be altered to fit the Egyptian one. – As Klinger puts it 'Discrepancies with Egyptian dates can easily be explained as lying in the Babylonian sources' !! – J. KLINGER, Chronological Links between the Cuneiform World, in E. HORNUNG, R. KRAUSS and D. WARBURTON, *Ancient Egyptian Chronology*, 2006, 315.

reigns of both Ramesses II and Merenptah, and between the reign of Ramesses II and Assyrian chronology, which suggests that the conventional, and astronomically correct, date of 1279 BC cannot be shifted earlier in time.

However, in terms of the Hittite chronology, Nemirovsky, through a reanalysis of the Hittite text KBo I 10, has put forward a number of arguments which effectively move Hattusili III one decade earlier than his conventional position, which would thus ‘fit’ with moving Ramesses II one decade earlier as well.¹⁶¹

The one correlation which would, of necessity have to be abandoned is the supposed synchronism between Ramesses II’s Year 16 and Year 1 of the Assyrian Kadashman-Enlil II,¹⁶² however, this is, in itself, disputed.¹⁶³ Indeed it is only possible if Horemheb reigned for 27/28 years and Seti I for 11 years, but as we have seen this is no longer tenable. Nevertheless from Burnaburiash II’s Year 1 to Kadashman-Enlil II’s Year 1, a minimum 96 years must elapse, since Burnaburiash II reigned for 27+ years, his successor, Kurtigalzu II, 25 years, his successor, Nazi-Maruttash, 26 years, and his successor, Kadashman-Turgu, 18 years.

The reign of Burnaburiash II is dated to either 1360–1333 or 1350–1323 BC. Since the Amarna letters show that Burnaburiash II was in correspondence with Amenophis III, Akhenaten and, in Kitchen’s opinion, Tutankhamun, then the latter would have had to come to the throne in 1323 BC at the latest. However, there is some dispute as to

whether Burnaburiash II actually did correspond with Tutankhamun. The supposed correlation of Burnaburiash II and Tutankhamun hinges on the writing Nipkhururia in EA 9, as opposed to Napkhururia = *Nfr-hprw-R^c* Akhenaten. If Nipkhururia was really meant to be different to Napkhururia, as Kitchen argues, then the only possibility for Nipkhururia is *Nb-hprw-R^c* Tutankhamun,¹⁶⁴ which, if true, would be the only proof that the Amarna archive continued into the reign of that king. However, the association of Nipkhururia with Tutankhamun is not certain and Krauss has argued that Nipkhururia is nothing but an aberrant form of Napkhururia, and thus Akhenaten was the recipient of EA 9, which would also make better sense when one considers the content of that letter.¹⁶⁵ Although this is criticised by Kitchen on philological grounds,¹⁶⁶ it is of interest that in the latest reviews of Mesopotamian chronology by orientologists, Burnaburiash II is not thought to have corresponded with Tutankhamun.¹⁶⁷

Burnaburiash II succeeded Kadashman-Enlil I whom we know wrote to Amenophis III (Amarna letters EA:19–22) rebuking Amenophis for not informing him of his “Great Festival.” This is conventionally seen as a reference to one of Amenophis III’s Heb-sed jubilees of Years 30, 34 or 37, hence Kadashman-Enlil I must have still been king in Babylon in Amenophis III’s Year 30. Burnaburiash II, therefore cannot have come to the Babylonian throne before that year, 1353/1352 BC, on both the here postulated high and ultra-high chronology.

¹⁶¹ This theory was developed through a series of papers, in Russian, published between 1999 and 2008, especially A. Nemirovsky, Hattusili III’s Letter to Kadashman-Enlil II (KBo I 10) and Some Problems of Near Eastern Chronology, *VDI* 262/3, 2007, 3–27. cf. M. WIENER, *BES* 19.

¹⁶² Cf. K. KITCHEN, Egyptian and Related Chronologies – Look, no sciences, no pots, in M. BIETAK and E. CZERNY eds. *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC. III*, Vienna, 2007, 168–169.

¹⁶³ Cf. R. PRUZINSKY, *Mesopotamian Chronology of the 2nd Millennium B.C.*, 2009, 88.

¹⁶⁴ K.A. KITCHEN, Further Notes on New Kingdom History and Chronology, *CdE* 43, 1968, 318. A position which he still holds, K.A. KITCHEN, *Egyptian and Related Chronologies – Look, no sciences, no pots*, 168.

¹⁶⁵ R. KRAUSS, *Das Ende der Amarnazeit*, 72–77. Cf. also V. PARKER, Zur Chronologie Šuppiliumaš I, *AoF* 29, 2002, 31–62; G. WILHELM and J. BOESE, Absolute Chronologie und

die hetitische Geschichte des 15. und 14. Jahrhunderts v. Chr. in P. ASTROM, ed., *High, Middle or Low, Acts of an International Colloquium on Absolute Chronology*, Part 1, Gothenburg, 1987, 100–101; and J.L. MILLER, Amarna Age Chronology and the Identity of Nibhururiya in the Light of a Newly Reconstructed Hittite Text, *AoF* 34, 2007, 263–272, 279–282.

