



**The Reconstructed Chronology of the Egyptian Kings**

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## Author's Preface

A military confrontation in the Middle East occurred about 3000 years ago in the 5th year of Judah's King Rehoboam and the 20th year of Egypt's King Shoshenq I. Though the campaign was recorded in the annals of both nations, agreement on the actual year—which could anchor the chronologies of each—has not been established, despite much effort over the last century.

Edwin Thiele, a Seventh Day Adventist teacher, authored *The Mysterious Numbers of the Hebrew Kings*, which—in the absence of a credible alternative—for the last 50 years has been a standard reference for dating reigns in the 1st and 2nd Books of Kings in the Old Testament. But Thiele based his theories only on the Hebrew Masoretic Text which only goes back to about 1000 CE. He dismissed the variant numbers recorded in the Septuagint, the Greek translation of the Hebrew Text, as it stood about 1200 years earlier, around 200 BCE. The Septuagint was widely accepted at the time of Jesus Christ, was quoted in the New Testament, and was used to spread Christianity through the early centuries of the Common Era (CE).

Thiele explained the “mysterious” numbers by invoking separate calendars for Judah and Israel, and many co-regencies; which find no mention in the records. He supported his theory by a continuous list of Assyrian Kings which remains unproven.

My *Reconstructed Chronology of the Divided Kingdom* published in 2005 considered all the biblical texts, and established that Rehoboam's 5th year was 977 BCE, 52 years earlier than Thiele's proposed date. But the date for Judah was only half of the equation in the Rehoboam and Shoshenq I engagement. How did it fit with Egyptian chronology?

During the last century the tempo and temperature in meetings and writings between Egyptologists, scientists, and archaeologists has risen dramatically—all intent on establishing the dates for Egyptian events. They have dealt with Ramesses II, the Eruption of Thera on Santorini, which produced pumice used in some Egyptian monuments, and many other themes. Inscriptions and evidence continues to emerge from the sands of Egypt.

The *Reconstructed Chronology of the Divided Kingdom* established the Egyptian chronology in part, confirming that Shoshenq I's 20th year was 977 BCE. Now I present the full chronology for the Egyptian Dynasties 1-25 anchored by the heliacal risings of Sirius (Sothis) and lunar phases, which modern reconstructions can identify precisely. A new understanding of Egyptian calendars is a critical feature of the reconstruction.

With the completion of this reconstructed chronology of the Egyptian kings, the date of Rehoboam's encounter with Shoshenq I is established by independent chronologies of Israel/Judah (in *The Reconstructed Chronology of the Divided Kingdom*), and of Egypt (herein). The date of 977 BCE in the total dynastic framework of Egyptian chronology finally makes sense of all the evidence from inscriptions, archaeological effort, and scientific research.

I wish to acknowledge the invaluable contribution of Dr. Lee W. Casperson in accomplishing this project. In two *JNES* articles in the 1980s he employed astronomical data to evaluate proposed dates for Thutmose III and Ramesses II—“The Lunar Dates of Thutmose III,” (*J Near E Stud*, Vol. 45, No. 2: 139-150) and “The Lunar Date of

Ramesses II,” (J Near E Stud, Vol. 47, No. 3: 181-184). The use of this data offered a means for testing the feasibility of dates proposed from inscriptions and other sources. Over the many years of this research, Dr Casperson has provided me (upon request) with numerous sets of tables for specified periods. For this collaboration, and the corroboration that his data has supplied, I am truly grateful.

M. Christine Tetley, Th.D,  
Whangarei, New Zealand,  
3 July 2013.

## Editor's Note

Dr Christine Tetley died on 19 July 2013. She was the first female graduate of New Zealand's Laidlaw College to be awarded a Doctorate in Theology. It was awarded by the Australian College of Theology, again the first awarded to a woman by thesis (others had been *honoris causa*). Her thesis was published in 2005 by Eisenbrauns entitled *The Reconstructed Chronology of the Divided Kingdom*. She completed this present work two weeks before her death. Her husband, Rev. Barry Tetley (M.Div. Hons.) has been in Christian ministry for 45 years, including 12 years as a lecturer at NZ's Laidlaw College. He was responsible for the final editing of the text.

The central chronological thesis of this presentation is established by the concordance of inscriptional and astronomical evidence available to Dr Tetley at the time of compilation. It radically differs from most chronological estimates in current Egyptological publications.

It establishes the early use of a civil Calendar in Upper Egypt with Wep Renpet as the first month, with a changing four-year link to with the annual heliacal rising of Sothis, referred to in inscriptions. A great number of events reported in historical materials link to new or full moon events, that are pin-pointed by secure astronomical evidence. This evidence establishes the date of Neferefre's reign as the earliest secure date in Egyptian history. From this date, together with analysis of the Turin Canon, the reconstructed Royal Annals, and other ancient king-lists, Dr Tetley establishes new dates for the first five dynasties. Later dynastic records contain numerous sothic or lunar references, which enable the reconstruction of a chronology that conforms to astronomical evidence. Such evidence is not susceptible to the vagaries of guess-work and estimation from a flawed starting date, as is currently relied upon in much of the present information available to the public.

Dr Tetley's methodology must be examined on its merits. The study of Ancient Egypt is ongoing, and Dr Tetley hoped that her contribution to its chronology would provide answers with a confidence that has so far eluded the Egyptology community.

New information can fill "knowledge gaps" and further refine her endeavour. The editor invites readers who recognize such gaps, or errors in the compiled material, to communicate directly with him. Any material of chronological significance that could improve and refine the Reconstructed Chronology of the Egyptian Kings would be exactly within the intentions of Dr Tetley, and would be considered for inclusion and recognition within the existing narrative.

Finally, I wish to thank Ruth Blaikie for her superb skills in copy editing this project for publication.

Barry Tetley - [editor@egyptchronology.com](mailto:editor@egyptchronology.com)



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#### Note on Casperson Tables.

Explanation of tables supplied by Dr. Lee Casperson occur in the context of the book, especially in chapter 4 (pp. 66-67), chapter 5 (pp. 81-82) and chapter 10 (p. 168). As can be seen in the above list, there are over 130 tables related to new moons or full moons. Many feasts and significant events referred to in inscriptions occurred in relation to lunar events.

Casperson's tables derive from astronomical calculation and are helpful in the first 11 columns for showing the comparative dates of the months of the Egyptian calendar and the Gregorian and Julian calendars. But most of the tables are employed for identifying the dates of new moons. The tables are based on the time of conjunction, shown in the 0 column, "the time of occurrence of the astronomical new moon, the instant of conjunction at which the ecliptic longitudes of Sun and Moon are equal" as Casperson says. This is the moment and day when the moon is invisible because it is directly

between the sun and the earth. For the ancients the day of *invisibility* was the day of the new moon. In Casperson's tables, usually the day of the new moon occurs on the day of conjunction. But occasionally, the new moon—the day of its *invisibility*—occurred a day *before* actual conjunction. This is shown in the tables if the number in the -1 column is less than 100.

In the table below, in the -1 column all the values are over 100 so that the moon could still be seen on the day before conjunction, except for the first and second months of the Julian year -1936. The *actual* new moon date in those months recorded in Egyptian historical inscriptions—when the moon was invisible—was the day before conjunction, that is, January 19 and February 19 (using Julian month names).

**Table 4.5: Amenemhet III, 30th and 31st years (new moon listing from -1937 to -1936)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1937	9	12	-1937	8	26	844	9	26	1	16:53	5:34	297	5:35	173	5:36	<b>53</b>
-1937	10	12	-1937	9	25	844	<b>10</b>	<b>26</b>	3	5:06	6:01	224	6:02	106	6:03	<b>-8</b>
-1937	11	10	-1937	10	24	844	<b>11</b>	<b>25</b>	4	19:39	6:27	284	6:28	163	6:29	<b>51</b>
-1937	12	10	-1937	11	23	844	<b>12</b>	<b>25</b>	6	12:27	6:49	227	6:49	108	6:50	<b>9</b>
-1936	1	9	-1937	12	23	845	<b>1</b>	<b>20</b>	1	6:49	6:57	169	6:57	<b>69</b>	6:57	-9
-1936	2	8	-1936	1	22	845	<b>2</b>	<b>20</b>	3	1:14	6:48	130	6:47	<b>53</b>	6:46	-8
-1936	3	8	-1936	2	20	845	<b>3</b>	<b>19</b>	4	18:05	6:27	221	6:26	113	6:25	<b>49</b>
-1936	4	7	-1936	3	21	845	<b>4</b>	<b>19</b>	6	8:23	6:01	188	6:00	100	5:59	<b>40</b>
-1936	5	6	-1936	4	19	845	<b>5</b>	<b>18</b>	7	20:08	5:37	302	5:36	155	5:35	<b>76</b>
-1936	6	5	-1936	5	19	845	<b>6</b>	<b>18</b>	2	5:59	5:15	224	5:14	113	5:14	<b>27</b>
-1936	7	4	-1936	6	17	845	<b>7</b>	<b>17</b>	3	14:49	5:03	300	5:03	158	5:03	<b>51</b>
-1936	8	2	-1936	7	16	845	<b>8</b>	<b>16</b>	4	23:26	5:07	359	5:07	211	5:08	<b>87</b>
-1936	9	1	-1936	8	15	845	<b>9</b>	<b>16</b>	6	8:25	5:25	264	5:26	135	5:27	<b>10</b>
-1936	9	30	-1936	9	13	845	<b>10</b>	<b>15</b>	7	18:17	5:50	316	5:51	187	5:52	<b>60</b>

DoW = day of week; ToD = time of day.

These tables enable us to actually *know* the new moon dates reported in Egyptian history; allowing us to rule out guesswork about Egyptian chronology. The multiple network of anchor dates reported in this chronology give compelling corroboration to its accuracy.

## Figures

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## General Abbreviations

AbKL	Abydos King List
ACACIA	Arid Climate, Adaptation and Cultural Innovation in Africa
AEC	Assyrian Eponym Canon
<i>AEC</i>	Ancient Egypt Chronology (2006)
B.C.E.	Before the Common Era (= B.C.)
BM	British Museum
C.E.	Common Era (= A.D.)
C1-6	Cairo fragments of the Royal Annals 1 - 6
DB	Deir el-Bahari Temple
EA	Egyptian Archaeology
FIP	First Intermediate Period
Greg.	Gregorian Calendar
HP	High Priest
HPA	High Priest of Amun
Jul.	Julian Calendar
KR	The <i>Kaige</i> Recension
KKL	Karnak King List
KPA	Karnak Priestly Annals
L	Lucian/Lucianic
LXX	Septuagint
MT	Masoretic Text
NK	New Kingdom
NLT	Nile Level Text
NT	New Testament
OG	Old Greek
OG/L	The Old Greek and Lucianic textual source
OK	Old Kingdom
OT	Old Testament
PS	Palermo Stone
SCIEM	Synchronisation of Civilisations in the Eastern Mediterranean in the Second
SIP	Second Intermediate Period
SaqTab	Saqqara Tablet
TC	Turin Canon
TIP	Third Intermediate Period



## Bibliographic Abbreviations

- Ä und L* Ägypten und Levante, a Journal published in Austria by Verlag der Oesterreichischen Akademie der Wissenschaften.
- ÄA* Ägyptologische Abhandlungen, a German Journal published in Wiesbaden by Harrassowitz since 1960.
- ABD* Anchor Bible Dictionary, 6 Volumes published in 1992 by Bantam Doubleday Dell Publishing Group, Inc. USA.
- ACE* Australian Centre for Egyptology, Department of Ancient History, Macquarie University NSW 2109, Australia.
- AEC (2006)* Ancient Egyptian Chronology (eds. Erik Hornung, Rolf Krauss, and David A. Warburton) Handbook of Oriental Studies 83; Leiden and Boston: Brill, 2006.
- AFAA* Association Francaise d'Action Artistique
- AJSL* American Journal of Semitic Languages and Literatures was a journal of Semitic and Hebrew philology, published by the University of Chicago from 1895 as a successor of *Hebraica*, until 1941 when it was succeeded by the Journal of Near Eastern Studies (JNES).
- ANET* Ancient Near Eastern Texts (ed. J. B. Pritchard) Princeton: Princeton University Press, 1969.
- ARAB* D. D. Luckenbill, Ancient Records of Assyria and Babylonia, 2 vols; repr. New York: Greenwood, 1968 (orig. Chicago, University of Chicago Press 1926-1927).
- ASAÉ* Annales de Service des Antiquités de l'Égypte, is published for Supreme Council of Antiquities in Egypt by the American University in Cairo Press.
- BAR* Biblical Archaeological Review, Magazine of the Biblical Archaeological Society, Washington, DC, USA.
- BASOR* Bulletin of the American Schools of Oriental Research, USA.
- BdÉ* Bibliothèque d'Étude, publications of the Institut Français d'Archéologie Orientale (IFAO), Cairo, Egypt.
- BES* Bulletin of the Egyptological Seminar published by Scholars Press of the University of Michigan.
- BIFAO* Le Bulletin de l'Institut Français d'Archéologie Orientale
- BiOr* Bibliotheca Orientalis, Journal for the Netherlands Institute for the Near East (NINO), Leiden University, The Netherlands.
- BibOr* Biblica et orientalia published by the Pontifical Gregorian University, Rome, Italy.
- BSÉG* Bulletin de la Société d'Égyptologie, Genève, Switzerland.
- BSFE* Bulletin de la Société Française d'Égyptologie, Paris, France.
- CAH* Cambridge Ancient History, published in 14 volumes by the Cambridge University Press, Cambridge, UK.
- CdÉ* Chronique d'Égypte, published since 1925 by the Association Egyptological Queen Elizabeth sponsored by the Ministry of Education Foundation and the University of Belgium.

<i>CFEETK</i>	Centre Franco-Égyptien d'Étude des Temples de Karnak
<i>CG</i>	Catalogue General du Musee du Caire (series, Cairo Museum)
<i>CRAIBL</i>	Comptes rendus de l'Académie des inscriptions et belles lettres.
<i>CRIPEL</i>	Cahier de recherches de l'Institut de papyrologie et d'égyptologie de Lille
<i>DE</i>	Discussions in Egyptology
<i>EA</i>	Egyptian Archaeology
<i>EU</i>	Egyptologische Uitgaven
<i>GM</i>	Göttinger Miszellen
<i>HÄB</i>	Hildesheimer Ägyptologische Beiträge
<i>HAIJ</i>	J. M. Miller and J. H. Hayes, A History of Ancient Israel and Judah (Philadelphia PA: and Westminster/London: SCM., 1986)
<i>HPBM</i>	Hieratic Papyri in the British Museum
<i>IFAO</i>	Institut français d'archéologie orientale.
<i>JAMA</i>	Journal of the American Medical Association
<i>JARCE</i>	Journal of the American Research Centre in Egypt
<i>JAOS</i>	Journal of the American Oriental Society
<i>JBL</i>	Journal of Biblical Literature
<i>JCS</i>	Journal of Cuneiform Studies
<i>JEA</i>	Journal of Egyptian Archaeology
<i>JEH</i>	Journal of Ecclesiastical History
<i>JEOL</i>	Jaarbericht Ex Oriente Lux
<i>JHA</i>	Journal for the History of Astronomy
<i>JNES</i>	Journal of Near Eastern Studies
<i>JSSEA</i>	Journal for the Society of Study of Egyptian Antiquities, Toronto, Canada
<i>JTS</i>	Journal of Theological Studies
<i>Kêmi</i>	Revue De Philologie Et D Archéologie Égyptienne Et Coptes
<i>KMT</i>	Kmt: A Modern Journal of Ancient Egypt
<i>KRI</i>	K. A. Kitchen, Ramesside Inscriptions: Historical and Biographical (Oxford, 1969)
<i>LÄ</i>	Lexikon tier Ägyptologie
<i>Manetho</i>	Manetho (trans. W. G. Waddell; Loeb Classical Library 350; London: William Heinemann Ltd. and Cambridge, MA: Harvard University Press, 1940)
<i>MAA</i>	Mediterranean Archaeology and Archaeometry
<i>MDAIK</i>	Mitteilungen des Deutschen Archäologischen Instituts Abteilung Kairo
<i>MNHK<sup>1</sup></i>	E. R. Thiele, The Mysterious Numbers of the Hebrew Kings: A Reconstruction of the Chronology of the Kingdoms of Israel and Judah (1st ed.; Chicage: University of Chicago Press, 1951)
<i>MNHK<sup>2</sup></i>	E. R. Thiele, The Mysterious Numbers of the Hebrew Kings: A Reconstruction of the Chronology of the Kingdoms of Israel and Judah (2nd ed.; Grand Rapids: Eerdmans/Exeter: Paternoster, 1965)
<i>MNHK<sup>3</sup></i>	E. R. Thiele, The Mysterious Numbers of the Hebrew Kings (3rd ed.; Grand Rapids: Zondervan, 1983)
<i>NARCE</i>	Newsletter of the American Research Center in Egypt
<i>NINO</i>	Nederlands Instituut voor het Nabije Oosten
<i>OIC</i>	Oriental Institute Communications (Archeological communications of the University of Chicago)
<i>PÄ</i>	Probleme der Ägyptologie (Leiden)

<i>RAD</i>	Ramesseid Administrative Documents (ed. A. H. Gardiner; Griffith Institute, Ashmolean Museum, 1948)
<i>RCDK</i>	M. C. Tetley, <i>The Reconstructed Chronology of the Divided Kingdom</i> (Winona Lake, IN: Eisenbrauns, 2005) originally a Th.D. diss., Australian College of Theology, 1999.
<i>Rd'É</i>	Revue d'Égyptologie published by the Société Française d'Égyptologie.
<i>SAK</i>	Studien zur Altägyptischen Kultur, published in Hamburg by Helmut Buske Verlag since 1974.
<i>SAOC</i>	Studies in Ancient Oriental Civilization, publications of the Oriental Institute of the University of Chicago, IL.
<i>SCIEM</i>	The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium B.C.
<i>SCIEM</i> (2000)	<i>II</i> Proceedings of SCIEM Symposia at Schloß Haindorf 15-17 November 1996, and at Austrian Academy, Vienna, 11-12 May 1998, (ed. Manfred Bietak; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2000).
<i>SCIEM</i> (2003)	<i>II</i> Proceedings of the SCIEM EuroConference at Haindorf, 2-7 May 2001 (ed. Manfred Bietak; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2003).
<i>SCIEM</i> (2007)	<i>II</i> Proceedings of the SCIEM 2nd EuroConference Vienna, 28 May-1 June 2003 (eds. Manfred Bietak and Ernst Czerny; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2007).
<i>SOAS</i>	School of Oriental and African Studies
<i>SSEA</i>	Society of the Study of Egyptian Antiquities (Toronto)
<i>TIP</i>	K. A. Kitchen, <i>The Third Intermediate Period in Egypt (1100-650 BC)</i> , (Warminster, England: Aris & Phillips, 1972, 1986, 1996).
<i>Urk</i>	Urkunden des ägyptischen Altertums
<i>VA</i>	Varia Aegyptiaca
<i>ZÄS</i>	Zeitschrift für ägyptische Sprache und Altertumskunde



## Synopsis

*The reader might expect a chart of key dates presented in this book, as a means of comparison with his or her presuppositions. But the author's methodology must be well understood, before considering precise dates. The Egyptian calendar(s) must be established in the first part of the book, to secure the date and year of Neferefre's w3gy feast, pivotal for dates before and after. The following synopsis is compiled by the editor to assist the reader's journey through the book, and to introduce the chapters where specific Dynastic tables are to be found after full consideration of the evidence and anchor points that determine the dates and length of each king's reign.*

**The Introductory Chapter**, "Problems with the Historical Chronology of Ancient Egypt", describes the ongoing yet unresolved chronological controversies within the Egyptological community throughout the 20th century to the present. This includes the dating of the Eruption of Thera which produced material for construction for a limited period in Egypt. The chapter describes the views of Egyptologists who have formed opinions on the chronology of ancient Egypt based on the comparatively incomplete inscriptional evidence, and scientists who rely on carbon-dating and other methodologies; a perceived difference of approx. 150 years. The selective reliance by Egyptologists who seek to establish the chronology of ancient Egypt on uncertain evidence and methodologies, and a rejection of alternative sources such as scientific analysis, astronomical observation, and inscriptions not fitting their presuppositions (like the Ebers Calendar), portrays a research discipline in considerable conflict.

**Chapter Two** reprises the author's findings in her *Reconstructed Chronology of the Divided Kingdom* (Eisenbrauns, 2005). She challenges Egyptologists for generally accepting the dating methodologies of Edwin Thiele for the Israel/Judah chronology, linked to a dubious Assyrian Eponym Canon, upon which they generally rely as an accepted date for Egyptian chronological calculations. Based on her comprehensive critical analysis of *all* Israel/Judean textual sources she reconstructs a cogent and coherent presentation of the deliberately interlinked chronologies of Judah and Israel in the canonical Books of Kings. She establishes that a crucial encounter between Rehoboam of Judah and Shoshenq I of Egypt occurred in 977 BCE, not 925 as commonly assumed. This is the primary synchronism for establishing the chronologies of ancient Assyria, Israel/Judah, and Egypt.

**In Chapters Three to Seven**, Dr Tetley explains the importance to ancient Egyptians of the annual rising of the star Sothis and other means of marking the passage of time. She surveys the various calendrical images and devices known to Egyptologists. Then she examines in laborious detail one of the primary chronological puzzles among Egyptologists over the last century, which is the search to explain why various inscriptions and calendar references report some feasts apparently held out of their eponymous months in the Greco-Roman calendar. In particular she highlights the information supplied by Sir Alan Gardiner in 1906 suggesting two civil calendars, and Dr Richard Parker's advocacy in 1950 of lunar calendars, and their subsequent irate

interchanges in 1955 and 1957. She discusses the more recent workings of Winfried Barta, Jürgen von Beckerath, Marshall Clagett, Leo Depuydt, Wolfgang Helck, Heidi Jauhiainen, Rolf Krauss, Christian Leitz, Ulrich Luft, John Nolan, and Anthony Spalinger, meticulously examining the calendrical materials. From this extended narrative, describing an array of detail, contention and uncertainty, is highlighted a range of observations upon which a constructive analysis can be eventually postulated. Tetley repeatedly contends that no responsible chronology of Ancient Egypt can be ventured without a satisfactory understanding of Egypt's calendar or calendars, by which chronological information on inscriptions, letters and elsewhere must be interpreted. This section of the book is critical for engaging with the real situation in the twin Kingdoms of Upper Egypt and Lower Egypt, and the calendrical solution that explains feasts "apparently" held out of their eponymous months.

**In Chapters Eight and Nine** evidence is examined that supports the existence of a Calendar commencing with the month of Wep Renpet (*wꜣ rnꜣꜣt*). The evidence adduced related not only to the first month of the year, but by implication other months and feasts that conform to such a calendar. Chapter eight concludes with an extensive list of evidence from many sources that validate the existence of such a calendar. Chapter nine discusses in detail the famous Ebers Calendar.

**In Chapter Ten** Tetley finally offers her explanation to resolve previously described impasse. She validates the Ebers Calendar as the key document for establishing the calendrical system and a chronological fixed point for Upper Egypt by its reference to the heliacal rising of Sothis on III *šmw 9* at Thebes (Upper Egypt) in the ninth year of the reign of King Amenhotep I. She then explores the documentary evidence for the Era of Menophres, and establishes how the calendar of Lower Egypt eventually supplanted the calendar for Upper Egypt, a transition recognized as the Era of Memphis (Lower Egypt). Throughout this and previous chapters Tetley's proposals are corroborated and validated by astronomical tables supplied by Prof. Lee Casperson, and occasionally the calculations of Dr. Fred Espenak (NASA's Goddard Space Flight Center) for new moon phases. Readers will not appreciate and substantiate the remainder of this work without understanding the importance of the Sothic cycle in the formation of the Egyptian calendar, as well as the Casperson tables.

**Chapters 11 to 13** engage in a case study of Sesostris III and Amenhotep III and are pivotal to the validity of the entire work. Firstly, Sesostris III's seventh year is linked in diaries found at Illahun to a heliacal rising of Sothis recorded at Illahun. By analyzing the seventh year date based on the Sothic cycle explicated in Chapter 10, the year can be identified as 1980 BCE, confirmed by multiple corroboration through astronomical analysis by Casperson. Also found at Illahun are papyri (pBerlin 10282 and 10130) describing festivals dated specifically to new moons in Sesostris III's sixth and eighth years. Casperson's tables can again be applied to the new moon dates in 1981 BCE and 1979 BCE respectively. They provide exact agreement. Of these three adjacent years, Tetley says, "that the Sothic date and the lunar dates support each other is a compelling argument for their reliability." Chapter 12 examines the various feast dates occurring in the Illahun papyri. Tetley concludes, "The inscriptional data in the Illahun materials offer numerous dates that can be checked and corroborated by lunar phases. The confirmation of multiple and connected chronological evidence shown in the detail of this chapter affords a high level of confidence in the accuracy for the dates of the reigns of Sesostris III and Amenemhet III and provides a secure anchor for dating the rest of the 12th Dynasty, which we come to later." Chapter 13 involves the discussion of fixed and



movable *w3gy* feasts also from Illahun records, that is of more than academic interest. Tetley concludes the chapter by saying, “The date of a movable *w3gy* feast in the reign of Neferefre (Raneferef) secures a date in the Fifth Dynasty. This results in exciting implications for Egyptian chronology.”

In **Chapter 14**, “Securing Neferefre’s *W3gy* Feast Date”, the previous painstaking study of feast dates pays off, permitting the interpretation of inscriptions discovered as recently as 1982 relating to the brief reign of the Fifth Dynasty King Neferefre (aka Raneferef). Based on the previous analysis of movable *w3gy* feasts in chapter 13. The date of the feast is located within the 25 year range to which it applied. Alternative ranges are shown to be inadmissible, confirming the date of 2750 BCE as the earliest secure date of Egyptian chronology. This landmark discovery will be later corroborated by nine lunar dates relating to five subsequent kings in the Fifth, Sixth, and Eighth Dynasties.

**Chapter 15** introduces the fragmentary data that comprise early Egyptian chronological constructions including the Royal Annals, South Saqqara Stone, Turin Canon, Abydos King-list, Saqqara Tablet, Karnak King-list, Papyrus Westcar, and Manetho. While providing important historical material, the deficiencies and discrepancies between these sources are also noted. Tetley then describes her approach to the reconstruction of the Egyptian dynasties. She will proceed forwards from Neferefre’s Fifth Dynasty anchor date of 2750 BCE to the Eighth Dynasty, examining inscriptional and astronomical evidence along the way. Then she will return to the Royal Annals and its prior record of Dynasties One to Five.

**Chapters 16 and 17** recast the latter part of Dynasty Five, then Six and Eight (Manetho’s Seventh Dynasty is apparently a garbled list of localized reigns that seem unconnected with kings appearing in other chronological materials). These chapters exhibit Tetley’s approach, drawing on all the available (though incomplete) evidence in the materials mentioned in Chapter 15. She reports and interacts with the chronological information from fragments reported in all the latest published scholarship, confirming and occasionally contesting proposed conclusions. And, importantly for this period, she interprets inscriptional information contained on fragments in the light of the fixed and uncontested astronomical computations of lunar risings etc, of which there are nine relating to the reigns of five kings. She treats with due caution every item of information, including the occasional summaries of periods in the Turin Canon. Also important to resolve are claims for annual or biennial numbering of regnal years, and the discrepancies between the lists of kings in the Turin Canon etc. and Manetho.

**Chapter 18** introduces the Royal Annals. The Cairo 1 fragment is displayed. Toby Wilkinson’s book in 2000 is acknowledged and appreciated though it doesn’t offer a chronological reconstruction. Tetley’s earlier chapters have supplied a provisional dating range, by which the possible edges of the Annals may be constrained. This brief chapter introduces the three-stage discussion that follows; the essential description and history of the Annals, which also includes charts displaying Tetley’s own reconstruction—preliminary to the detailed arguments offered to substantiate later conclusions and proposals.

**Chapter 19.** The fragmented chronological information about each successive king—Menes to Neferkare—in TC, AbKL, and SSS, is first reported. Inscriptional evidence known to Egyptologists is disclosed including the various uncertainties that

exist. Then the discussion turns to the evidence of the Annals. Tetley fully discloses her methods of reconstruction. Some lengths—of—reign, changes of reign, *Heb Sed* festivals, and other chronological indicators are represented on the Palermo Stone (PS) and the Cairo 1 (C1) fragment. Cairo 5 (C5) also has a key place in the reconstruction. But the gaps in the Annals hold the greatest intrigue, and Tetley carefully explains every “gap” and consequently every length—of—reign with simplicity, associated extracts from her reconstruction, and where necessary the uncertainty of scholars about particular reigns. As with the other chronological sources, in a few cases the lengths—of—reign of some kings in the period of the Annals must be estimated from other inscriptional evidence (such as the Turin Canon), or as suggested by the overall structure of the Annals. The Annals was a two-sided stone record with a clear and discrete structure, size, format of registers, and compartments representing each individual year, many which are explicitly allocated to kings identified on the Annals. **Chapter 20** completes the discussion of the recto side of the Annals, and Chapter 21 addresses the issues of the verso side. Alternative views are considered. However, the combination of archaeological findings to date, the Turin Canon and companion King-Lists, and the structure of the Royal Annals with the detail of surviving fragments offering evidence of its original form, permits a chronological reconstruction of the first four and a half dynasties that display agreement between the summaries of the Turin Canon and the reconstructed registers of the Royal Annals. Given the paucity of archaeological information about each king, the missing material of the TC, and the few fragments of the Royal Annals, this is a most remarkable contribution to the discussion for dating the earliest dynasties of Egypt.

**Chapter 22** surveys Dynasties Nine to Eleven, a period when, except for a Sothic date in the reign of Mentuhotep II, extant records do not permit many of the kings reported to be accorded precise dates or lengths of reign. The Sothic date derives from a star clock on a coffin and via a Caspersen Table, corroborated by the HELIAC Program, Mentuhotep II’s first regnal year is located as 2186 BCE Eleventh Dynasty dates can be confirmed, beginning in 2259 BCE. Earlier, the ending date for the Eighth Dynasty was determined at 2434, but the 18 kings named in the Turin Canon for the Ninth and Tenth Dynasties can not be more closely dated other than to say that collectively they reigned for 175 years.

**Chapter 23** establishes the 12th Dynasty, drawing again on the Sothic and lunar dates ascertained in chapters 11-13. Dealing solely with chronological matters the author says, “Chapter 11 ... determined that Sesostris III’s sixth, seventh, and eighth years are dated to 1981, 1980, and 1979 BCE respectively, which provide an anchor for the 12th Dynasty. The length of Sesostris III’s reign is discussed below but I first look at his accession in the year 1986 and the question of a co-regency with Sesostris II.” Accession dates, lengths of reign, evidence for co-regencies, and specific dates for each reign and for the whole of the dynasty, is the grist of a chapter, which may be more difficult to beginners because the names of Amenemhet (I, II, III, IV), and Sesostris (I, II, III) are repeated and interlinked.

**Chapter 24.** As a delightful diversion, Hekanakhte’s parcel of previously unopened letters, discovered in the 20th century, contain domestic and agricultural arrangements between a land-owner and his workers in southern Egypt, with seven calendar references including two regnal years. The previous chapters relating to calendars of Upper and Lower Egypt, the Sothic rising in the seventh year of Sesostris III (chapters 11-13), and the other kings of the 12th Dynasty in chapter 23, enable Tetley

to definitively date the letters, and the seasonal arrangements made by Hekanakhte. And importantly for chronological interests, the Hekanakhte Letters provide further attestation of the use of an Upper Egyptian calendar in the 12th Dynasty in Upper Egypt in the same manner that the Ebers Calendar attests to its use in the 18th Dynasty.

**Chapter 25** reports of Dynasties 13 to 17, about which little can be chronologically affirmed due to the absence of records. This does not impede the chronology because dates relating to the prior 12th Dynasty and the 18th and following Dynasties are securely anchored as detailed in the relevant chapters. Meanwhile, the author states, “The 13th-17th Dynasties await further clarification.”

**Chapter 26** introduces the contested dates for the 18th Dynasty. She recapitulates the process by which most Egyptian scholars begin to compute their dates, and reports the 20th century and more recent years of debate. She notes the aversion of Egyptologists to consider the Sothic cycle and the Ebers Calendar, the assistance of astronomical data, and an absent awareness of distinct calendars for Upper and Lower Egypt; all are at the heart of the coverage in previous chapters.

**Chapter 27** reinstates the correct dates for the 18th Dynasty covering the first five rulers. These include Amenhotep I, whose dates are anchored by the Ebers Calendar when rightly understood. Tetley determines each ruler’s death and the accession of his successor to the day, drawing from dates on inscriptions that are matched with astronomical observations. A notable feature within this period is the discussion of Thera’s eruption and the 150 years disparity between the dates of scientists (who advocate an earlier date) and the conventional dates cited by many in the Egyptology community.

**Chapter 28-30** continue to establish the dates of the kings of the 18th Dynasty. A heliacal rising in Thutmose II’s 33rd year is one anchor point, and four other lunar references attested from various sources during the reigns of Thutmose and Amenhotep II corroborate the proposed dates of their reigns. Chapter 29 considers the regnal dates and lengths of reign between Thutmose IV and Tutankhamun. The author says, “The virtual absence of anchor points places more reliance on inscriptional and circumstantial evidence, which has considerable complexity.” It concludes with a discourse on Akhenaten’s successor. Chapter 30 covers the reigns of Ay and Horemheb which includes the end of the Sothic cycle in 1414 BCE. as viewed from Thebes in Upper Egypt, leading to the adoption of a new Sothic cycle as viewed from Memphis in Lower Egypt in 1314 BCE that would govern the future calendar of all Egypt.

**Chapter 31** redates the 19th Dynasty centered in the reign of Ramesses II. Tetley’s most controversial claim challenges the conventional pivot of Egyptian chronology by determining the precise date of the famous new moon reported in a ship’s log in Ramesses II’s 52nd year. Other lunar and heliacal rising dates during the reign of Ramesses II and other 19th Dynasty kings add further unequivocal support for her key dating claim.

**Chapter 32** addresses the discrepancies between Manetho’s chronology (in general accord with Josephus and Theophilus) and that which has been previously covered. Tetley demonstrates that the total number of years from Manetho’s 18th and 19th Dynasties cover the same number of years as the 18th, 19th, and 20th Dynasties known from contemporary sources and that Manetho’s 19th Dynasty in Lower Egypt

runs mostly concurrently with the Theban-based 20th Dynasty in Upper Egypt. However the listing of kings and lengths of reign between the reigns of Ahmose and Ramesses II are incompatible until Ramesses moves his capital to the Delta and builds Pi-Ramesses. Ramesses is the king of Israel's slavery. He is followed by an almost 40 year reign of Amenophis, and then an unidentified pharaoh who reigned for one year and four months. The events mesh with the narrative of Moses in *Exodus*, his exile during the reign of Amenophis, and the death shortly after accession of a new pharaoh. Tetley then documents the wider framework of interlocking synchronisms between Israel and Egypt which support from both the chronology of Israel/Judah and of Egypt the claim that Rehoboam's fifth year coincides with Shoshenq I's 20 year. It remains for the following chapters to validate that claim by its treatment of the Egyptian Dynasties 20 to 25.

**Chapter 33** Tetley sets out to “discuss the evidence that identifies the lunar anchor points within the regnal years of the associated kings of the 20th Dynasty, the dates and lengths of their reigns; proceeding from the anchor points of the 19th Dynasty established in chapter 31 and the conclusion of Twosre's reign in 1297 BCE.” This period is “significantly informed by the chronological information attributed to *Manetho* in its several versions. In the case of the 20th Dynasty, the larger ‘totals’ in the *Manetho* versions offer greater consistency with other evidence than dates currently being presented by some Egyptologists. Ancient historians were much closer to the events and inscriptional evidence than people of our times, and their writings were intentionally preserved.” *The Book of Sothis* also assists in providing several key dates, which are helpfully tabled throughout each chapter.

**Chapter 34** revises again the much debated 21st Dynasty of Tanite Kings. The use of lunar dates referred to on inscriptions and Karnak Priestly Annals assist the (tentative) determination of kings' dates, although working with the incumbencies of both kings and high priests can be taxing on the new reader, especially when some dates in the records are uncertain. Nevertheless, Tetley produces a table of kings that approximates those delivered by other scholars, though the absolute dates differ in keeping with her overall chronology which also determines the astronomical period in which lunar events occur and supportive evidence adduced.

**Chapter 35** looks at other attempts to reconstruct the chronology of Dynasties 22 to 25 and shows the surprising breadth of disagreement and improvisation among Egyptologists arising from not having a secure chronological framework and dismissing the usefulness of anchor points from the astronomical evidence of that period. But the chapter also serves to high-light recently found evidence, and the work or opinions of Kitchen, Leahy, Aston and Taylor, Rohl and Dodson, Jansen-Wilckeln, von Beckerath, Muhs, Frame and Redford, Broekman, Jaquet-Gordon, Payraudeau, Kaper and Demarée, Perdu, Kahn, etc. Again, it can be hard reading in a very complex and contested area, but it serves the author by preparing some of the ground in the final chapters to come.

**Chapters 36 and 37.** The most significant contribution here is the recognition that Manetho gives a framework of the 22nd Dynasty in two divisions (which include several unnamed kings now identified in recent years). Chapter 36 frames the reconstruction at length, and Chapter 37 finishes it. Against recent and ever-changing theories forced by the compressed chronologies advocated by Kitchen, Aston and others, the identity, length of reign and actual dates are steadily pursued. Inscriptional evidence here includes the inductions of High Priests and Apis bulls, with the given dates of

induction confirmed by astronomical data of new and full moons, as well as the fixed synchronisms between various rulers within and without Egypt.

**Chapters 38 and 39** examine and establish the dates of the 23rd, 24th, and 25th Dynasties using the customary methodology of the author. She says “The chronology of Dynasties 22-25 supplies the years from Shoshenq I in 998/997 BCE to the end of the reign of Taharqa in 664 BCE which is the secure starting point for ancient Egyptian history. Every year is accounted for in this time period. It cannot be truncated to begin ca. 945 BCE.” She then concludes by showing how this Egyptian Chronology synchronizes with her previous book, *The Reconstructed Chronology of the Divided Kingdom* (Israel and Judah), and again advocates that the Assyrian Eponym Canon be reviewed to conform to the dates established in her work on Israel and Judah and now by the Egyptian chronology that has been conclusively established upon the inscriptional and astronomical evidence.



## Chapter 1

### Introduction: Problems with the Historical Chronology of Ancient Egypt

Commenting on the conclusion reached by the SCIEM 2000 Workshop held in Vienna from 30 June to 1 July 2005, Malcolm H. Wiener stated, “*Most participants felt that the resolution of the apparent chronological conflict between the radiocarbon measurements at Dab<sup>c</sup>a on the one hand, and the evidence from astronomy, archaeology, and texts on the other, must await future developments.*”<sup>1</sup>

#### Ancient Egyptian Chronology Not Yet Established

Vast amounts of literature have been devoted to ancient Egyptian history including the pursuit of its chronology. With all the resources available, it is remarkable that neither the relative nor the absolute chronology of ancient Egypt has yet been established. Egyptologists who adhere to the commonly assumed chronology derived from written records are fairly confident that their dates of ca. 1540–1530 BCE for the beginning of the 18th Dynasty are accurate. However, these dates are challenged by scientists who rely on recent radiocarbon and other science-based tests, who propose a date in the mid to late 17th century BCE, a disparity of 100–150 years. More specifically, they place the eruption of the Thera volcano on the island of Santorini in the Aegean Sea sometime earlier than the common date for the Thutmoseid period early in the 18th Dynasty. Scientists cannot explain how their dates can be so much higher than those derived from written records, and historical chronologists cannot see how one and a half centuries can be added to the chronology based on the kings’ regnal years.

#### “Future Developments” to Resolve the Impasse

“Future developments” presented in this book offer a solution to the impasse between scientists and Egyptologists. It does so by considering the latest inscriptional evidence from the continuing archaeological enterprise to uncover Egypt’s heritage. And it does so by the use of astronomical data, especially Sothic and lunar evidence found in Egyptian records.

This book also engages with Egyptian chronological issues in the context of bringing the Egyptian chronology into agreement with the dates proposed in my companion book for the original Hebrew chronology, *The Reconstructed Chronology of the Divided Kingdom*.<sup>2</sup> In particular, that volume demonstrates that the 5th year of Rehoboam synchronized with the 20th year of Shoshenq I (biblical Shishak) occurred in the year 977 BCE and not in 925 as it is commonly dated.

In this book, Egyptian dates, both preceding and succeeding 977, are established by Sothic heliacal risings and are confirmed by numerous lunar dates from the 5th to

<sup>1</sup> M.H. Wiener, “Egypt and Time,” SCIEM 2000 Workshop, *Ä und L* 16 (2006) 336.

<sup>2</sup> M.C. Tetley, *The Reconstructed Chronology of the Divided Kingdom* (Winona Lake, IN: Eisenbrauns, 2005) originally a Th.D. diss., Australian College of Theology, 1999.

25th Dynasties from computerized tables provided by Lee W. Casperson.<sup>3</sup> These dates concur in large part with the dates of science-based research for the early 18th Dynasty.

Aided by the correct dates for the kings of Israel and Judah, correlated to the Egyptian chronology, science-based dates and historical chronology can be reconciled, as the SCIEM conference wished. Early Egyptian calendars played a crucial role in dating the kings.

I begin with the basics of Egyptian chronology.

### Introductory Outline

The periods of ancient Egypt as recognized by Egyptologists need to be noted. Then follows an introduction to the resources available to Egyptologists for constructing an absolute chronology. A relative chronology refers to the time-span between kings, whereas an absolute chronology refers to the dates applied to kings. I explain how Egyptologists have derived dates, and how the results are now applied to the chronology cited in the more recent literature since the mid-1980s. A brief summary of science-based tests follows (Table 1.1).