¹⁶⁶ K. A. KITCHEN, review of R. Krauss, *Das Ende der Amarnazeit*, *JEA* 71 Reviews Supplement, 1985, 44. However, for a different view, see also J. ZEIDLER, Die Entwicklung der Vortonsilben-Vokale im Neuägyptischen, in L. GESTERMANN, H. STERNBERG EL-HOTABI eds., *Per aspera ad astra. Wolfgang Schenkel zum neunundfünfzigsten Geburtstag*, 1995, 221.

¹⁶⁷ K.R. VEENHOF, *Geschichte des alten Orients bis zur Zeit Alexanders des Großen*, Göttingen, 2001, 313; R. PRUZINSKY, *Mesopotamian Chronology of the 2nd Millennium B.C.*, 37. Cf. also G. WILHELM, Mursilis II. Konflikt mit Ägypten und Haremhab’s Thronbesteigung, *WdO* 39, 2009, 113.

Recently, Devecchi and Miller have re-examined the presumed link between Ramesses II's Year 16 and Kadashman Enlil II's Year 1 and concluded that there is nothing to substantiate the synchronism, and, rather suggest the only reliable date for the accession of Kadashman-Enlil II is to add 96 years to the accession date of Burnaburiash II.¹⁶⁸ Devecchi and Miller utilised the 'short Assyrian chronology' with Burnaburiash II dated to 1360 (1359) – 1333, and thus Kadashman-Enlil II coming to the throne in 1263 BC. By allowing Kadashman-Enlil I to die half way through Amenophis III's last 7–8 years, and assuming 17 years for Akhenaten, 3 for Smenkhare, 1 for Ankhetkeperure, 9 for Tutankhamun, 4 for Ay, 14 for Horemheb, 2 for Ramesses I and 11 for Seti I, they came to a figure of 64 years, to which the first 32 years of Ramesses II must be added to arrive at the 96 year interval between Years 1 of Burnaburiash II and Year 1 of Kadashman Enlil II in 1263 BC. This thus results in an accession date for Ramesses II in 1295 BC, a date never seriously considered by Egyptolo-

gists.¹⁶⁹ Should, however the 1350–1323 BC date for Burnaburiash II be chosen then not only would it be a perfect fit in that Amenophis III's Year 30 would fall in 1353/1352 BC, which would allow Kadashman-Enlil I to complain about not being informed of Amenophis III's Heb-sed festival, but also it would allow for Burnaburiash II to correspond with Amenophis III, Akhenaten, and, on the above chronology, even Tutankhamun. Ramesses II would then come to the throne in 1290 BC, with the result that Kadashman Enlil II would succeed Kadashman-Turgu in circa 1254 BC, or Ramesses II's Year 36, which would still allow him to correspond with Hattusilis III.¹⁷⁰ In this respect it should be noted that in the latest general discussion of Mesopotamian chronology, Pruzsinsky, favours the lower dates¹⁷¹ hence, Burnaburiash II, 1350–1323 BC., Assur bel nisu, 1407–1399 BC, and, by implication, Kara-Indash 1440–1405 BC, which fits perfectly with the Egyptian chronology postulated in this paper.

The above analysis leads to the following results, as indicated in the following table.¹⁷²

Year 1	Krauss 2007	Schneider 2010	'High'	'Ultra high'	2010 (68%)	2010 (95%)	2013 (68%)	2013 (95%)
Tuthmosis III	1479	1476	1493	1504	1494–1483	1498–1474	1496–1477	1502–1470
Amenophis II	1425	1422	1440	1453	1441–1431	1445–1423	1451–1434	1456–1419
Tuthmosis IV	1400	1396	1409	1420			<i>1427–1410</i>	<i>1432–1395</i>
Amenophis III	1390	1386	1382	1382	1404–1393	1408–1386	1418–1401	1423–1386
Akhenaten	1353	1348	1344	1344	1365–1355	1370–1348	1380–1363	1385–1348
Smenkhare	1336	1331	1329	1329			<i>1363–1331</i>	<i>1368–1331</i>
Ankhetkeperure	1333	X	1326	1326			<i>1363–1331</i>	<i>1368–1331</i>
Tutankhamun	1332	1327	1325	1325	1349–1338	1353–1331	1360–1342	1365–1328
Ay	1323	1318	1316	1316			<i>1356–1332</i>	<i>1361–1316</i>
Horemheb	1319	1315	1313	1313	<i>1336–1325</i>	<i>1341–1318</i>	1352–1329	1357–1312
Ramesses I	1292	1300	1299	1299	<i>1308–1297</i>	<i>1313–1290</i>	<i>1334–1309</i>	<i>1340–1292</i>
Sety I	1290	1300	1298	1298				
Ramesses II	1279	1290	1290	1290	1292–1281	1297–1273		

Of the above two radiocarbon models, as a non-specialist, I would think that more faith should be placed in the 2010 model since the samples were more closely linked to the actual reign of the named

king, than the 2013 model, in which the samples were not so well-dated, and this is indeed shown in the fact that the date ranges given are wider, as if the 2013 authors did not wish to be as decisive as

¹⁶⁸ E. DEVECCHI and J.L. MILLER, *Hittite-Egyptian Synchronisms and their Consequences*, 158–166.