### Recognized Periods of Egyptian History

**Table 1.1: Designated periods of ancient Egypt**

Archaic Period	1st and 2nd Dynasties
Old Kingdom	3rd–8th Dynasties
First Intermediate Period (FIP)	9th and 10th Dynasties
Middle Kingdom	11th and 12th Dynasties
Second Intermediate Period (SIP)	13th–17th Dynasties
New Kingdom	18th–20th Dynasties
Third Intermediate Period (TIP)	21st–25th Dynasties <sup>4</sup>
Late Period	26th–31st Dynasties
Ptolemaic Period (Greek)	from 332 to 30 BCE
Roman	from 30 BCE to 395 CE

### Resources Available for Reconstructing the Chronology of Ancient Egypt

1. Inscriptions from monuments, stelae, or papyri mentioning specific years of a king's reign are of prime importance in constructing a chronology, especially if they give the regnal year in which the king died. Unfortunately, the final year of a king's reign is often not recorded. Synchronisms between one king and another of a co-existing dynasty, such as between the 22nd and 23rd Dynasties, help to establish the relative chronology.

2. Manetho, a 3rd century BCE priest and historian, copied the regnal years of kings and the total years for dynasties from ancient dynastic king-lists and recorded them in his largest work, *Aegyptiaca*, in which he recounted Egypt's history. Though he was an Egyptian, Manetho wrote in fluent Greek and it is thought he derived his primary resources from a temple library in the Delta region. Manetho composed a chronological list of dynasties from groups of rulers having a common ancestor or origin. These lists survive now only through copyists: Africanus, 3rd century CE; Eusebius, 4th century CE (in Greek and an Armenian translation); Flavius Josephus, the Jewish historian in the 1st century CE has excerpts in his book, *Contra Apionem*. *The Book of Sothis* derives from

<sup>3</sup> See Preface iii.

<sup>4</sup> Some scholars end the TIP with the 24th Dynasty.



Manetho also but in a very corrupt form.<sup>5</sup> Most lists have suffered in transmission with some kings attributed regnal years that conflict with other sources, or with kings' names and regnal years missing altogether. Nevertheless, combined with other information, some original data can still be isolated and they confirm various kings' regnal years or the length of a dynasty. Manetho's numbering of the dynastic divisions is still universally used.

3. The Royal Annals, which today consist of only two large fragments, namely the Palermo Stone and Cairo 1, and five smaller pieces, once gave the names and regnal years of the kings of Dynasties 1–5. The Turin Canon complements this record with its list of names and years covering the 1st to the 12th Dynasties, after which the canon consists of mostly unidentifiable kings down to the Second Intermediate Period (SIP) with most regnal years damaged or lost. Other king-lists, such as the Abydos King-list and the South Saqqara Stone also aid in establishing the names and regnal years of the kings.

4. Records of new moon dates in the Egyptian calendar can be used to provide Julian dates (the calendar used for ancient Egypt). Computer programs can convert Egyptian dates to Julian dates (and Gregorian dates—the calendar we use now) going back over many centuries BCE. Some occasions, such as the “Stretching-of-the-Cord” ceremony—the foundation act in building a temple—were held on new moon days; that is, the first day of the lunar month. The Egyptians also held specific festivals on a day associated with the beginning of the lunar month, such as the appearance of the god Amun at a feast or the induction of priests, dated to the Egyptian calendar. The installation of Apis bulls at Memphis were held within days of a full moon dated to a specific king's regnal year and some of these have been recorded for the Third Intermediate Period (TIP). Lunar dates recur in a 25-year cycle, but a specific lunar date will only repeat itself in the next 25-year period in 70% of cases. It may fall a day earlier or later.<sup>6</sup> Therefore, it is important to be sure in which 25-year period a lunar date fell, because the same date could fall in another cycle period and incorrectly be assumed to be the right date.

5. Egyptians used the Sothic cycle to record events or the passing of time. They reckoned the beginning of the solar year by the heliacal rising of the star Sirius (Sothis in Greek); that is, its reappearance in the early morning light after about 70 days of invisibility due to the star's close proximity to the sun. This annual appearance came shortly before the inundation of the Nile River upon which the Egyptians depended for the irrigation of their crops and their livelihood. The Sothic year was 365¼ days long. The Egyptian calendar was reckoned as 365 days long, being a quarter of a day short every year, because it did not include an extra day every fourth year as we now do using our Gregorian calendar. This meant that New Year's day fell one day ahead of the rising of Sothis every four years, so that after four years the Sothic rising fell on the second day of the first month of the year instead. It took nearly 1460 years to get back to the position where the rising of Sothis coincided again with the first day of the Egyptian calendar. This period of time is referred to as the Sothic cycle.

The rising of Sothis is not seen on the same day throughout Egypt but is seen first in the south and approximately a day later for every degree going north. This meant that the date will be seen earlier at Thebes than at Memphis because of the approximately four degrees of latitude difference between the cities. A small number of Sothic risings

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<sup>5</sup> These are found in *Manetho* (trans. W.G. Waddell; Loeb Classical Library 350; London: William Heinemann Ltd, and Cambridge, MA: Harvard University Press, 1940). Hereafter *Manetho*.

<sup>6</sup> R. Krauss, “Arguments in Favor of a Low Chronology for the Middle and New Kingdom in Egypt,” *SCIEM II* (2003) 175, 190.

have been recorded associated with the date and regnal year of a king, which may be used to date the king's reign. However, the Sothic date has to be reckoned from the place where the observation was made. This is not always stated. And it also depends on being dated to the calendar used by the ancient observer(s). Computer programs can now give the dates for the heliacal rising of Sothis at any location in Egypt going back many millennia. In dynastic times, the heliacal rising of Sothis fell near the middle of July in the Julian calendar, the date slowly moving later in the year over the centuries. Since each Sothic date occurs only once on four consecutive years in a Sothic cycle, a *lunar* date that is in close proximity to those four years in a king's reign may indicate that a correct date has been established.

6. Calendar depictions constitute a very important resource for clarifying the calendars(s) used by the early Egyptians. One famous example is that of the Ebers papyrus calendar dating to the reign of Amenhotep I of the early 18th Dynasty. It contains a date in his ninth year for the heliacal rising of Sothis. The calendar appears to contain corresponding dates between two columns of 12 months each, one belonging to the Egyptian's so-called civil calendar and the other calendar of uncertain origin. This latter calendar *starts* with the name of a month that in all later calendar depictions is the *last* month of the year. Calendar depictions are found on the ceilings of tombs, on water clocks, and on papyri from the 18th Dynasty down to the Late Period. The identification of the calendars on the Ebers papyrus is an important aid in establishing Egyptian chronology.

7. The enigmatic "Era of Menophres" (Μενόφρεως in Greek), associated with a Sothic cycle, can help confirm the chronology once Menophres has been identified with Memphis.

8. A 30-year festival known as the *heb sed* was celebrated by some kings and indicates that a king reigned at least 30 years. It may be repeated every 3 or 4 years thereafter. This information may extend a king's reign beyond only lower years known for his reign.

9. Genealogies covering numbers of generations may provide approximate time spans for a sequence of kings. Since the period between one generation and the next varies greatly, genealogies can give only a rough estimate of time.

10. A king-list known as the Assyrian Eponym Canon (AEC) mentions a solar eclipse that is reliably dated to the year 763 BCE. Egyptian synchronisms with Assyrian or Babylonian rulers, or kings of Israel and Judah, can be validated *after* this date. But there is no proof that the years *before* 763 constitute a continuous list. Therefore, the years before 763 BCE need to be examined.

11. Scientific studies, such as carbon-14 dating, tree-ring counting (dendrochronology), and ice-core testing, can supply approximate dates to a given time period.

These are some of the available resources on which a relative and absolute chronology of ancient Egypt may be reconstructed. Others will arise as we proceed.

### **How do Egyptologists Reconstruct the Chronology of Ancient Egypt?**

A starting date for the Egyptian chronology has to come from a king of Egypt who can be dated by the Julian calendar. The earliest certain (but late) date comes at the end of the 25th Dynasty when Taharqa acceded the throne in 690 and after a 26-year reign died in 664 BCE. He was succeeded by Psammetichus I who became the first king of the 26th Dynasty.

From this date, Egyptologists proceed backwards using "*known*" regnal years of the kings of Egypt. This system gives a *minimal* chronology. Since the *final* regnal years of most kings are not stated, additional years beyond their highest *attested* years need to be considered. In an effort to tie the minimal chronology to an external date,

Egyptologists look for a synchronism with a neighboring nation. They utilize one at the beginning of the 22nd Dynasty noting that the invasion of Shoshenq I (the biblical Shishak) of Israel and Judah is dated to the fifth year of Rehoboam of Judah (1 Kgs 14:25-26; 2 Chr 12:2-5). This equates in the Egyptian chronology with Shoshenq I's 20th year because his victory stelae describing the campaign dates it to his 21st year.

Egyptologists then look to the chronology of Judah and Israel to find when this invasion took place. They find that in 1944 Edwin R. Thiele, a scholar of St Andrews Seventh Day Adventist Seminary of Berrien Springs, MI, USA, placed Rehoboam's fifth year in 925 BCE with the commencement of the divided kingdom in 931. Where did Thiele get this date from? He looked to records from Assyria, and specifically the AEC, and derived his dates from it.

This Assyrian canon is compiled from fragments of eponym lists found on tablets in the ruins of three sites, Nineveh, Assur, and Sultantepe that were copied in the seventh century BCE from earlier records. The pieces appear to overlap and are now made into one long list that seems to be continuous apart from one section where an eponym appears in one list but not in others. This canon is a list of Assyrian kings and their officials with each year being named after the king or one of his subordinates, and called an eponym year (*limmu* in Assyrian).

If, for example, a king reigned 10 years, he would have 10 eponyms attributed to his reign. For the greater part, the reconstructed canon has three columns. In the first column is the name of the king or his official, usually in descending order of importance. In the second column is the official's title or position, such as commander or governor of the place under his jurisdiction. In the third column is a brief comment, referring to a significant event for that year, often where the king went on campaign.

Significant for chronology is the note against the eponym of a certain Bur-Saggile "of Guzanna" about a "revolt in the citadel: in Siwan the sun had an eclipse."<sup>7</sup> Scientists are able to date this eclipse to the 15/16 June in 763 BCE. Proceeding upward and downward from this date the surviving eponyms have been attributed to the years from 910 to 649 BCE. Another list, the Babylonian king-list, begins in 747 BCE and together with the AEC and other records the chronology of Assyria is securely linked to the Babylonian king-list from 747 *forward*.

Alan Millard, who republished the AEC in 1994, refers to another list called the Assyrian King-list. He states, "There the length of each reign is stated and the figures agree with the years allotted by the Eponym Lists as described above in every case. Although the King-lists and the Eponym Lists may be generically related, that still serves to confirm the figures as handed down from one generation of scribes to another, and so indicates the reliability of these sources for the Neo-Assyrian period, when correctly understood."<sup>8</sup>

Judging from this statement, the accuracy of the AEC relies on lists that are "generically related" so there is no guarantee that they are independent attestations of the completeness of the AEC. One may be a copy of the other, or both come from a deficient *Vorlage*. It appears that Millard's statement above is the only support for the accuracy of the AEC before the date of 763 BCE. This is disconcerting to say the least, because the *entire Near Eastern chronology relies on the accuracy of the AEC* for the years 910–612. On the *presumed* accuracy of the AEC, most historical chronologists (myself excepted) derive their dates for the ancient Near East including Assyria, Israel/Judah, and Egypt.

<sup>7</sup> A. Millard, *The Eponyms of the Assyrian Empire 910-612 BC* (State Archives of Assyria Studies Vol. 2; Helsinki: Neo-Assyrian Text Corpus Project, 1994) 41, 58.

<sup>8</sup> Millard, *Eponyms of the Assyrian Empire*, 13.

Thus Egypt gets its dates from the Hebrew chronology of Israel and Judah, and the Hebrew chronological construction gets its dates from the AEC.

In order to give a date to the kings of Judah and Israel, Thiele had to find a starting date or a synchronism between a king of Assyria and a king of Israel or Judah. The first synchronism between Assyria and Israel in the divided kingdom period is provided by the battle of Qarqar fought between the Assyrians and a coalition of Levantine kings, including Ahab of Israel. This event is dated in Assyrian records to the sixth year of Shalmaneser III of Assyria.<sup>9</sup>

Assyrian records, of course, do not give Julian dates, but it was *assigned* the date of 853 BCE on the *assumption* that the AEC contained all the eponyms from 910 to 612 BCE. However, by adding up the reign lengths given for the kings of Israel and Judah as recorded in the English translation of the Hebrew text, Thiele realized that the regnal year numbers given for the kings of Israel for the period of the divided kingdom, from the accession of Rehoboam of Judah and Jeroboam I of Israel until the fall of Samaria in the reigns of Hoshea of Israel and Hezekiah of Judah, were about 23 years higher for Israel than for the concurrent period of Assyrian history, and for the kings of Judah *46 years higher*, based on the dates allocated to the AEC.<sup>10</sup>

Thiele had a choice: either recognize that the AEC was deficient and try to reconstruct a chronology for the kings of Israel and Judah from the figures given in the Hebrew/English taking into account variants in the Greek texts, or compress the Hebrew/English data for the kings of Israel and Judah to bring them into line with the years assigned to the AEC.

He chose the latter option, even though the kings of Judah and Israel had a dual system of cross-referenced reigns, whereas the AEC was composed of one linear record of Assyrian kings whose chronology had never been corroborated in the period prior to the solar eclipse of 763 BCE. Thiele decided that the numbers were “mysterious” and proceeded on the basis that the numbers could be harmonized if certain *dating systems* were applied.

Having made this decision, Thiele overlapped the reigns of the kings of Israel and Judah by about 50 years overall to make the reigns fit the years indicated by the AEC. Thus, he dated Ahab’s 22nd and last year to 853 BCE, which was presumed to be the sixth year of Shalmaneser III, and by means of his dating systems arrived at the date of 931 for the commencement of the divided kingdom and Rehoboam’s fifth year in 925.

The excess years for the kings of Judah and Israel were explained away by the use of various dating systems. Two such systems used were antedating and postdating (also called non-accession and accession year dating). In antedating, a king’s first year is the year he comes to the throne and his first full year is his second year; in postdating, the king’s reign is dated from the beginning of the year after his accession. These dating systems give flexibility to the length of a king’s reign. Judah’s kings supposedly used postdating for the first four kings, Rehoboam to Jehoshaphat, then switched to antedating for Jehoram, Ahaziah, Queen Athaliah, and Joash, and then switched back to postdating for the remaining kings. Israel used antedating from Jeroboam I to Jehoahaz and then switched to postdating from Jehoash to Hoshea.<sup>11</sup>

<sup>9</sup> Collated from Bull Inscription (*ARAB* 1: §§646-47; *ANET*, 279); Black Obelisk (*ARAB* 1: §563; *ANET*, 279), and Monolith Inscription (*ARAB* 1: §§610-11; *ANET*, 278-79; *HAIJ*, 258-59; J.K. Kuan, *Neo-Assyrian Historical Inscriptions and Syria-Palestine* [Jian Dao Dissertation Series 1; Hong Kong: Alliance Bible Seminary, 1995] 27-31).

<sup>10</sup> E.R. Thiele, *The Mysterious Numbers of the Hebrew Kings* (3rd ed., Grand Rapids, MI: Zondervan, 1983) 37.

<sup>11</sup> *Ibid.*, 59-60; 215-16.

Thiele also started the calendar years six months apart in the two kingdoms; Israel starting in the month of Nisan and Judah in Tishri.<sup>12</sup> He also states that Judah used its (Tishri-commencing) system for recording its years and those of Israel, while Israel used its (Nisan-commencing) system for recording its years and those of Judah.<sup>13</sup>

However, Thiele's main resort to bring the Hebrew chronology into line with the Assyrian chronology dated to the AEC was by introducing co-regencies or overlapping reigns into both kingdoms, some of considerable length. For example, Azariah of Judah was allotted 24 co-regent years with his father Amaziah out of a total of 52.<sup>14</sup> Thiele also proposed that at times there were two kings ruling contemporaneously in both kingdoms; that is, four kings altogether. For instance, while Amaziah and Azariah had a 24-year co-regency in Judah, Jehoash and Jeroboam II had a 12-year co-regency in Israel.<sup>15</sup>

The Books of 1 and 2 Kings are silent about these dating methods. The dating method that *is* stated is that a king began to reign *in a certain year of the king of the other kingdom* and that he reigned so many years. When that king died his son or successor began to reign. For example, 1 Kgs 15:1-2 states, "In the 18th year of King Jeroboam the son of Nebat, Abijam began to reign over Judah. He reigned three (Greek variant six) years in Jerusalem." Verse 8: "And Abijam slept with his fathers, and they buried him in the city of David and Asa his son reigned in his stead." This is the only dating system given in the Books of 1 and 2 Kings. The terms postdating or antedating are never used, co-regencies are never stated,<sup>16</sup> nor does it state that Israel and Judah started their calendar years six months apart. Therefore, Thiele's dating systems are not exhibited in the Books of Kings.

Naturally enough, Egyptologists assume that the scholars concerned with the chronology of Israel and Judah have established the correct dates for the Hebrew kings and that they can confidently use Rehoboam's fifth year in 925 BCE as the date for Shoshenq I's 20th year. It seems that they have not investigated the textual evidence for themselves so they do not realize that Thiele's dates are based on many assumptions and not on the actual dating method indicated in the statements of accession given with the regnal years cited.

The following discussion shows that Egyptologists have accepted Thiele's dates for Rehoboam's fifth year, and that they rely on synchronisms with Assyria dated to the AEC while at the same time limiting their use of lunar and astronomical data.

### Recent Publications on Egyptian Chronology

One of the most comprehensive monographs written on Egyptian history is Kenneth A. Kitchen's *The Third Intermediate Period in Egypt (1100–650 BC)*.<sup>17</sup> First published in 1972, it was updated with new information and republished with a supplement in 1986. A third edition was published in 1996 with an added preface. The preface was mainly a response to new material that had come to light in the intervening 10 years, and Kitchen's rejoinder to those scholars with whom he had differing points of view.

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<sup>12</sup> Ibid., 51-54.

<sup>13</sup> Ibid., 49-50.

<sup>14</sup> Ibid., 63, 119, 219.

<sup>15</sup> Ibid., 113, 118, 219.

<sup>16</sup> Some scholars point out that a co-regency is inferred because Jotham governed the people after his father Azariah had contracted leprosy (2 Kgs 15:5). Jotham was not king at this time, and the years for his reign do not include a co-regency with his father. See ch. 2, p. 30ff.

<sup>17</sup> K.A. Kitchen, *The Third Intermediate Period in Egypt (1100-650 BC)*, (Warminster, UK: Aris and Phillips, 1973, 1986, 1996).

Kitchen has written other books and numerous articles on Egyptian history and chronology, but it is *TIP* that is his monumental work. It is in recognition of this work and his phenomenal knowledge that brings his writings to the forefront in scholarly discussions on the relative and absolute chronology of Egypt.

In *TIP*, Kitchen restates the dating systems used by Thiele. He writes: “(i) that Judah initially used the accession-year custom of counting regnal years, (ii) that Israel initially used the non-accession mode of counting regnal years, (iii) that, in synchronisms, each kingdom reckoned the years of its neighbor in terms of its *own* method, not that of its neighbor, and (iv) that Judah used an autumn New Year (Tishri) and Israel a spring New Year (Nisan).”<sup>18</sup>

In the year after the second edition of *TIP* appeared, an international colloquium on absolute chronology was held at the University of Gothenburg in Sweden, on 20–22 August 1987.<sup>19</sup> Its title “High, Middle or Low?” indicated that the main discussion centered on whether Egypt should be given high or low dates—the higher dates giving a longer chronology than the lower dates.

The opinions expressed were influential in changing dates for ancient Egypt. Indications for a lower chronology had been previously suggested by John A. Brinkman in 1970 after he noted that the dates for the kings of Assyria/Babylon in the last four centuries of the second millennium could be reduced by 9–18 years. However, these dates are based on the AEC. He writes, “This Assyrian chronology is founded ultimately on the evidence of the Assyrian King-list and, for the period after 910 BCE, on the eponym lists as well. Beginning with the fixed date of 763 BCE for the famed eclipse in the eponymy of Bur-sagale, one then reckons by means of these lists to obtain dates for all the reigns of the Assyrian kings back to Enlil-našir II (1432–1427).”<sup>20</sup> However, since these dates come before 763 BCE, they have no corroboration and therefore any lowering of dates has no validation.

Morris Bierbrier sought to date the reign of Ramesses II taking as his starting point the date of the (supposed) biblical evidence that Shoshenq I became the first king of Dynasty 22 in 945–940 BCE.<sup>21</sup> Again, this reflects Thiele’s dates. On astronomical grounds (the new moon in Ramesses II’s 52nd year), Bierbrier noted that 1304, 1290, or 1279 were possible. The latter date, however, was only possible if synchronisms with Assyrian, Babylonian, and Hittite sources could be lowered. Thus it seemed that Brinkman’s lowering of the Mesopotamian chronology allowed the date of 1279 for Ramesses II’s accession. Based on generation counts, Bierbrier concluded that either 1290 or 1279 could be the accession date of Ramesses II.<sup>22</sup>

Rolf Krauss suggested in 1978 that Elephantine and not Thebes or Memphis could be the observation site of the going up of Sothis in the ninth year of Amenhotep I as noted on the Ebers calendar,<sup>23</sup> which would lower the accession date of Ramesses II.

<sup>18</sup> Kitchen, *TIP*, 74-75 §59 nn. 363-64 (emphasis his) citing *MNHK*<sup>1</sup> 20-23; *MNHK*<sup>2</sup> 23-26.

<sup>19</sup> *High, Middle or Low? Acts of an International Colloquium on Absolute Chronology Held at the University of Gothenburg 20th–22nd August 1987* (ed. P. Åström; Gothenburg: Paul Åström’s Förlag, Part 1 and 2, 1987; Part 3, 1989).

<sup>20</sup> J.H. Brinkman, “Notes on Mesopotamian History in the Thirteenth Century BCE.” *BiOr* 27 (1970) 305-6 and n. 52.

<sup>21</sup> M.L. Bierbrier, *The Late New Kingdom in Egypt (c. 1300–664 BC) A Genealogical and Chronological Investigation* (Warminster, UK: Aris and Phillips, 1975) 111.

<sup>22</sup> *Ibid.*, 109-13.

<sup>23</sup> R. Krauss, *Das Ende der Amarnazeit* (HÄB 7; Hildesheim: Gerstenberg, 1978) 189-91. See also, *idem*, “Sothis, Elephantine and die altägyptische Chronologie,” *GM* 50 (1981) 71-72; *idem*, *Sothis und Monddaten. Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 109-10; *idem*, “Egyptian Sirius/Sothic Dates and the Question of the Sirius based

It seemed to Krauss that Bierbrier's lowering of Ramesses II's accession from 1304 to 1290 or 1279, lowering also the accession date of Thutmose III to 1479, 200 years before, was justifiable on astronomical grounds. He supported Bierbrier's claim that the observation point of the rising of Sothis was Elephantine.<sup>24</sup> Based on his own astronomical calculations of the new moon in Ramesses II's 52nd year, Krauss concluded at Gothenburg that Ramesses' accession fell in 1290, 1279, or 1276.<sup>25</sup>

Most of the scholars at the Gothenburg colloquium favored the lower dates for the chronology even though some objected that because the Ebers papyrus was found at Thebes where Amenhotep resided, it was not likely that the observation point for the Sothic date was Elephantine.<sup>26</sup>

Wolfgang Helck thought that the Ebers Sothic date was meaningless<sup>27</sup> and stated that, "We are not allowed to use this date for chronological calculations."<sup>28</sup> The noted archaeologist, Manfred Bietak, also at the colloquium, thought that a consensus of opinion was forming for the dates of the New Kingdom and that the regnal dates and genealogical data provided a secure framework. Therefore, it was no longer necessary to depend on the Ebers Sothic date "and [it] should not be used any more."<sup>29</sup>

Kitchen contributed two papers to the colloquium outlining the chronology of ancient Egypt. He reiterated his position: "The 21 year reign of the founder of the 22nd Dynasty, Shoshenq I, can be set at ca. 945–924 BCE, thanks (i) to his synchronism with the detailed chronology of Judah and Israel, itself linked closely to a firm Assyrian chronology (details, Kitchen, 1986, 72–76, 544, with references), and (ii) to the series of known regnal years of his successors, which fill up the interval 924–716/712 BCE almost completely..."<sup>30</sup> In addition, he accepted the "low" date giving Ramesses II's accession in 1279 though he warned that a consensus was no guarantee of truth.<sup>31</sup>

Erik Hornung proposed that the previously held dates should be abandoned in favor of lower ones. He stated, "Egyptology has relied too much for a long time on so called absolutely fixed astronomical data."<sup>32</sup> Furthermore, "We have not to rely on kinglists like Manetho or the Turin Canon and we have not to rely on astronomical computation for the famous Ebers' datum or for lunar dates of the New Kingdom."<sup>33</sup> Also he writes, "I think it is now very clear that Ramesses II cannot have started his reign before 1279 and Thutmosis III before 1479." Further on; "So I think our chronology of the New Kingdom is fairly well established without all the problems connected with astronomical data."<sup>34</sup>

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Lunar Calendar," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 441. Hereafter *AEC* (2006).

<sup>24</sup> Idem, *Sothis und Monddaten*, 65-66.

<sup>25</sup> Idem, "Note on Modern Computational Errors in Astronomical Dating," *High, Middle or Low?* Part 3, 162.

<sup>26</sup> E. Hornung, "E. Hornung's paper," *High, Middle or Low?* Part 3, 35.

<sup>27</sup> "Discussion following W. Helck's paper," *High, Middle or Low?* Part 3, 44.

<sup>28</sup> W. Helck, "W. Helck's paper," *High, Middle or Low?* Part 3, 41.

<sup>29</sup> M. Bietak, "The Middle Bronze Age of the Levant – A New Approach to Relative and Absolute Chronology," *High, Middle or Low?* Part 3, 91.

<sup>30</sup> K.A. Kitchen, "The Basics of Egyptian Chronology in Relation to the Bronze Age," *High, Middle or Low?* Part 1, 38.

<sup>31</sup> Idem, "Supplementary Notes on 'The Basics of Egyptian Chronology'," *High, Middle or Low?* Part 3, 158.

<sup>32</sup> Hornung, "E. Hornung's paper," *High, Middle or Low?* Part 3, 34.

<sup>33</sup> *Ibid.*, 34.

<sup>34</sup> *Ibid.*, 35.

At the close of the conference a vote was taken, and the “low” chronology was adopted. Hornung later wrote, “It is absolutely clear for Egypt that for the NK, this is the only chronology with which we can live. There [at Gothenburg], I endeavoured to avoid the astronomical problems when discussing the chronology of the NK.”<sup>35</sup>

As a follow-on from the Gothenburg colloquium, a further conference was held in 1990 at Schloss Haindorf among scholars who again debated the Ebers calendar and its Sothic date and the chronology of the NK. The papers were published in 1992.<sup>36</sup> Aspects of these papers are discussed later.

The above conferences were succeeded by several symposiums on the chronology and related topics of the Eastern Mediterranean under the title *The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium BCE*, (known as SCIEM). The first was held in Schloss Haindorf in November 1996, and another at the Austrian Academy, Vienna in May 1998.<sup>37</sup> These were followed by others in May 2001,<sup>38</sup> June 2003,<sup>39</sup> and June 2005.<sup>40</sup> Many of the papers majored on science-based subjects concerning the dating of ancient Egypt and surrounding nations. We consider these below. Kitchen contributed a paper on historical chronology in the first<sup>41</sup> and third SCIEM conferences.<sup>42</sup>

In these, Kitchen emphasized the independence of his construction from dynastic lists and astrochronology, while utilizing Near-Eastern synchronisms. For example, in the 1996 SCIEM conference (papers published in 2000), Kitchen wrote,

His [Manetho’s] work ceased to be the basis of Egyptian chronology many decades ago. From original contemporary sources, we may construct a basic Egyptian chronology dependent on no other source. The king-lists (including Manetho) contribute their mite to establishing some royal sequences and regnal years, but no longer dominate. Egyptian dates can sometimes then be refined in detail by use of synchronisms with other ancient Near-Eastern states, especially Mesopotamia from ca. 1400 BCE onwards, and occasionally (only occasionally) by use of a tiny handful of astronomical data (one definite Sothic date in the 12th Dynasty; lunar dates with this; and one lunar date each in the 18th and 19th Dynasties). Egyptian chronology overall is not based on these meagre astronomical data – these merely help to limit the options in fine detail.<sup>43</sup>

<sup>35</sup> Idem, “Introduction,” *AEC* (2006) 8.

<sup>36</sup> Published in *Ä und L* 3 (1992). Those most applicable are: J. von Beckerath, “Das Kalendarium des papyrus Ebers and die Chronologies des ägyptischen Neuen Reiches. Gegenwärtiger Stand der Frage,” 23-27; W. Helck, “Zur Chronologiediskussion über das Neuen Reich,” 63-68; R. Krauss, “Das Kalendarium des papyrus Ebers und seine chronologische Verwertbarkeit,” 75-96; C. Leitz, “Bemerkungen zur astronomischen Chronologie,” 97-102; U. Luft, “Remarks of a Philologist on Egyptian Chronology,” 109-14.

<sup>37</sup> Proceedings of both symposiums were published in *The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium BCE: Proceedings of an International Symposium at Schloß Haindorf, 15-17 November 1996 and at the Austrian Academy, Vienna, 11-12 May 1998*, (ed. M. Bietak; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2000).

<sup>38</sup> *The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium BCE II: Proceedings of the SCIEM 2000 EuroConference Haindorf, 2-7 May 2001* (ed. M. Bietak; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2003).

<sup>39</sup> *The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium BCE III: Proceedings of the SCIEM 2000 –2nd EuroConference Vienna, 28 May–1 June 2003* (eds. M. Bietak and E. Czerny; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2007).

<sup>40</sup> *SCIEM 2000 Workshop on Precision and Accuracy of the Egyptian Historical Chronology, Vienna, 30 June–2 July 2005*. Proceedings published in *Ä und L* 16 (2006).

<sup>41</sup> K.A. Kitchen, “Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I): The Historical Chronology of Ancient Egypt, a Current Assessment,” *SCIEM II* (2000) 39-52.

<sup>42</sup> Idem, “Egyptian and Related Chronologies – Look, no Sciences, no Pots!” *SCIEM II* (2007) 163-71.

<sup>43</sup> Idem, “Regnal and Genealogical Data,” 39.



There are far more astronomical data than Kitchen allows for, which can be seen by the lunar tables in this book. Concerning the Sothic-rising date of the Ebers papyrus, Kitchen says in the same paper, “Most opinion now disallows this document as real evidence of the record of a specific rising of Sothis.”<sup>44</sup>

Following these assertions, Kitchen assigns 125 years to the 21st Dynasty, which is not far from the 130 years that Manetho’s list gives.<sup>45</sup> Then he writes, “The Ramesside 20th Dynasty (and the New Kingdom) ended beyond any serious doubt, in or about 1070 BCE. *None* of the above relies on Manetho by himself, or on astronomy, or on foreign synchronisms except to confirm positions *already* arrived at by dead-reckoning; the overall dates are limited biologically by genealogical data.”<sup>46</sup>

It should be understood that dead-reckoning provides the most *minimal* chronology possible, since it gives only the highest *known* regnal year for each king, not necessarily the final year. No-one can tell how many *unknown* years might have been reigned by various kings unless further information is available; therefore, dead-reckoning is only useful to give a base-line number of years. Appeal to the length of a period by generations known to have lived during the time is highly subjective depending on how short or long one wishes to assign to a generation, and is therefore of limited value—as Kitchen himself expounded in a paper written for the SCIEM 2005 conference.<sup>47</sup>

One of the reasons why astronomy was not helpful in securing chronological dates is explained by Krauss at the SCIEM conference held in 2001 (papers published in 2003). He writes:

Egyptologists have traditionally calculated the Illahun Sothic date first and then related the lunar dates to it. But because of uncertainties surrounding the interpretation of Sothic dates in general, a better approach establishes a possible time span on the basis of minimal chronology and seeks to correlate the lunar dates to it.<sup>48</sup>

### Illahun Sothic Date

The Illahun Sothic date referred to dates to the seventh year of Sesostris III of the 12th Dynasty. Difficulties in obtaining a date for this has led Krauss to abandon Sothic dating in general and concentrate on dead-reckoning and then applying lunar dates to fix the reign within a period of 25 years. This implies that he does not look higher than the minimal chronology allows. Since Sothic dates and lunar dates that fall in a closely defined period in the Egyptian calendar (as they do for Sesostris III of the 12th Dynasty and Thutmose III of the 18th Dynasty) they must also fall in the same respective time frame in the Julian calendar.

The *lack* of a given Sothic date to act as a control for a given *lunar* date means that there can be no assurance that the correct Julian calendar years have been established for the lunar date. At the same conference in 2001, Ulrich Luft contributed a paper entitled “Priorities in Absolute Chronology.” He states:

The aim of the research at SCIEM 2000 is to get data for the chronology of the 2nd millennium BCE that are fixed to a defined year and leave no possibility for shifting some years backwards or forwards in the frame of the Julian calendar.<sup>49</sup>

<sup>44</sup> Ibid., 44. Kitchen refers to J. von Beckerath, “Das kalendarium des Papyrus Ebers und die Chronologie des ägyptischen Neuen reiches. Gegenwärtiger Stand der Frage,” *Ä und L* 3, (1992) 23-27.

<sup>45</sup> Ibid., 41.

<sup>46</sup> Ibid. Kitchen’s emphases.

<sup>47</sup> Idem, “The Strengths and Weaknesses of Egyptian Chronology – A Reconsideration,” *Ä und L* 16 (2006) 299.

<sup>48</sup> Krauss, “Arguments in Favor,” 197.

<sup>49</sup> U. Luft, “Priorities in Absolute Chronology,” *SCIEM II* (2003) 199.

The aim was not realized because there was no resolution about how the calendar of the Ebers papyrus with its Sothic date for Amenhotep I's ninth year should be understood, though Luft proposed that the Ebers calendar was "evidence for the failure to establish the regnal year." Nor was it determined what calendars Egyptians used.<sup>50</sup>

For the SCIEM II conference held in 2003, Kitchen writes:

During last century highly ingenious "scientific" procedures have been developed to try to overcome the problem of fixing absolute dates, especially when explicit written records are lacking, including use of astronomy, radio-carbon, tree-rings, ice-cores and so on. However, each of these is subject to various flaws that prevent attainment of absolutely reliable results so far.<sup>51</sup>

Kitchen continues to date by dead-reckoning and Near East synchronisms. Krauss's SCIEM II paper published in 2007 brings together various lunar dates from Dynasties 18 to 25. However, he prejudices the outcome of using them for a chronology by again establishing lunar dates "without reference to traditional Sirius dates."<sup>52</sup>

In a SCIEM "Egypt & Time Workshop" held in 2005, Kitchen presented a paper in absentia, discussing the strengths and weaknesses of Egyptian chronology. He proposed two options for the 22nd and 23rd Dynasties to take into account new findings that lengthened the dynasties by a number of years.<sup>53</sup> Malcolm Wiener presented a paper on the reliability of the Egyptian historical chronology and scientific studies, and stated:

Kitchen's paper ... addressed many contentious chronological issues within the T.I.P. and presented his current position with respect to the whole of Egyptian historical chronology, relying largely on texts and 'dead reckoning', of reigns. The dates proposed have received widespread general acceptance.<sup>54</sup>

At the same workshop, Gerard Broekman also presented a paper in absentia,<sup>55</sup> outlining an ongoing contention between Kitchen and David Aston on the place of Takeloth II, either in the 22nd Dynasty where Manetho places him as argued by Kitchen, or in a hypothetical 23rd *Theban* Dynasty, which Aston had proposed in 1989.<sup>56</sup> Kitchen had hotly defended his position in *TIP* in 1996.<sup>57</sup> The initial date for the 22nd Dynasty still remains at 945 in both chronologies.<sup>58</sup>

A recent comprehensive discussion on the historical chronology of ancient Egypt is found in *Ancient Egyptian Chronology* edited by Erik Hornung, Rolf Krauss, and David A. Warburton, published in 2006.<sup>59</sup> It majors on relative and absolute chronology compiled from the contributions of many experts in their fields, including chapters on lunar dates and the heliacal rising of Sothis.

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<sup>50</sup> Ibid., 203.

<sup>51</sup> Kitchen, "Egyptian and Related Chronologies," 163.

<sup>52</sup> R. Krauss, "An Egyptian Chronology for Dynasties XIII to XXV," *SCIEM II* (2007) 173.

<sup>53</sup> Kitchen, "Strengths and Weaknesses," 293-308.

<sup>54</sup> Wiener, "Egypt and Time," 325.

<sup>55</sup> G.P.F. Broekman, "Once Again the Reign of Takeloth II; Another View on the Chronology of the Mid 22nd Dynasty," *Ä und L* 16 (2006) 245-56.

<sup>56</sup> D.A. Aston, "Takeloth II – A King of the 'Theban Twenty-Third Dynasty'?" *JEA* 75 (1989) 139-53.

<sup>57</sup> Kitchen, *TIP*, xxiii-xxiv.

<sup>58</sup> Broekman, "Once Again the Reign of Takeloth II," table 1, p. 246.

<sup>59</sup> *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D. A. Warburton; Leiden and Boston: Brill, 2006). This volume is part of a series entitled *Handbook of Oriental Studies* 83; Section One: The Near and Middle East.

Erik Hornung, nearly 20 years after the conference on “High, Middle, or Low?”, wrote in 2006:

Already at Gothenburg, there was general agreement about the dates for beginnings of the New Kingdom. Helk, Kitchen and Hornung/Krauss all worked with the very narrow range of 1540 to 1530 for the start of the reign of Ahmose, and after some debate, there is now general acceptance for the reign of Ramesses II at 1279–1213 BCE. Although we must be wary of confusing consensus with actual fact, for the New Kingdom we now have such a fine mesh of relative dates which are themselves woven into NE dates that major adjustments can probably be excluded. While there is room for minor cosmetic corrections, we are relatively confident about the framework.<sup>60</sup>

Referring to the TIP (Dynasties 21–24), which followed the New Kingdom, Karl Jansen-Winkeln noted in this same book:

We lack a continuous series ... of dates for any given sovereign, and thus by no means can we confidently suggest that the highest known date for any reign reflects its actual length. Given this paucity of dates, the chronology of this era is imprecise and uncertain in many respects.<sup>61</sup>

He concluded his chapter on the TIP by asserting:

The date of the campaign of Shoshenq I, presumably towards the end of his reign, can be placed with the aid of Near Eastern chronology in 925/926. Between these two [the date of 690 at the end] there is not one single firm date, but the sequence of kings and the highest known dates for these kings does not leave significant gaps. The general framework of this age is certain.<sup>62</sup>

A significant publication in 2009 covering the same 21st to 24th Dynasties, designated the Libyan Period (that is, the TIP), was compiled from contributors at a special conference at Leiden, in the Netherlands, held in 2007.<sup>63</sup> Papers from this conference are wide-ranging but focus mainly on historical developments—the chief of these being the chronological issues.<sup>64</sup> Kitchen contributed a comprehensive paper detailing the state of the debate on Egyptian chronology, which had become quite heated in some areas of scholarly disagreement.<sup>65</sup> One of the most controversial topics continues to be whether Takeloth II was a king of the 22nd Dynasty or a hitherto unknown 23rd Theban Dynasty. (Kitchen favored the first view; Aston, Broekman, and Jansen-Winkeln favored the second view.)<sup>66</sup> This debate is ongoing. Nevertheless, the chronology still retains Shoshenq I’s accession in 945.<sup>67</sup>

Certain conclusions may be drawn from the above comments. Foremost is the observation that historical chronology is based on “dead-reckoning” of regnal years and synchronisms with the ancient Near East. The latter derive from the dates assigned to the AEC. On this framework, Shoshenq I’s accession and the beginning of the 22nd Dynasty

<sup>60</sup> E. Hornung, “Introduction,” *AEC* (2006) 13.

<sup>61</sup> K. Jansen-Winkeln, “The Chronology of the Third Intermediate Period: Dyns. 22-24,” *AEC* (2006) 235.

<sup>62</sup> *Ibid.*, 264.

<sup>63</sup> *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009).

<sup>64</sup> “Introduction,” *Libyan Period*, vii.

<sup>65</sup> Kitchen, “The Third Intermediate Period in Egypt: An Overview of Fact and Fiction,” *Libyan Period*, 161-202.

<sup>66</sup> “Introduction,” *Libyan Period*, viii-ix; Kitchen, “Third Intermediate Period,” 161-202. These topics will be discussed later in context.

<sup>67</sup> Kitchen, “The Third Intermediate Period,” 202.

are dated to 945 BCE and lunar dates are used to define the accession of Ramesses II in 1279, and Thutmose III in 1479. The Sothic rising date on the Ebers calendar for Amenhotep I's ninth year is not factored into these dates.