¹⁶⁹ E. DEVECCHI and J.L. MILLER, *Hittite-Egyptian Synchronisms and their Consequences*, 166.

¹⁷⁰ This is remarkably similar to the Year 35 proposed by E. DEVECCHI and J.L. MILLER, *Hittite-Egyptian Synchronisms and their Consequences*, 165. NEMIROVSKY, *Hattusili III's*

Letter to Kadashman-Enlil II, by moving Hattusilis III one decade earlier in time ends up with a start date somewhere between Ramesses II's Year 24 and 29.

¹⁷¹ R. PRUZSINSKY, *Mesopotamian Chronology of the 2nd millennium BC.*, 2009, 37.

¹⁷² Dates in italics are estimated from the models, rather than actual radiocarbon samples.

those in 2010. Moreover the dates for Tuthmosis III were derived from 49 radiocarbon samples in the 2010 study, but were essentially deduced from intervening reign lengths in the 2013 study. However, the follow-up 2013 study does confirm the general results of the 2010 result. With the 2010 exception of Tutankhamun, for which the radiocarbon dates do not match any of the chronologies discussed in this paper,¹⁷³ then in both the conventional low chronology, (Year 1 of Tuthmosis III in 1479, and Year 1 of Ramesses II in 1279, cf. KRAUSS 2007), and the high and ultra-high chronology suggested in this paper the radiocarbon dates at the two sigma range are compatible, but with the seemingly mandatory shortening of the reigns of both Horemheb and Sety I, Year 1 of Ramesses II would fall in 1290 BC, (cf. SCHNEIDER 2010 in the above table), yet a 1479–1290 correlation would still ‘fit’ within the two sigma range. In every case, however, the conventional low chronology is at the extreme earliest edge of the 2010 two sigma range, slightly less so in the 2013 result. If, however, the arguments presented in this paper are followed, then in the first (high) scenario, Tuthmosis III coming to the throne in 1493 BC and Ramesses II in 1290 BC, then both, and also Amenophis II, fit into the ‘expected’ one sigma range as indicated by the Carbon 14 results of Bronk Ramsey et al, whilst in the second (ultra-high), with Tuthmosis III coming to the throne in 1504 BC only Ramesses II falls into the ‘correct’ range. With a 1493 – 1290 BC correlation, however, it can be seen that the radiocarbon dates, lunar dates (even though 1504 is astronomically preferable), wine docket and the archaeological analysis

given above are remarkably in accord with one another which might, therefore, suggest that the 1493 – 1290 BC correlation for the first years of Tuthmosis III and Ramesses II is probably ‘correct,’ or at least ‘more correct,’ than other synchronisms. Moreover, this also means that both Horemheb and Sety I had shorter reigns, – of 14–15 and no more than 9 years respectively, – and that Tuthmosis IV must have had a longer reign than for which he is currently given credit. In both cases, however, the seventeen Carbon 14 dates for Akhenaten and the (2010) seven for Tutankhamun are too early. The only way to make *all* the Carbon 14 dates ‘correct’ would be to again shorten the reign length of Tuthmosis IV, and to increase the reign lengths of one, all, or any combination of, the kings from Tutankhamun to Sety I, which in view of what has been written in this article is unlikely. These inconsistencies arise because Bronk Ramsey et al followed a model, in which Tuthmosis IV was given a short reign, and both Horemheb and Sety I reigns which now appear to be too long.¹⁷⁴ However, from what is written in this article, these basic assumptions are invalid, yet, even with those dates, the radiocarbon still suggests, at a one sigma range, a start date for the reign of Tuthmosis III between 1494 and 1483 BC., a factor which is strongly supported by the archaeological thesis outlined in this paper.¹⁷⁵ Consequently it would seem to me that any chronology which would have Tuthmosis III come to the throne in 1493 BC and Ramesses II in 1290 BC is more likely to be nearer the truth than any which dates the accession of Tuthmosis III in 1479 and Ramesses II in 1279 BC.

¹⁷³ In 2013, the radiocarbon accession date of Tutankhamun, at a two sigma range would just fit the conventional low chronology, such as KRAUSS, 2007.

¹⁷⁴ BRONK RAMSEY et al, Radiocarbon-Based Chronology for Dynastic Egypt, *Science* 328, 2010, 1556.

¹⁷⁵ Recomputing the 2010 model with the dates postulated in this article might even place the beginning of the reign of Tuthmosis III in the 1504 range, and thus lower the start date

of the New Kingdom even earlier. As it is, with Tuthmosis III coming to the throne in 1493 BC, the start of the New Kingdom can then be placed in 1565 BC, (as can be seen by adding 17 years to the 1476 start date for Tuthmosis III, postulated by SCHNEIDER, *AuL* 20, 2010, 402) which thus reduces the Tell el-Dab’a offset (cf supra fn. 2) by 25 years.

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