### Scientists' Views on Egyptian Chronology

Having touched on the historical chronology, I turn now to what scientists are saying about their dates for the Egyptian chronology. A publication of 2004 entitled *Tools for Constructing Chronologies* is also devoted to eliciting the chronology of the ancient Near East. Chapter 4 summarizes results of the SCIEM 2000 Project.<sup>68</sup> Cichoki et al. state:

Unfortunately, this new, very early date (17th century BCE) seemed to make the sequences drift apart. It appears to be quite impossible to squeeze an additional 150 years out of the traditional sequence of time based on the regencies of Egyptian kings. Scholars who were used to chronological discrepancies of 20 to 30 years suddenly saw themselves confronted with a completely new, utterly irritating situation.<sup>69</sup>

According to Bietak and Höflmayer in their introduction to the SCIEM conference held in 2003 (proceedings published in 2007) the latest scientific studies indicate that the beginning of the 18th Dynasty should be raised by about 100–150 years to the middle-to-second-half of the 17th century BCE (1650–1600) above the dates currently being advocated for it on the basis of historical chronology, ca. 1500 BCE.<sup>70</sup> Thus there is a real conflict between the dates given to historical chronology and radiocarbon dating. They write,

It would not make sense to try to remedy this situation by unilaterally raising the Aegean chronology by 100 to 150 years, claiming that a new proportion of the relationship between Egypt and the Aegean has been found. The previous generation of scholars who have established the historical chronology by comparative methods of prehistoric archaeology were certainly no fools and have done their best to establish a timeframe based on exports and imports, with all the difficulties such as time lags and heirloom effects involved.<sup>71</sup>

The conclusion of Bietak and Höflmayer is that “either the radiocarbon chronology or the historic chronology is wrong, or both have a defect.”<sup>72</sup>

### Thera Eruption

The Thera eruption is central to the dating of the early 18th Dynasty. Manfred Bietak stated at the May 2001 SCIEM II conference, “Theran pumice suddenly appears in large quantities at the 18th Dynasty levels from stratum C/2 onwards to be dated to the Tuthmoside period. At the Hyksos and early 18th Dynasty levels pumice is very rare and does not originate from Thera.”<sup>73</sup> Malcolm Wiener at the 2003 conference noted that Theran pumice was found in large quantities in the workshops of Thutmose III or his

<sup>68</sup> Otto Cichoki, Max Bichler, Gertrude Firneis, Walter Kutschera, Wolfgang Müller, and Peter Stadler, “The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium BC: Natural Science Dating Attempts,” *Tools for Constructing Chronologies: Crossing Disciplinary Boundaries* (eds. C.E. Buck and A.R. Millard; London: Springer, 2004) 83-110.

<sup>69</sup> Cichoki et al., “Synchronization of Civilizations,” 84.

<sup>70</sup> Bietak and Höflmayer, “Introduction: High and Low Chronology,” *SCIEM II* (2007) 16; see also Wiener, “Egypt and Time,” 331.

<sup>71</sup> *Ibid.*, 16.

<sup>72</sup> *Ibid.*, 19.

<sup>73</sup> M. Bietak, “Science versus Archaeology: Problems and Consequences of High Aegean Chronology,” *SCIEM II* (2003) 28.

successor Amenhotep II and were abandoned “in any event after ca. 1450 BCE.”<sup>74</sup> He notes though, that in “Workshop N in area H/I, the pumice may appear as early as the reign of Tuthmosis I, around 1500 BCE.” The latest date for the eruption, being for him ca. 1525 would separate the abandonment of the workshops by two to three generations, and if the eruption was ca. 1600 it would mean five to six generations.<sup>75</sup> Thus it seems impossible for Wiener to date the Thera eruption to the 17th century.

Bietak concluded, “All the evidence strongly suggests that this event [the eruption of Thera] happened sometime in the early 18th Dynasty most probably before the reign of Tuthmosis III.”<sup>76</sup> But he also states: “The network of Egyptian chronology and its synchronism with Near Eastern, particularly Assyrian chronology makes this, at least for the time being, somewhat difficult to accept.”<sup>77</sup>

### Radiocarbon-dating of Seeds

Wiener also commented on a challenge to the standard chronology in noting that radiocarbon dates of seeds collected at Tell el-Dab<sup>a</sup> in the C/2 stratum for the post-Hatshepsut Thutmose III period “gave central dates of 1620, and earlier, far too early on textual, archaeological and astronomical grounds.”<sup>78</sup> Also, he writes, that the dates for the New Kingdom “cannot move very much from those stated above ... because of the correlations with the chronology of the ancient Near East fixed via the correspondence of Amenophis III and Akhenaten with Near Eastern rulers whose dates are known to within about a decade.”<sup>79</sup>

Consequently, Wiener concludes that the ca. 1620 date for the post Hapshepsut Thutmose levels cannot be correct, and proceeds to discuss possible reasons why the radiocarbon dating might have been affected to give high dates. He does not come to any definitive conclusion.<sup>80</sup> He awaits “future developments”.<sup>81</sup>

### Ice-core Samples and Dendrochronology

Another line of scientific research concerned ice-core samples taken from Greenland containing rough-textured volcanic glass particles (pumice), such as that found in the workshops of Thutmose III and Amenhotep II. The samples yielded the date of ca. 1645 ± 4 BCE based on the counting of the laminations (done repeatedly) and their chemical analysis.<sup>82</sup> Some scholars declared that the glass particles came from the Thera eruption;<sup>83</sup> others argued that the chemical composition of the ice particles was so close to those obtained from the Aniakchak eruption in the Aleutian Chain near Alaska that they were more likely to come from that area.<sup>84</sup> Because the origin of the pumice

<sup>74</sup> M.H. Wiener, “Times Change: The Current State of the Debate in Old World Chronology,” *SCIEM II* (2007) 40, citing M. Bietak, “Towards a Chronology of Bichrome Ware? Some Material from ‘Ezbet Helmi and,” *The Chronology of Base-ring Ware and Bichrome Wheelmade Ware* (ed. P. Åström; Stockholm: The Royal Academy of Letters, History and Antiquities, 2001) 175-201.

<sup>75</sup> *Ibid.*, 40.

<sup>76</sup> Bietak, “Science versus Archaeology,” 30.

<sup>77</sup> *Ibid.*, 30.

<sup>78</sup> Wiener, “Egypt and Time,” 326.

<sup>79</sup> *Ibid.*, 326, 331; similarly *idem*, “Times Change,” 26.

<sup>80</sup> *Ibid.*, 331-36.

<sup>81</sup> *Ibid.*, 336.

<sup>82</sup> *Idem*, “Times Change,” 27.

<sup>83</sup> C.U. Hammer, G. Kurat, P. Hoppe, W. Grum, and H. Clausen, “Thera Eruption Date 1645 BC Confirmed by New Ice Core Data?” *SCIEM II* (2003) 87-94.

<sup>84</sup> Wiener, “Times Change,” 27 citing N.J.G. Pearce, et al., “Identification of Aniakchak (Alaska) Tephra in Greenland Ice Core Challenges the 1645 BC Date for Minoan Eruption of Santorini,” *Geochemistry*,

particles in the ice-cores has been contested, they have not yet been able to confirm the years of the Thera eruption nor the 18th Dynasty.

Another area of investigation concerns dendrochronology or the dating of tree rings. Concerning a 1503-year tree-ring sequence involving trees from Gordion, the capital of Phrygia, Sturt Manning commented that:

A remarkable growth anomaly occurs over a few years in this Aegean dendrochronology starting in ring 854 (in 61 constituent trees as of early 2004). It has been suggested that this anomaly could be consistent with the impact of a massive low-mid latitude northern hemisphere volcanic eruption, and in particular Thera (Santorini). However, there is at present absolutely no positive evidence that connects the two events.<sup>85</sup>

Tree ring 854 is dated ca. 1653–1650 in a sequence based on “many high-precision radiocarbon dates on specific decadal blocks of wood.”<sup>86</sup> Manning asserts, “This dendrochronology is a fact and its dating is very near absolute.”<sup>87</sup> He recognizes the possibility that there could be “a temporal overlap with the large volcanic signal in the Dye 3/GRIP ice-core ca. 1645 BCE – however this is not certain ... and, moreover, this volcanic signal seems not to be related to Thera on current evidence.”<sup>88</sup>

Wiener makes the following statement concerning pottery evidence for the eruption of Thera: “The earliest certain appearance of W[hite] S[lip] I pottery in Egypt and the Near East comes in the Tuthmoside era, not long before ca. 1500 BCE with the possible exception of WS I sherds found at Tell el<sup>c</sup>Ajjul whose context, while uncertain, makes them potential candidates for an earlier arrival.”<sup>89</sup> Bietak notes that at Thera, the white slip I (WS I) ware comes from a pre-eruption layer, and a WS I bowl in Egypt from Tell el-Dab<sup>c</sup>a is not seen there before the 18th Dynasty.<sup>90</sup> He dates WS I’s earliest appearance with the reign of Thutmose I onwards.<sup>91</sup> In an effort to make the pottery dates meet conventional chronology, Wiener poses four extenuating circumstances then concludes, “The date of the eruption would still move no earlier than 1550 BCE.”<sup>92</sup> He concludes, “A delay of 100 or more years between the time a WS I bowl reaches Thera and the time the ware reaches the Near East and Egypt appears unlikely.”<sup>93</sup>

### Problems Remain

The above discussion illustrates problems with the dating of the beginning of the 18th Dynasty. Radiocarbon dates give a high chronology in the 17th century, and historical chronology based on dead-reckoning of known regnal years, results in a low chronology. While the scientists are re-examining their scientific results, others still cling to the dates derived for the historical chronology based on Thiele’s dates for

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*Geophysics, Geosystems* 5:3, (2004); Pearce, et al., “Reinterpretation of Greenland Ice-Core Data Recognises the Presence of the Late Holocene Aniakchak Tephra (Alaska), not the Minoan Tephra (Santorini), at 1645 BC,” *SCIEM II* (2007) 139-47.

<sup>85</sup> S.W. Manning, “Clarifying the ‘High’ v. ‘Low’ Aegean/Cypriot Chronology for the Mid Second Millennium BC: Assessing the Evidence, Interpretative Frameworks, and Current State of the Debate,” *SCIEM II* (2007) 103.

<sup>86</sup> *Ibid.*, 103.

<sup>87</sup> *Ibid.*

<sup>88</sup> *Ibid.*, 103-4; See also S. W. Manning, B. Kromer, P. I. Kuniholm, M. W. Newton, “Anatolian Tree Rings and a New Chronology for the East Mediterranean Bronze-Iron Ages,” *Science* 294, Issue 5551 (2001) 2532-35; Wiener, “Times Change,” 28-29.

<sup>89</sup> Wiener, “Times Change,” 39. Tell el<sup>c</sup>Ajjul is in Canaan.

<sup>90</sup> Bietak, “Science versus Archaeology,” 23-25.

<sup>91</sup> *Ibid.*, 23-25 and see discussion to p. 28.

<sup>92</sup> Wiener, “Times Change,” 39.

<sup>93</sup> *Ibid.*, 39-40.

Rehoboam's fifth year in 925 BCE. They cite the lower dates as being compatible with the ancient Near East while not being able to close the gap between them and the science-based dates. The fallacies of Thiele's chronology have already been suggested and will be demonstrated further in the next chapter. Results from the Gothenburg colloquium demonstrated that Egyptologists were disinclined to use resources that were unhelpful in confirming their dates, such as Manetho's dynastic lists, Sothic dates (especially that of the Ebers calendar), and only applied lunar dates to fit their already dead-reckoned dates.

What is needed is a new historical chronology, one that takes into account all the available resources including the results of science-based studies. An historical chronology that accommodates the raising of the 18th Dynasty by 100–150 years is presented in these chapters.

For example, in my chronology, Thutmose I began to reign in 1630 BCE, which would place the Theran eruption before the Thutmosides at about the same time as the date attributed to the ice-core samples from Greenland of about  $1645 \pm 4$  years. (That does not prove the ice shards came from Thera).

Regarding the carbon dating of seeds, the central date of 1620 for post-Hatshepsut and Thutmose III is a little too early compared with my dates for Hatshepsut beginning to reign in 1604 (as Thutmose III's guardian, and regent) and Thutmose III's accession in 1590. But the *earlier* dates for the seeds would accord with the reigns of Thutmose I (my dates 1630–1622) or Thutmose II (my dates 1622–1604), *or even before*, and would be consistent with the Theran pumice and Greenland ice-core dates.

Furthermore, the appearance of the WS I pottery comes at the appropriate time, after the accession of Thutmose I being an update of between 100 and 150 years from the commonly assumed chronology.

Sturt Manning gives a pertinent comment with respect to the chronology of the middle second millennium and the date of the Thera eruption—an observation that is applicable to all areas of research. He writes:

Various authors begin any study with a largely pre-determined position. They believe some set of views or set of data are effectively right or paramount and everything else is then analysed accordingly – thus alternative evidence receives intense critical comment and or dismissal (even is ignored), while confirmatory evidence or scholarship is simply stated and or praised with little critical consideration or self-reflection.... The outcome of such pre-conceived positions and assumptions, the resultant selective filtering of information, and the not unimportant role of the academic ego, is that only small and incremental changes and revisions are made to the “right” basic position. Radical revision is avoided where possible, and the approximate status quo is maintained almost on principle.<sup>94</sup>

A new chronology for ancient Egypt cannot be proposed by merely making a few slight changes here and there. It starts by dispensing with Thiele's dates and dating methods for Israel and Judah and Rehoboam's fifth year in 925. A “new” but old chronology for Israel and Judah comes from analyzing the textual history and chronological data found in the early Greek recensions of the Books of 1 and 2 Kings complemented by comparison with the late Hebrew Masoretic Text. When the relative chronology is established, Julian calendar dates can be applied to give the dates of the absolute chronology. A new starting date for the divided kingdom and Rehoboam's fifth year emerges—a date 52 years earlier than currently assumed. This goes a long way in closing the gap between the science-based dates and those of current Egyptian historical chronology. Then other chapters will show how the gap is closed even further. Finally, a

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<sup>94</sup> Manning, “Clarifying the ‘High’ v. ‘Low’,” 101-2.

reconstruction of Dynasties 1–25, validated by modern astronomical analysis of numerous references in the archaeological record, will provide a full and credible chronology of the kings of Egypt.

**Finally, a warning is apposite. Egyptology is a gigantic field of research. The study of its chronology is huge in itself, so there exists the tendency to specialize on the chronology of particular periods or artifacts. But turning to selected chapters of interest without following the consecutive argument herein will leave the researcher exposed. The argument is consecutive, and the omission of any chapter may lead the reader to miss vital information.**

**Failure to grasp how the astronomical tables work will vitiate a large portion of vital evidence. Dismissing the 20th century wrangle over “feasts held out their eponymous months” will ensure that the evidence for the eventual solution in chapter 10 is utterly missed. The three chapters about Sesostri III and Illahun are pivotal to establish the key earliest fixed date in Egyptian chronology in Chapter 14, of Neferefre in 1750 BCE.**

**The dates of dynasties before and after 1750 BCE, while contentious in the current Egyptological community, can only be responsibly challenged if the anchor links in the chain of evidence presented are conclusively disproven. Isolated disagreements from prior presuppositions will carry little weight unless this author’s methodology, supported by astronomical evidence and its consecutive application herein, are conclusively disproven. Ultimately that chain of evidence leads to 977 BCE as the meeting point between Shoshenq I in his 20th year and Rehoboam of Judah in his 5th year.**

Picking up this work will involve the reader in an adventure of discovery, even if every step will require careful consideration to assure validation and dependability along the way. That does not mean this author has all the answers. By no means. But where assumptions must be made and uncertainties admitted, they too are openly stated, given due consideration, and the passage to the next anchor point undertaken with extra caution.



## Chapter 2

### Fixing the Chronology for Israel, Judah, and Egypt

While Egyptologists may not have undertaken a study of the Hebrew chronology, I hope the reader's perusal of the following discussion will prompt doubt that Edwin Thiele produced a credible chronology for the kings of Israel and Judah. This chapter challenges the common assumption that the synchronism of Rehoboam's 5th year with Shoshenq I's 20th year is properly fixed at 925 BCE. No chronology of Egypt based upon that date is supportable, nor can it find agreement with the scientific, astronomical, inscriptional, and other archaeological evidence. My earlier book, *The Reconstructed Chronology of the Divided Kingdom*, showed that it was also inconsistent with the textual reconstruction of biblical evidence. The critical date by which the chronologies of Israel/Judah and Egypt should be fixed is 977 BCE.

This chapter recapitulates the content of *The Reconstructed Chronology of the Divided Kingdom* which establishes within the chronology of Judah and Israel that Rehoboam's fifth year was 977 BCE. It involves working with Old Testament textual origins, and the complexity of the chronology and synchronisms of the Books of 1 and 2 Kings, which were designed around a structure of kingly reigns in Judah and Israel intending originally to display their synchronicity. The subsequent discrepancies arising from copyist errors through many generations, and differences in chronological details between early and later copies or translations of the original records, leads to a highly complex analysis that is thoroughly worth the effort, and arrives at 977 BCE as the date for Rehoboam's fifth year. The detail of that venture is documented in this chapter, and will be rewarding to those who pursue it, though it occurs in brief summary form.

For other readers, the complexity of this pursuit may not be of interest, especially because this book is about the chronology of the Egyptian kings. It establishes the chronology of the Egyptian kings on completely different grounds than biblical records, though the encounter between Shoshenq I of Egypt in his 20th year and Rehoboam of Judah in his 5th year has traditionally been a confirmatory link for connecting Egyptian chronology with the history of the Ancient Near East.

Yet it is not a link upon which reconstructing the chronology of the Egyptian kings relies, so that those who choose not to engage in the intricacies of the historical chronology of Israel and Judah can pass over this chapter at will.

#### Another Chronology for Israel and Judah

A doctoral thesis written in 1964 by James Donald Shenkel, entitled *Chronology and Recensional Development in the Greek Text of Kings* published in 1968 under the same title,<sup>1</sup> urged that a new chronology for Israel and Judah be sought in the early Greek manuscripts that pre-date the earliest extant Hebrew manuscripts of the biblical Books of 1 and 2 Kings.

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<sup>1</sup> J.D. Shenkel, *Chronology and Recensional Development in the Greek Text of Kings* (Harvard Semitic Monographs Vol. 1; Cambridge, MA: Harvard University Press, 1968).

Shenkel wrote, “In the history of biblical scholarship innumerable attempts have been made to comprehend the chronological data in the Books of Kings and to reconstruct a coherent chronology. But only those studies that have given serious attention to the data of the Greek texts can pretend to be adequate.”<sup>2</sup> And further on, “It is hoped that a better understanding of the recensional development of the Greek text will provide a new perspective for conducting research into the chronology of the Books of Kings.”<sup>3</sup>

### Thackeray’s Advocacy of the Greek Text

Shenkel built on previous observations of other scholars, and in particular those of the noted biblical scholar H. St. J. Thackeray, who, in 1907, called scholars’ attention to textual evidence showing different divisions in the Greek text of 1 and 2 Samuel and the Books of 1 and 2 Kings (known in the Greek as 1–4 Reigns) from those shown in the Hebrew text.<sup>4</sup> These divisions showed early and late Greek texts. In Thackeray’s opinion, the early text went back to the second century BCE, while the later text was not earlier than 100 CE.<sup>5</sup> “Early” and “late” refer not to particular texts, but large families of textual witnesses with particular characteristics. The “early” period includes the LXX and Lucianic (L) texts, and “late” period includes the *Kaige* recension (KR) some three centuries later.

In 1920, Thackeray discussed the divisions in the Books of Reigns again and illustrated how the uniform translation of various words indicated either early or late text—consistent with the divisions.<sup>6</sup> Thackeray was one of three editors who compiled *The Old Testament in Greek*, including the Books of 1 and 2 Kings.<sup>7</sup> The text used was the oldest and most complete Greek text of the Old and New Testaments—the Codex Vaticanus—dating to the 4th century CE. Beneath its text is an extensive apparatus giving all the variants from the different Greek manuscripts available.

Significant among these are the chronological data found in a family of manuscripts known as Lucianic (L), which mostly exhibit the same numbers as those of the early Greek text, but when they differ, the variants are supplied in the apparatus.<sup>8</sup> They are known under the sigla  $b' + b = b$ ,  $o$ ,  $e_2$ , and  $c_2$  and date from the 10th to 14th centuries CE.

Shenkel’s analysis of the Greek texts’ recensional history and data led him to state: “The aim of the present enquiry is not to reconstruct a harmonious biblical chronology ... but to demonstrate the relationship of divergent chronological data to different stages in the development of the textual tradition.”<sup>9</sup>

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<sup>2</sup> Ibid., 3-4.

<sup>3</sup> Ibid., 4.

<sup>4</sup> H. St. J. Thackeray, “The Greek Translators of the Four Books of Kings,” *JTS* 8 (1907) 262-78.

<sup>5</sup> Ibid., 277.

<sup>6</sup> Idem, *The Septuagint and Jewish Worship: A Study in Origins* (The Schweich Lectures; London: The British Academy of the Oxford University Press, 1920) 16-28. See also Shenkel, *Recensional Development*, 19 and n. 30.

<sup>7</sup> *The Old Testament in Greek According to the Text of Codex Vaticanus, Supplemented from other Uncial Manuscripts, with a Critical Apparatus Containing the Variants of the Chief Ancient Authorities for the Text of the Septuagint. Vol. 2: The Later Historical Books; Part 2: I and II Kings* (eds. A.E. Brooke, N. McLean, and H. St. J. Thackeray; Cambridge: Cambridge University Press, 1930).

<sup>8</sup> The Lucianic manuscripts are named after their purported redactor, Lucian of Antioch who lived ca. 240-311/12 CE. However, Josephus (writing at the end of the 1st Century CE), used a “Lucianic” text from the 1st century BCE in his history of the Jews, *Antiquities*, so the “Lucianic” text actually pre-dates Lucian, and may refer to Lucian’s source texts. Lucianic textual sources are indicated by L.

<sup>9</sup> Shenkel, *Chronology and Recensional Development*, 26.

### Variant Text Types: Early and Later Greek Texts

The early Greek Text is commonly known as the Septuagint (LXX) due to the tradition that it was a translation of the Hebrew texts of the day by 70 (or 72) scholars in Alexandria in the second century BCE. Stanley Porter explains its origin.

Almost assuredly the translation of the Hebrew Bible into Greek was occasioned by the fact that the vast majority of Jews—certainly those outside Palestine, and especially in Egypt where there was a significant number of Jews—did not have linguistic access to their Scriptures in Hebrew and required a Greek version.”<sup>10</sup>

The Septuagint was “the Bible” of the early Christians, quoted in the New Testament, and the Scriptures used during the expansion of Christianity around the Mediterranean world of both Jews and Gentiles. As Julio Treballe Barrera says, after surveying the multiplicity of Greek texts in the first century CE, “The fact that the Christians made the LXX translation their own, and had used it in disputes with the Jews led to an increasing rejection of that version by the Jews, who ended by replacing it with new translations, more faithful to the rabbinic Hebrew.”<sup>11</sup> The KR was produced by the Pharisees in the first century, so named after the translational feature of the Greek word *kaige* (also, moreover) used for the Hebrew particle *gam*.

The various communities of the Jewish diaspora knew the Greek Bible in collections which certainly differed greatly from each other. The number of books in a collection could be greater or smaller and the text of each book could be the original of a version or a revised form agreeing with the most up-to-date Hebrew text. The Christian communities accepted this pluralism of books and texts of the Greek version. They even contributed to making the Greek text increasingly different, so that it needed Origen to try to introduce some logic into the transmission of the Greek text of the Bible.<sup>12</sup>

Clearly, the Masoretic Text (MT) should not be assumed as the prevailing text during first century times, though this text, preserved by the Masorites, is commonly translated into our English versions.<sup>13</sup> The variety of texts is confirmed by the Dead Sea Scrolls. Treballe Barrera says,

The most important information provided by the biblical manuscripts from Qumran is that, undoubtedly, the fact that in some books of the LXX version reflects a different Hebrew text from the one known in later masoretic tradition.”<sup>14</sup>

In line with Thackeray’s analysis of the divisions in the Books of Kings it is important to note that the fourth century CE Codex Vaticanus—thought to be the oldest and most complete copy of the Greek Bible in existence—does not represent the same text type throughout 1 and 2 Kings. It appears that the Codex had been copied from various scrolls. One scroll began at 1 Kgs 2:12 and finished at the end of what is now chapter 20:43, but 21:43 in the MT.<sup>15</sup> The section representing this scroll contains the chronological data of the *early* Greek text (OG/LXX). A new scroll apparently started with Chapter 22 and exhibits a *later* Greek text of KR, which continues through to the

<sup>10</sup> S. Porter, “Septuagint/Greek Old Testament,” *Dictionary of New Testament Background* (eds. C.A. Evans and S.E. Porter; Leicester, Eng. and Downers Grove, IL: InterVarsity Press, 2000) 1099-1105 citing M. Müller, *The First Bible of the Church: A Plea for the Septuagint* (JSOT Supplement 206; Sheffield: Sheffield Academic Press, 1996) 38-39.

<sup>11</sup> J. Treballe Barrera, *The Jewish Bible and the Christian Bible* (trans. W.G.E. Watson; Leiden: Brill, 1998), 312.

<sup>12</sup> *Ibid.*, 302.

<sup>13</sup> Earlier manuscripts were destroyed after they had been copied.

<sup>14</sup> *Ibid.*, 320 (Treballe Barrera’s emphasis).

<sup>15</sup> In the Greek text chapter 21 precedes chapter 20, but in the Hebrew text chapter 21 follows chapter 20.

end of 2 Kings.<sup>16</sup> As a result Codex Vaticanus contains two text types with their different chronological data, which is significant for understanding the chronology of the kings and the order in which their reigns were recorded.

The L text is present throughout 1 and 2 Kings but some of their chronological data, also found in the old Greek (OG), have been made to conform to that of the *kaige*/MT version, especially in 2 Kings. These late alterations are attributed to Origen's recension known as the Hexapla (a six-columned work) completed in 245 CE.<sup>17</sup> A few of the revised numbers were entered into the Codex Vaticanus, and replaced original data during the copying in the 4th century CE, and were later also entered into the L texts.

The disparity between the chronological data within the MT, let alone between the OG/L and KR/MT appears to be so inexplicable that it has been said that there is no problem more complicated in the Old Testament than that of its chronology.<sup>18</sup>

### Construction of the Original Books of Kings

Originally 1 and 2 Kings was compiled as a historical narrative of the post-Davidic reign of Solomon and the subsequent twin kingdoms of Judah and Israel. The significant movements of spiritual history are woven into a record of the kings who assumed the throne, their lengths of reign, and details of their death—in a manner that is cross-referenced between the twin kingdoms by an intentional system of synchronisms. The accession synchronisms imply that they were originally cogent and coherent, and historically consecutive. Within the historical and prosaic nature of the narrative it seems untenable that the numbers in the text were intended to be mysterious and confusing.

A king's *regnal* years commence at the death of the king's predecessor and are all complete years except for the last year, which is a partial year. Following the textual form, the regnal years are given as rounded numbers. The final year is counted as a full year if the king reigned a substantial part (say at least six months), but if a lesser portion, it is not counted. The length of the final year has to be determined by the synchronisms. If the length is too long or too short, a later synchronism will fall out of alignment. Synchronisms provide a check on accuracy.

### Variant Numbers

Nevertheless, in the passage of time and the process of repeated copying, the accuracy of numbers was affected to the extent that subsequent copies or versions contained numbers that are clearly discrepant. This is not unique to 1 and 2 Kings. Writing about a record of names and numbers in Ezra 2:2b-35, Derek Kidner observes,

A comparison of this list with Nehemiah's copy of it (Ne. 7:7bff.) reveals a startling contrast between the transmission of names and that of numbers—for the names in the two lists show only the slightest variations whereas half the numbers disagree, and do so apparently at random. The fact that two kinds of material in the one document have fared so differently lends the weight of virtually a controlled experiment to the many other indications in the Old Testament that numbers were the bane of copyists. Here the changes have all the marks of accident. Now one list and then the other will give the larger figure ..."<sup>19</sup>

<sup>16</sup> A recension refers to a revision of the text being copied, not to a new translation. In the example of the *kaige* recension it was revised toward conformity with a proto-Masoretic text type (Shenkel, *Chronology and Recensional Development*, 20).

<sup>17</sup> Trebelle Barrera, *The Jewish Bible*, 311-12.

<sup>18</sup> T.R. Hobbs, *2 Kings* (Word Biblical Commentary 13; Waco, TX: Word, 1985) xxxix.

<sup>19</sup> D. Kidner, *Ezra and Nehemiah* (Tyndale OT Commentaries; Leicester and Downers Grove IL: IVP 1979) 38.

Whether Bible scholars advocate the inspiration and authority of the original Scriptures or not, they commonly agree that the human role in the transmission process can display accidental errors typical of copyists before photocopying enabled direct replication.

### **Reason for Changes in Numbers**

The simplest explanation for the change in chronological data from the OG/L texts to the MT lies in the probability that in an early Hebrew script similar-looking letters (representing numbers) were mistaken during copying. This appears to have occurred in a pre-Masoretic text. The miscopied numbers entered the *kaige* text in the first century CE, and are now seen in the MT, but the OG/L texts of the second century BCE appear to retain a less affected record.

Though no original copies exist, it appears that the numbers of the kings' regnal years and their accession synchronisms were written in the Hebrew script as *letters* of the Hebrew alphabet using their numerical value. Thus the first letter א (*aleph*) was 1, the second ב (*beth*) was 2, and so on up to 10 (י *yod*), then 10s with the digits for 11–19. The 11th letter כ (*kaph*) is 20 and the 12th letter ל (*lamed*) is 30, and so on.

The Hebrew script altered over the centuries. It is not possible to determine the exact shape of the letters that may have been mistaken for each other.<sup>20</sup> Letters representing numbers that have caused most problems in the text of the Divided Kingdom are the numbers 3 and 6; 4 and 7; and 10 and 20. These numbers (letters) are basically responsible for the divergent data seen in the Books of 1 and 2 Kings. Initial changes have brought secondary data into the *kaige* and Hebrew texts, and some were introduced into the OG/L texts—before the writing of the Codex Vaticanus—to bring the Greek texts into conformity with the Hebrew.

The transmission history shows that copyists were alert to discrepant numbers (which they sometimes tried to fix), and at some point of time the writing of numbers was changed from alphabetic character values to transcription as words.

### **The Structure of Synchronisms**

The synchronisms in 1 and 2 Kings use a stylized form, which is comprehensively explained in my book.<sup>21</sup> Differences in the patterns of opening formulae betray differing textual origins. They typically report an accession statement, a duration statement, and an assessment statement. The accession statement would include a synchronism with the reigning monarch of the twin kingdom. Variation to this pattern usually indicates secondary intrusion. As I demonstrate in *The Reconstructed Chronology of the Divided Kingdom*, the intrusion of supplementary notations into the opening or closing formulae of a king's reign indicates textual disruption.

### **Variant Information**

The intrusion of variance is readily seen where a king has two different accession synchronisms. Several examples may be noted.

1. Jehoshaphat. 1 Kgs 22:41-42 records that Jehoshaphat began to reign in the 4th year of Ahab, whereas in 16:28a Jehoshaphat began to reign in the 11th year of Omri.

<sup>20</sup> M.C. Tetley, *The Reconstructed Chronology of the Divided Kingdom* (Winona Lake, IN: Eisenbrauns, 2005) 93-94 and nn. 1 and 3, 133-36, and M. Lidzbarski's table of alphabets on p. 137. These are taken from E. Kautsch (ed.), *Gesenius' Hebrew Grammar* (2nd ed.; trans. A.E. Cowley; Oxford: Clarendon, 1910, facing p. xvi).

<sup>21</sup> *Ibid.*, See especially chapter 5, pp. 64-90; Shenkel, *Chronology and Recensional Development*, 43-54.

2. Joram and Jehoram. The MT reflected in English Bibles says in 2 Kgs 1:17b Joram (of Israel) became king in the second year of Jehoram (of Judah), yet in 2 Kgs 8:16 Jehoram (of Judah) became king in the fifth year of Joram (of Israel).

3. Hoshea is said to have become king in the 20th year of Jotham at 2 Kgs 15:30b, and in the 12th year of Ahaz at 17:1.

It is evident that each example involves discrepancies, which require consideration of the textual transmission and explanation.

The Early Divided Kingdom begins with Rehoboam of Judah in the south, and Jeroboam of Israel in the north, and continues for nearly 100 years until Jehu kills Ahaziah (king of Judah) and Joram (king of Israel) on the same day (2 Kgs 9:14-28).

Tables 2.1 and 2.2 are copied from my book *The Reconstructed Chronology of the Divided Kingdom* to show how the OGL data compares with the MT data in the Early Divided Kingdom period found in 1 Kgs 14:20–21:29, and how the Lucian text (where extant) compares with the kaige/MT in 1 Kgs 22:41–2 Kgs 9:29. Problems and solutions are briefly explained.

The subsequent period following the simultaneous decease of Ahaziah and Joram is known as the Late Divided Kingdom, and continues down to the fall of Samaria. Tables of that period, 2.3 and 2.4, will also be presented with brief explanations. (Abbreviations not defined in the tables in this chapter can be found in the list of General Abbreviations.)

Table 2.1 collates the variants found in the Greek and Hebrew texts in the Books of 1 and 2 Kings of the Early Divided Kingdom according to the textual witnesses and supplies the critical data that must be considered in reconstructing the chronology. Failure to recognize the information in this table, and subject it to responsible text-critical analysis, is a primary reason for the erroneous chronology constructed by Edwin Thiele. Table 2.3 supplies the equivalent data for the later period.

**Table 2.1: Variant chronological data of the Greek and Hebrew texts in the Books of 1 and 2 Kings (Kgs) of the Early Divided Kingdom according to textual witnesses**

Reference	King	Text	Regnal years	Accession synchronism
1 Kgs 14:20	Jeroboam of Is.	MT	22	None
1 Kgs 15:8-9		OG/L	24	None
1 Kgs 14:21	Rehoboam of J.	MT & OG/L	17	None
1 Kgs 15:1-2	Abijam of J.	MT	3	18th Jeroboam
		OG/L	6	
1 K. 15:9-10	Asa of J.	MT	41	20th Jeroboam
		OG/L	41	24th Jeroboam
1 Kgs 15:25	Nadab of Is.	MT & OG/L	2	2nd Asa
1 Kgs 15:33	Baasha of Is.	MT & OG/L	24	3rd Asa
1 Kgs 16:8	Elah of Is.	MT	2	26th Asa
1 Kgs 16: 6, 8		OG/L	2	20th Asa
1 Kgs 16:10, 15	Zimri of Is.	MT	7 days	27th Asa
1 Kgs 16:15		OG	7 days	None
		L (be <sub>2</sub> only)	7 days	22nd Asa
1 Kgs 16:16	Omri of Is.	MT implies same as Zimri “that day”		27th Asa
		OG		None
		L implies same as Zimri “that day”		22nd Asa
1 Kgs 16:23	Omri of Is.	MT & OG/L	12 yrs: 6 at Tirzah	31st Asa
1 Kgs 16:28a	absent	MT	Absent	Absent
	Jehoshaphat of J.	OG/L	25	11th Omri
1 Kgs 16:29	Ahab of Is.	MT	22	38th Asa
		OG/L	22	2nd Jehoshaphat
The OG section of 1 Kings finishes and the <i>kaige</i> recension begins at Chapter 22				
1 Kgs 22:41–42	Jehoshaphat of J.	kaige/MT	25	4th Ahab
		L	Absent	Absent
1 Kgs 22:52	Ahaziah of Is.	kaige/MT	2	17th Jehoshaphat
		L	2	24th Jehoshaphat
2 Kgs 1:17	Joram of Is.	MT	Absent	2nd Jehoram
The previous synchronism indicates that Jehoram of Judah began to reign in the 2nd year of Ahaziah of Israel, but this is missing in all texts				
2 Kgs 1:18a	Absent	MT	Absent	Absent
	Joram of Is.	kaige	12	18th Jehoshaphat
		L	12	Absent
2 Kgs 3:1	Joram of Is.	kaige MT	12	18th Jehoshaphat
2 Kgs 8:16–17	Jehoram of J.	MT	8	5th Joram
		kaige	40	5th Joram
		L (oe <sub>2</sub> )	10	5th Joram
		L (b)	8	5th Joram
2 Kgs 8:25–26	Ahaziah of J.	kaige/MT	1	12th Joram
		L (e <sub>2</sub> )	1	11th Joram
		L (b)	Absent	11th Joram
		L (o)	Absent	10th Joram
2 Kgs 9:29	Ahaziah of J.	kaige/MT	Absent	11th Joram
		L (be <sub>2</sub> )	1	11th Joram
		L (o)	Absent	11th Joram

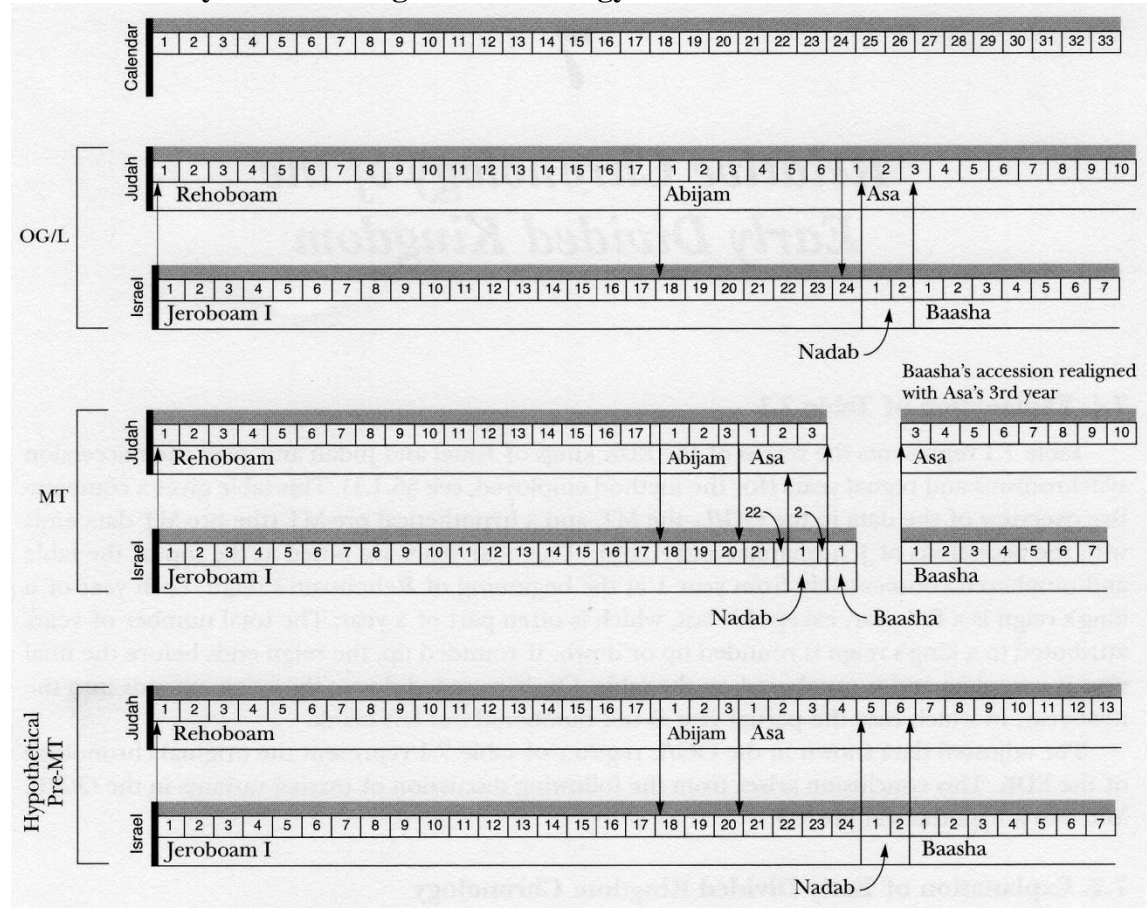
Is. = Israel; J. = Judah.

This excursus on the historical development of the text of 1 and 2 Kings is made necessary to give some indication of the complex background that must be taken into account when constructing the chronology. The variant numbers in the old text (OG/L) and the “new” text in the Greek KR and Hebrew MT can be explained by recognizing the different text types.

### Explaining Textual Variances

What has been seen as an intractable problem to scholars wrestling only with the numbers of the Hebrew text, can, with the help of the much earlier OG/L texts, be made explicable and logical. *The Reconstructed Chronology of the Divided Kingdom* addresses these issues systematically, to establish both a relative and absolute chronology. Space

**Table 2.2 Early Divided Kingdom chronology**



here precludes an explanation of all the intricacies of textual variants, but I briefly attempt to show how many variants arose in the OG/L and *kaige*/MT. The table of variants above (Table 2.1) should be referred to, as well as the table below. (Table 2.2 continues across three pages which should be read continuously side by side). Table 2.2 demonstrates the synchronisms and length of reigns of each of the kings in their variant textual traditions.

Tables 2.2 and 2.4 display a Calendar line (top) for the formation of a relative chronology, lines of the twin kingdoms in the OG/L and MT texts, respectively, plus a line for a hypothetical pre-MT text, which scholars acknowledge and the evidence shows existed at some stage of the transmission process of the MT. The vertical arrows indicate the synchronisms expressed in the texts.

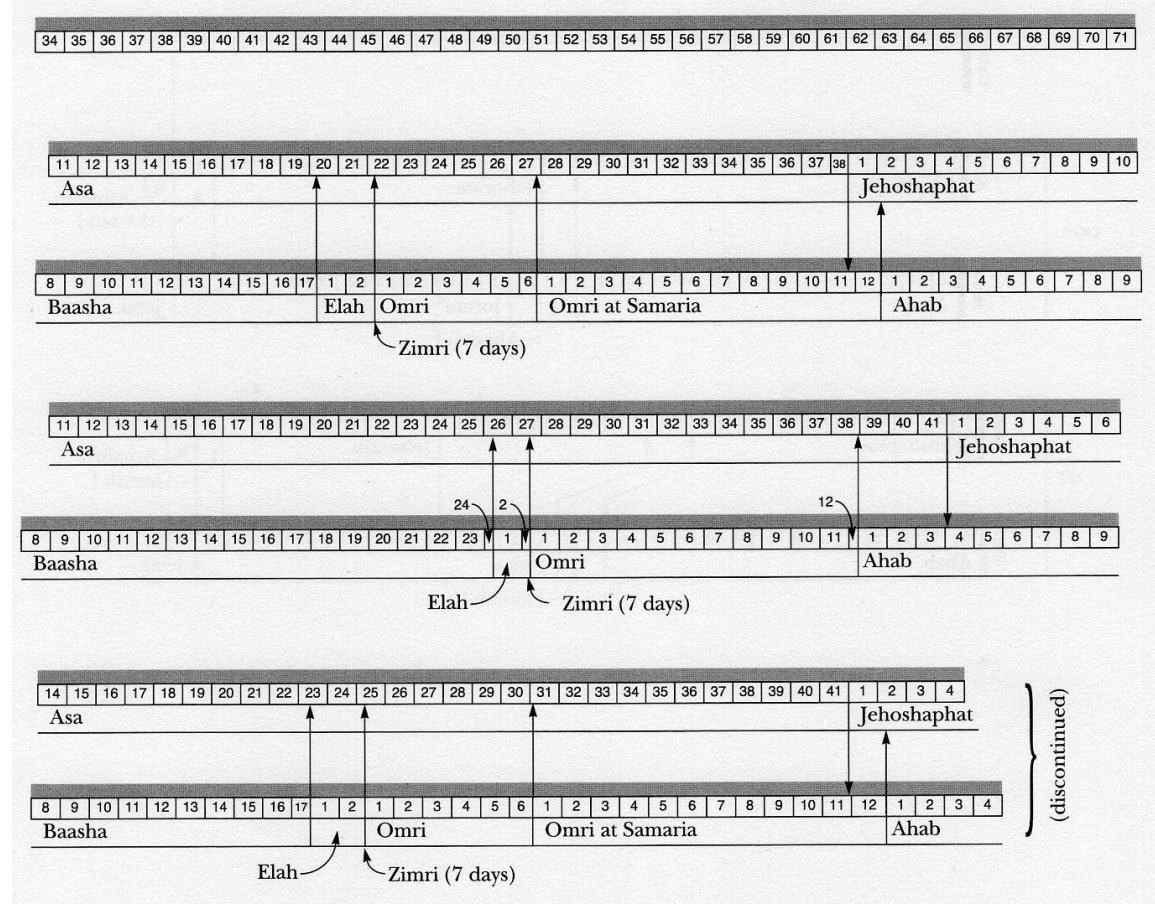
**Primary Key to Understanding the Early Divided Kingdom Chronology**

The key to understanding the chronology of the Early Divided Kingdom is by paying attention to the results of differing reign lengths given to Abijam (son of Rehoboam of Judah) and his successor, Asa. In the OG/L texts Abijam is given six years (1 Kgs 15:1-2; years 18–24) but in the extant MT he is given only *three* years. Then, in order to correct the discrepancy in the lengths of their reigns, a pre-Masoretic text added three years—not to Abijam’s reign where it belonged—but to Asa’s reign, increasing it from 38 years to 41 years (1 Kgs 15:10).

This adjustment must have occurred in a pre-MT text that still retained the original six years for Abijam, which assimilated the 41 years for Asa when it would otherwise have been 38. Asa’s reign is now three years longer than it should have been. The OG/L demonstrate that Asa once had 38 years because his reign ends and Jehoshaphat’s begins in the 11th year of Omri (1 Kgs 16:28a OG/L), requiring only



**Table 2.2 Early Divided Kingdom chronology (cont.)**



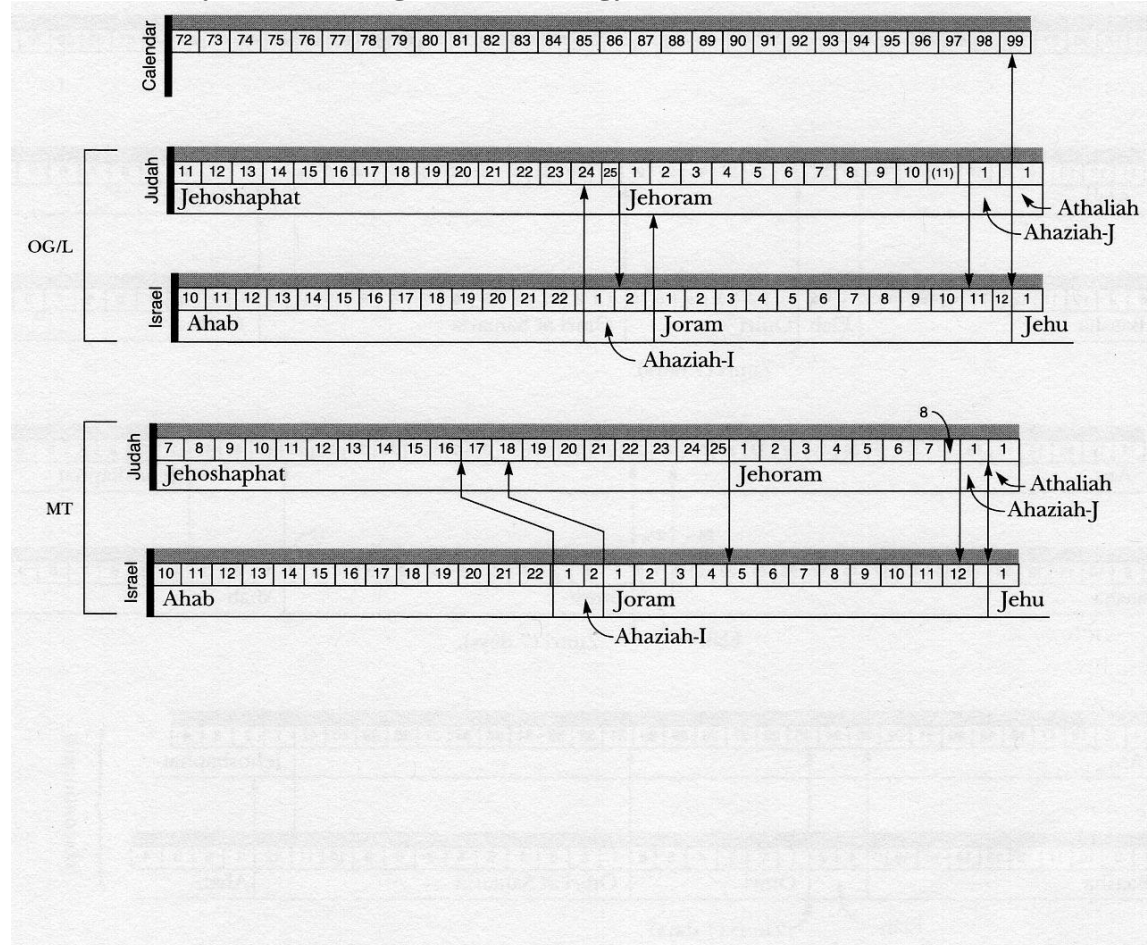
38 years.<sup>22</sup> The significance of these adjustments is that the kings of Judah in the MT are three years in advance of their correct position, demonstrated by Jehoshaphat’s accession—which is now three years further ahead in the MT than in the OG/L. This anomaly must have been noticed by a redactor (copyist) at some stage, but instead of returning Asa’s reign back to 38 years, he changed the *synchronism* so that Jehoshaphat began to reign in the fourth year of Ahab (1 Kgs 22:41). In the MT, a new synchronism was also formed for Ahab who then became king in the 38th year of Asa (1 Kgs 16:29). This led to a drastic rearrangement of the text.

**Variant Arrangements of the Text**

Instead of Ahab’s reign coming after Jehoshaphat’s as in OG/L, Ahab now starts his reign in Israel ahead of Jehoshaphat in Judah. (See Table 2.2, calendar year 62, MT row). The rearrangement in the numbering and positioning of Jehoshaphat and Ahab had serious repercussions for the remaining chronology of the Early Divided Kingdom. By adopting the accession of Ahab before Jehoshaphat, and following the structural design that reigns are recorded from a king’s accession in a strict historical sequence, the redactor had to remove the narrative of Jehoshaphat’s reign at 1 Kgs 16:28a-h where it appears in OG/L, so that the narrative of Ahab’s reign would appear *before* Jehoshaphat’s narrative. In the MT, Ahab’s reign runs from the accession synchronism in 1 Kgs 16:29 to Ahab’s death in 1 Kgs 22:40. Then it is immediately followed by Jehoshaphat’s accession synchronism and reign narrative in 1 Kgs 22:41-50.

<sup>22</sup> The 38 years is not found in texts because it has been replaced by the 41 years at 1 Kgs 15:9-10. In the OG/L this can be explained by a later change to conform to the MT.

**Table 2.2 Early Divided Kingdom chronology (cont.)**



On the other hand, the OG/L texts have Jehoshaphat’s accession (“in the 11th year of Omri”) at 1 Kgs 16:28a, where the 10 verse narrative of his reign is designated a-h.<sup>23</sup>

**Codex Vaticanus has Jehoshaphat’s Reign Twice!**

The Codex Vaticanus followed the OG/L up to the end of 1 Kgs 21, then at 1 Kgs 22 followed the KR scroll with its MT synchronisms and sequence of reigns. As a result, Codex Vaticanus *has the narrative of Jehoshaphat’s reign at two places*: 1 Kgs 16:28a-h, and at 1 Kgs 22:41-50,<sup>24</sup> thereby confirming the repositioning of Jehoshaphat’s reign in conformity with the MT order.

<sup>23</sup> Because the L texts have Jehoshaphat in his appropriate place at 1 Kgs 16:28 a-h, their texts proceed from 22:40 to v. 51 and do not have a second intervening narrative about Jehoshaphat. 1 Kgs 22:52 in *kaige*/MT appears as v. 51 in English translations.

<sup>24</sup> Thiele argued that the MT was the earlier text because the Greek had only *one* verse at 1 Kgs 16:28, whereas the account of Jehoshaphat at 1 Kings 22:41-50 occupied 10 verses. He wrote, “If the Greek had been in existence before the Hebrew, the account of Jehoshaphat would have been at 1 Kings 16:29-38, and it would then have been followed by the account of Ahab. There would have been no second account of Jehoshaphat after the account of Ahab at I Kings 22:41” (*MNHK*<sup>3</sup>, 90-91. See pp. 88-94 for the entire section). Thiele did not understand the recensional development of the Greek texts or the fact that 1 Kings chapter 22 was a later text than the OG of 16:28. Apparently he had not seen for himself the Codex Vaticanus or even its translation, and did not know that the Greek has a *longer* text at 16:28a-h than at 22:41-51. Concerning vv. 41-51 Shenkel writes: “These verses of the regnal formula have all the characteristics of the KR and evidently are a reworking of the earlier regnal formula at 16:28<sup>a-h</sup> with a view to bringing the latter into conformity with the proto-Masoretic text” (*Chronology and Recensional*

The OG, which is now lost, would not have had Jehoshaphat's narrative after Ahab's in 1 Kgs 22: 41-50, because it is inconsistent with the structure of 1 and 2 Kings, which has accession synchronisms (and associated reign narratives) in strict historical sequence. Confirmation of the earlier OG order is seen by the absence of the Jehoshaphat accession and narrative at this point in the L texts.

### **Variant Methods of Resolution**

One approach to resolving these problems is to arbitrarily nominate a single textual tradition as inerrant, and dispense with other sources that witness to the original Hebrew Scriptures. Thiele's adherence to the late MT forced him to compose theories of multiple calendar systems and co-regencies not mentioned in the text. These seem to belie the intention of the original editors to provide a cogent and coherent historical narrative. Thiele was motivated to uphold the reliability and authority of the biblical text. But this is not aided by preferring one textual tradition over the Greek translations (in various versions) of much earlier Hebrew texts, especially those extensively used in the New Testament era, nor by under-estimating that the transmission processes of documentary material through many hands can multiply copyist errors, especially with numbers.

Reviewing *all* available evidence is the most likely way of recovering the original, and explaining how variants may have appeared.<sup>25</sup> While the evidence now shows discrepancies of various kinds, a reconstruction of the transmission process can make the original explicable. *The Reconstructed Chronology of the Divided Kingdom* shows that the variant numbers may be *robustly explicable* without any of Thiele's resort to unattested dating methods and co-regencies. The reasons for textual variation are demonstrated when the years of the kings' reigns of Israel and Judah are put side by side, with the OG/L texts displaying the early data, and the KR and the MT exhibiting the later data.

### **Rehoboam's Fifth Year Derives from the Entirety of the Divided Kingdom**

Having briefly addressed my approach to fixing the chronology for Israel and Judah in coverage of 1 Kings, I proceed to the remainder of the Early Divided Kingdom in 2 Kings. The synchronism of Rehoboam's 5th year with Shishak's 20th year occurs in the first years of the Early Divided Kingdom, but the chronology of Israel and Judah through to the Fall of Samaria needs completion to establish an absolute chronology, and to locate Rehoboam's fifth year encounter with Shishak in 977 BCE.

### **MT Repercussions for Jehoram of Judah, and Joram and Ahaziah of Israel**

Further consequences of disordered numbering of the reigns of Abijam and Asa, and the subsequent secondary synchronisms for Ahab and Jehoshaphat, are seen in the reigns of Jehoram of Judah, and Joram and Ahaziah of Israel. Another transposition occurs in the text of the *kaige*/MT, but not in the original text now represented by a few verses of the L text and, somewhat surprisingly, in the MT itself at 2 Kgs 1:17b. The MT has retained a crucial piece of information that Joram of Israel became king *in the second year of Jehoram of Judah*.

This is in obvious conflict with a "secondary" synchronism that *Joram became king in the 18th year of Jehoshaphat* (2 Kgs 3:1). The loss of the OG text, and much of

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*Development*, 43). So Thiele's own argument turns on its head because the longer Greek text *is* found at 1 Kings 16:28 a-h and it *is* followed by the account of Ahab!

<sup>25</sup> Porter commends Lagarde "who pioneered Septuagintal research into manuscript types and claimed that all the texts were mixed and that an attempt to arrive at the original text necessarily must involve an eclectic process of comparing and weighing evidence," ("Septuagint/Greek OT," 1104), a principle that Thiele did not adequately pursue.

the L text made to conform to the pre-MT, makes for a very complex situation with regard to the positioning of Joram and Jehoram's reigns. The textual material is demonstrated here in the list of variants (in Table 2.1) and by the several chronological formulations for the Early Divided Kingdom based upon those variants displayed in Table 2.2. For a comprehensive discussion see my book, *The Reconstructed Chronology of the Divided Kingdom*.

### **Reigns of Jehoram and Joram Shifted, with Elements of Both Constructions**

As a brief summary, the situation is akin to that of the Jehoshaphat/Ahab transposition. In the OG order, Jehoram of Judah succeeds Jehoshaphat in the second year of Ahaziah of Israel. This synchronism is anomalously *not found in any text*, an omission clearly showing textual interference. But the synchronism is implied in the text that remains in the MT at 2 Kgs 1:17 (and L at 1:18), which states instead that *Joram of Israel* began to reign in the second year of Jehoram of Judah. So *Jehoram must have begun to reign a year before Joram*. Sequentially, Jehoram's accession and reign should have been reported before that of Joram.

The reason for these anomalies is that the MT order has placed Joram of Israel's accession (calendar year 82) before Jehoram of Judah (calendar year 90). The synchronism for Jehoram of Judah's accession, which would have been at 1:17 or 18, was excised because it did not conform to the MT order. Into its place was inserted the accession of Joram of Israel in the second year of Jehoram of Judah. Joram's synchronism belongs to the OG order and should have appeared at 2 Kgs 3:1 after the narrative of Jehoram of Judah. But in the MT the synchronism is inserted incorrectly at 1:17-18 as can be seen by its *intrusion* into the closing regnal formula of Ahaziah. Perhaps this was a copyist's effort not to lose the synchronism altogether.

The MT order required a new accession synchronism for Israel's Joram before Jehoram's accession. Two problems are associated with these synchronisms. Firstly, the extension of Asa's reign from 38 years to 41 years means that his successor, Jehoshaphat, started his reign three years after the true position. Secondly, in the MT, Ahaziah of Israel began to reign in the 17th year of Jehoshaphat (1 Kgs 22:51) but in the L texts (boc<sub>2</sub>e<sub>2</sub>) he began to reign in the 24th year of Jehoshaphat (see calendar year 85). The OG/L arrangement is obviously correct. The result of the MT synchronizing Ahaziah of Israel's accession with the 17th year of Jehoshaphat led the MT redactor to synchronize Joram of Israel's accession in the 18th year of Jehoshaphat. Due to these adjusted synchronisms, the MT has a secondary synchronism for Joram's accession in the 18th year of Jehoshaphat at 2 Kgs 3.1. The correct synchronism of Joram becoming king in the second year of Jehoram was removed from 3:1 and placed at 1:17-18 where it does not belong, and the secondary synchronism for Joram's accession in the 18th year of Jehoshaphat is inserted in the MT at 3:1.

### **Early Divided Kingdom Ends With Simultaneous Deaths of Jehoram and Ahaziah**

Jehoram's reign is three years advanced out of its correct (OG/L) position. A consequence of this is that Jehoram's reign was synchronized with the fifth year of Joram (2 Kgs 8:16) with a reign of eight years. In the L manuscripts oe<sub>2</sub> Jehoram is given 10 years, but this is one year short of the required number as can be seen in calendar years 95–98. The 11 years that would have been original in the OG text had to be reduced to eight years in the MT so that Jehoram's successor, Ahaziah of Judah, who reigned about one year (2 Kgs 8:26), was killed on the same day as Joram by Jehu, a challenger from Israel (2 Kgs 9:24, 27). The incorrect addition of three years to Asa's reign, causing his successor kings of Judah to be three years in advance of their true chronological position, has finally come to an end because the years allocated to Jehoram could not show that he *was still alive three years after his death!*

The difference between the OG/L and *kaige*/MT has led to variant synchronisms and transpositions of reigns. One further area of the Early Divided Kingdom not discussed above concerns that of Baasha, Elah, and Omri who were contemporaries of Asa.

### **Baasha of Israel**

In the MT, Baasha is credited with 24 years—seven more than the OG/L 17 years. This caused changes in the synchronisms in the MT. In the MT, Baasha's accession falls in the third year of Asa (1 Kgs 15:33), calendar years 23–26, but it is not appropriate because it omits three of Abijam's six years.

The problem with Baasha's reign is that the OG/L texts give him 17 years, indicated by the synchronism that Elah began to reign in Asa's 20th year (1 Kgs 16:6, 8 OG/L) whereas the MT gives Baasha 24 years (1 Kgs 15:33). The correct number of years for Baasha is the OG/L's 17 years. Elah's successor, Zimri, followed him two years later, reigning only seven days. Both accessions occur in the 22nd year of Asa (1 Kgs 16:15-16: L text be<sub>2</sub> only). After six years at Tirzah, Omri moved to Samaria in the 27th year of Asa. This datum should have appeared at 16:23 but it has been replaced by the 31st of Asa, so that OG/L do not have this datum. As the OG/L texts show, Omri actually reigned 18 years altogether.

In the MT, the seven-year extension to Baasha's reign—giving him 24 years—means that seven years must be eliminated from the MT arrangement. Elah's accession is given for the 26th year of Asa (16:8). By eliminating almost one year of two years for Elah's reign, Omri's accession is given for the 27th year of Asa (16:15). Instead of this being Omri's accession at Tirzah, as it is in the OG/L texts, it is Omri's accession *at Samaria*. By omitting a year from Elah's reign and six years of Omri's reign at Tirzah, the seven years difference between the 17-year reign of Baasha in OG/L and the 24th year of Baasha in MT is eliminated.

The point here is that the numbers for Baasha's regnal years, 17 versus 24, are the cause of differences in the positions of the synchronisms for the reigns of Elah, Zimri, and Omri in the MT in 1 Kgs 16. As noted above, these numbers have also been confused concerning the accession of Ahaziah of Israel. He began to reign in the 17th year of Jehoshaphat according to the MT, but in the 24th year according to the L texts (1 Kgs 22:51). It seems apparent that these numbers were written alike and became confused over the process of copying from one Hebrew text to another. The OG/L texts escaped this revision.

### **The Importance of Israel/Judah Divided Kingdom Dates and Lengths of Reign**

The importance of establishing the length of the divided kingdom is to accurately date Rehoboam's fifth year. Correctly reconstructed, the Early Divided Kingdom account begins with the public division (1 Kgs 12) between King Rehoboam and Jeroboam—dividing Solomon's kingdom between them—and ends on the same day with the deaths of Judah's King Ahaziah and Israel's King Joram, at Jehu's hand (2 Kgs 9:23-28). According to the calendar line, it comprises 98½ years. We now continue with the Late Divided Kingdom period, to establish its length and to date the fall of Samaria. Counting from this point back to the beginning of the divided kingdom enables Rehoboam's fifth year to be established.

### Late Divided Kingdom Chronology

The period covered by the Late Divided Kingdom has been discussed at length in my book, *The Reconstructed Chronology of the Divided Kingdom*.<sup>26</sup> There are only a few differences in the data of the *kaige*/MT and L (OG not being extant). Table 2.3 gives the actual data, and amended data, and is provided below. There are three main difficulties. I comment on these briefly.

**Table 2.3: Chronological data of the Late Divided Kingdom according to textual witnesses (*kaige*/MT/L)**

Reference	King	Regnal years	Accession synchronism	Amended data
2 Kgs 10:36	Jehu of Is.	28	None	
2 Kgs 11:4	Q. Athaliah	7	None	
2 Kgs 12:1/2	Joash of J.	40	7th Jehu	
2 Kgs 13:1	Jehoahaz of Is.	17	23rd Joash of J.	
2 Kgs 13:10	Joash of Is.	16	37th Joash of J.	
2 Kgs 14:1–2	Amaziah of J.	29	2nd Joash of Is.	
2 Kgs 14:23	Jeroboam II	41	15th Amaziah	
2 Kgs 15:1–2 <i>Antiq.</i> 9.205, 215	Azariah of J.	52 52	27th Jeroboam II 14th Jeroboam II	14th Jeroboam II
2 Kgs 15:8	Zechariah of Is.	6 m	38th Azariah	28th Azariah
2 Kgs 15:13	Shallum of Is.	1 m	39th Azariah	29th Azariah
2 Kgs 15:17	Menahem of Is.	10	39th Azariah	11 yrs; 29th Azariah
2 Kgs 15:23	Pekahiah of Is.	2 yrs MT 10 yrs L	50th Azariah 50th Azariah	12 yrs; 40th Azariah
2 Kgs 15:27	Pekah of Is.	20	52nd Azariah	29 yrs
2 Kgs 15:32–33	Jotham of J.	16	2nd Pekah	
2 Kgs 16:1–2	Ahaz of J.	16	17th Pekah	
2 Kgs 17:1 2 Kgs 15:30	Hoshea of Is. Hoshea of Is.	9 absent	12th Ahaz 20th Jotham	13th Ahaz
2 Kgs 18:1–2	Hezekiah	6 (of 29) at fall of Samaria	9th Hoshea at fall of Samaria	

Is. = Israel; J. = Judah.

Table 2.4 (on pages 34 and 35) again supplies the calendar years for the regnal years of the kings of Israel and Judah as reconstructed from the chronological data of the late divided kingdom. Note that this table does not have separate rows for the OG/L and MT because the OG is not extant and the L text has mostly been assimilated to the MT. Differences are pointed out and discussed in context.

### Azariah's Accession and Following Synchronisms

The first textual problem appears at 2 Kgs 15:1–2, which begins with Azariah of Judah's accession in the 27th year of Jeroboam II (MT/*kaige*/L). With Jeroboam's II's accession located in Amaziah's 15th year (14:23) and Amaziah spanning a 29-year reign (14:2), the synchronism of his successor would be expected in Jeroboam II's 14th or 15th year. But the MT places Azariah's accession in Jeroboam II's 27th year (15:1), plainly in conflict with the previous synchronism.

It can be seen, however, that the 29th and last year of Amaziah's reign falls in the 14th year of Jeroboam, when Azariah would have succeeded him. The 14th year of Jeroboam is cited in the *Antiquities of the Jews* written by Flavius Josephus, the Jewish historian of the First Century CE, and agrees with the other data.<sup>27</sup> This is the third instance we have noted where numbers with 10 + 4, and 20 + 7, have been confused and incorrectly transcribed—presumably because the letters used as numbers looked

<sup>26</sup> Tetley, *Divided Kingdom*.

<sup>27</sup> Josephus, *Antiquities*, (tr. H. St. John Thackeray; Loeb Classical Library: Harvard University Press) 9.216, 227.

somewhat alike, and were incorrectly transcribed, perhaps due to poor handwriting or damaged text.<sup>28</sup>

The correct synchronism is that Azariah began to reign in Jeroboam II's 14th year, and Jeroboam II reigned 41 years (14:23), which was presumably the synchronism of the OG/L texts to make the adjacent synchronisms coherent. However, this synchronism cannot accommodate the following synchronisms *in the MT* because they have become advanced by 10 years in order to accommodate the incorrect synchronism of Azariah's accession in Jeroboam's 27th year.

Table 2.4 demonstrates the chronology adduced from the variants to be the original numbers. The table shows at calendar years 201–227 that Zechariah would have assumed the throne for six months in the 28th year of Azariah, not the 38th as now stated in 1 Kgs 15:8. Shallum, who reigned just one month, and his successor, Menahem, would both have acceded the throne in the 29th year of Azariah not the 39th (2 Kgs 15:8, 13, 15).

Menahem is attributed 10 years, and his son Pekahiah is attributed 2 years (2 Kgs 15:23) beginning in the 50th year of Azariah, while his successor, Pekah, became king of Israel in the 52nd year of Ahaziah of Judah (2 Kgs 15:27). But while the MT allocates Pekahiah two years (2 Kgs 15:23) the L texts give Pekahiah 10 years and later minor texts give him 12 years.<sup>29</sup> Clearly confused, the highest attested years for Pekahiah are 12 years (see calendar years 213–226 in Table 2.4), with the numbers 10 and 2 being derivative. This suggests that 12 is original, and prior to that Menahem would have reigned 11 or 12 years (not 10 as given at 15:17) as there are 23–24 years between Menahem's accession in the 29th of Azariah, and Pekah's accession in Azariah's 52nd year.

To reconcile the data, it is proposed that Menahem began to reign in the 29th year of Azariah, and Pekahiah began to reign in the 40th, not 50th of Azariah (15:23).<sup>30</sup> By attributing Azariah's accession in the 14th year of Jeroboam II, updating the accessions of Zechariah, Shallum, Menahem, and Pekahiah by 10 years (attributing Menahem 11 or 12 years and Pekahiah 12 years), the reigns fit comfortably into Azariah's 52 years. I address Pekah's reign below.

### **Hoshea has Two Accession Synchronisms**

Pekah's accession in the 52nd and last year of Azariah appears to be an original synchronism agreeing with Jotham's accession in Pekah's second year (see calendar years 225–227 in Table 2.4). It also agrees with Jotham reigning 16 years with Ahaz's accession in the 17th year of Pekah (2 Kgs 16:1-2). But the problem remains that Hoshea, Pekah's successor, has *two different* accession synchronisms; one in the 20th year of Jotham at 2 Kgs 15:30b, and another for the 12th of Ahaz at 17:1. The first comes about because if Jotham *had* reigned 20 years as at 15:30b, not 16, Hoshea's first year could have begun in Jotham's 20th.

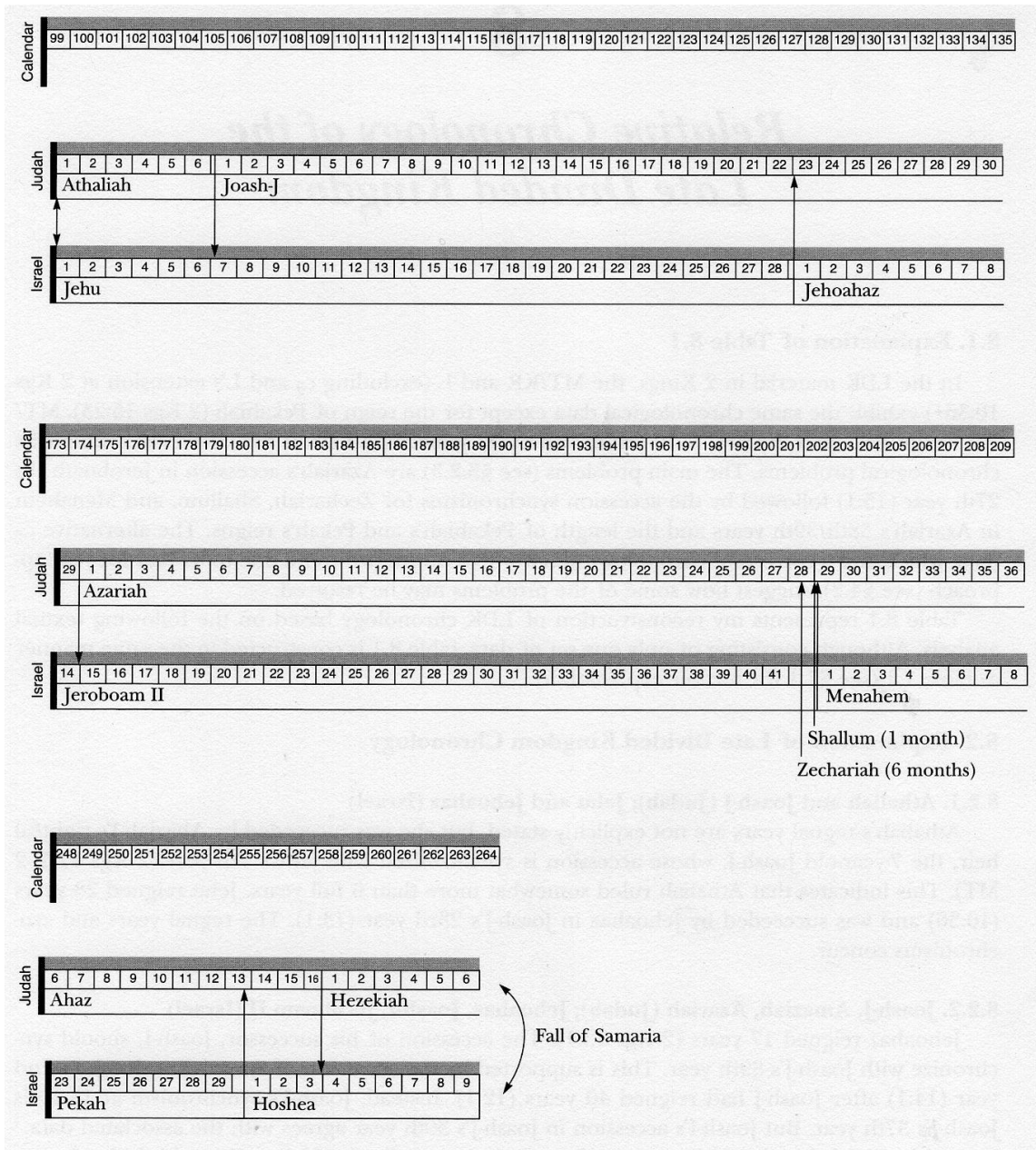
<sup>28</sup> The simple explanation of numbers that look alike as letters of the Hebrew alphabet to explain the incorrect accession of Azariah in Jeroboam II's 27th year, shows how mistaken is Thiele's explanation that Amaziah and Azariah had a 24-year co-regency beginning in the fifth year of Amaziah. Since Azariah was 16 when he became king on the death of his father, Amaziah (14:21), he could not have been king eight years before he was born! Thiele gets around this by moving v. 21 to v. 14, apparently to make it look like Azariah was 16 at the beginning of the supposed co-regency when Amaziah was captured by Joash king of Israel, not at the time of Amaziah's death. See Thiele, *Mysterious Numbers*<sup>3</sup>, 107-19, 199.

<sup>29</sup> As stated by Shenkel: Nc2defmnp\*qstzwz in *Chronology and Recensional Development*, 26.

<sup>30</sup> For further explanation see Tetley, *Divided Kingdom*, 148-51.



**Table 2.4: Late Divided Kingdom chronology reconstructed from MT/KR, L and c<sub>2</sub> data**



Please read Table 2.4 as a continuous table across pages 34 and 35 (note the calendar years).

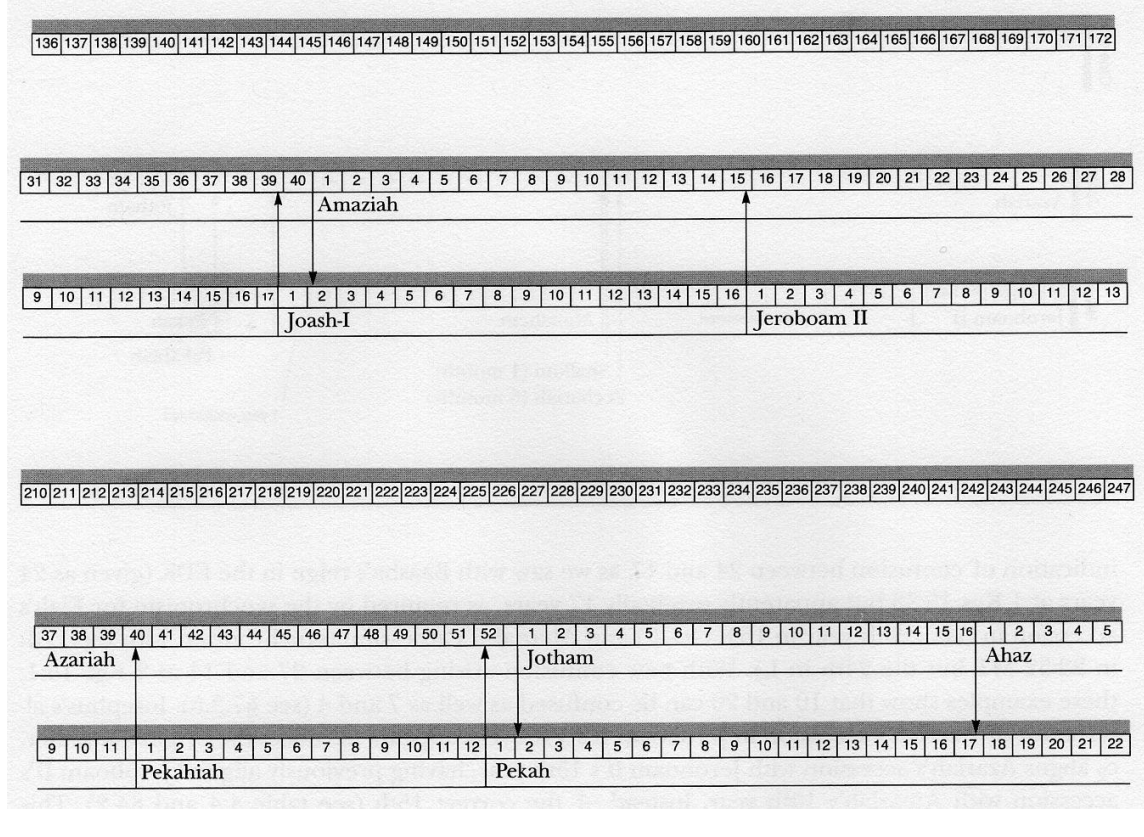
Hoshea’s second accession synchronism is based on Pekah having reigned 29 years not the 20 years given him at 2 Kgs 15:27 omitting nine years. By reinstating 29–30 years for Pekah, Ahaz’s successor, Hezekiah, comes to the throne in the third year of Hoshea (18:1). The siege of Samaria by Shalmaneser [V] of Assyria started in the fourth year of Hezekiah—the seventh year of Hoshea (18:9), and after three years Samaria fell in Hezekiah’s sixth year (18:10). Hezekiah reigned 29 years in Jerusalem (18:1).

**Hoshea, Hezekiah, and History**

Working backwards from Hezekiah’s accession in the third year of Hoshea confirms that Pekah reigned 29–30 years (see calendar years 254–258). The 29 years is preferred, implying that a letter-number for nine has fallen from the text. In this textual problem we see that the omission of nine years from the reign of Pekah has led to an incorrect accession synchronism for Hoshea in the 20th year of Jotham.



**Table 2.4: Late Divided Kingdom chronology reconstructed from MT/KR, L and c<sub>2</sub> data (cont.)**



Jotham reigned only 16 years (2 Kgs 15:33) followed by Ahaz also with 16 years (16:2). These 32 years run contemporaneously from Jotham’s accession in the second of Pekah (15:32) to Hezekiah’s accession in the third of Hoshea (18:1), taking in the 29–30 years of Pekah followed by the three years of Hoshea before the king of Assyria laid siege to Samaria.

From these synchronisms we can now find the important date for the fall of Samaria from which to establish the years back to the beginning of the divided kingdom, thus Rehoboam’s accession year, and then his fifth regnal year.

**The Date of the Fall of Samaria**

The Fall of Samaria has to be dated by the regnal years of Shalmaneser V and Sargon II, his successor. It was Shalmaneser V of Assyria who imprisoned his vassal, King Hoshea, because Hoshea had appealed to King So of Egypt for help against Shalmaneser (2 Kgs 17:4). Shalmaneser V reigned from 727 to 722 BCE. Since the Assyrians used post-dating, Shalmaneser V’s first regnal year was counted from 726 BCE. He reigned five years. Shalmaneser’s successor was Sargon II who became king in 722 with his post-dated first regnal year in 721. It was he, and not Shalmaneser V, who laid siege to Samaria and took it in the ninth year of Hoshea (2 Kgs 17:5-8; 18:10)<sup>31</sup> attested by the Khorsabad Annals for his first three years, 721–719.<sup>32</sup> The regnal years of Shalmaneser V and Sargon II are confirmed by the Assyrian Eponym Canon for the

<sup>31</sup> Although Shalmaneser is named at 18:9, this is thought to be an appropriation by a copyist who understood that the king who imprisoned Hoshea was the same king as the one who invaded Israel and Samaria, but this king is not named at 17:5.

<sup>32</sup> A. Millard, *The Eponyms of the Assyrian Empire 910-612 BC* (State Archives of Assyria Studies Vol. 2; Helsinki: Neo-Assyrian Text Corpus Project, 1994) 59.

years 728–718.<sup>33</sup> The siege began in 721 BCE; Hezekiah’s fourth and Hoshea’s seventh years. Their sixth and ninth year, respectively, is 719. The fall of Samaria probably occurred at the beginning of 718 BCE, still 719 in the Assyrian calendar (being three months behind the Julian calendar).<sup>34</sup>

### The Years of the Divided Kingdom of Judah and Israel

According to Table 2.4, the fall of Samaria occurred in the calendar year (relative chronology) 263. Thus, 263 years prior to 718 BCE supplies the date of 981 BCE for the commencement of the divided kingdom. Rehoboam’s fifth year fell in 977, synchronized with the date for Shoshenq I’s 20th year—relevant to clarifying Egyptian chronology. The Early Divided Kingdom encompassed 98½ years, from 981 to 883, and the Late Divided Kingdom 164½ years from 883 to 718 BCE.

Between the beginning and end dates of the Divided Kingdom, chapter 9 in *The Reconstructed Chronology of the Divided Kingdom* also identifies other synchronisms of the period (Table 2.5).

**Table 2.5 Significant dates in Ancient Near Eastern history addressed in *The Reconstructed Chronology of the Divided Kingdom***

BCE	
977	Rehoboam’s 5th year; Shishak (Shoshenq I) of Egypt campaigns against Judah
897	Ahab’s last year and Shalmaneser III’s 6th year; battle of Qarqar
885	Shalmaneser III’s 18th year and Joram’s 10th year; <i>Iaiia</i> (Joram) pays tribute to Shalmaneser III
827	Adad-nirari III’s 5th year; Joash of Israel pays tribute to Adad-nirari III
773	Shalmaneser IV’s 9th year; Menahem pays tribute to Shalmaneser IV
719/718	Fall of Samaria in Hezekiah’s 6th year, Hoshea’s 9th year, and Sargon II’s 3rd year

### Reason for Discussing the Judah and Israel Chronology

Discussion of the Hebrew chronology is fundamental to demonstrating that the divided kingdom was some 50 years longer than scholars usually reckon, shifting from the commonly assumed—though incorrect—beginning date of 931 to the more recently corrected date of 981 BCE. A reconstruction of Egyptian chronology must apply the corrected dates for the beginning of the divided kingdom in order to confirm Shoshenq I’s 20th year, now proposed as 977 BCE. This date is corroborated by numerous lunar tables provided throughout this work.

This discourse on the chronology of the divided kingdom of Israel and Judah has established that the answer to the divergent chronological data does not lie in unattested dating methods and co-regencies, but in understanding the recensional development of the Greek text of 1 and 2 Kings, and the explanation of variant phenomena. The OG/L and the *kaige*/MT data all derive from what was once a single coherent record of the kings’ regnal years and accession synchronisms given in a cross-referencing framework with each king’s reign recorded in a strictly chronological sequence. Not until the correct Hebrew chronology is accepted, based on the latest and best research into the *original* data in the Books of 1 and 2 Kings and the years gained from that, will the chronology of Egypt from the 22nd Dynasty down to the 25th conform to the historical situation.

In chapter 1 we noted that there were 100–150 years’ discrepancy at the start of the 18th Dynasty between the historical chronologists and the science-based dates. This

<sup>33</sup> H. Tadmor, “The Campaigns of Sargon II of Assur: A Chronological-Historical Study,” *JCS* 12 (1958) 94-97.

<sup>34</sup> Tetley, *Divided Kingdom*, 157-64, 186 tab. 9.9; idem, “The Date of Samaria’s Fall as a Reason for Rejecting the Hypothesis of Two Conquests,” *CBQ* 64 (2002) 59-77. Thiele’s date of 723/22 for the fall of Samaria is incorrect (*Mysterious Numbers*<sup>3</sup>, 163), and his assertion that “the northern kingdom had come to its end some years before Hezekiah first came to the throne” (201) falsifies the text.

situation still requires further adjustment to the accepted chronology because the incorrect starting date for Shoshenq I is *not the only reason* why the conventional historical chronologies do not agree with the science-based dates derived for the beginning of the 18th Dynasty.

For more than 100 years there has been an ongoing debate about what calendars the ancient Egyptians used (Gardiner, Parker, Spalinger, Depuydt), yet in current literature *on chronology*, the debate scarcely rates a mention. Kings' reigns and key events are dated by calendars. How can Egyptian chronology be established if it is not known what calendar(s) the Egyptians were using to date kings, and lunar and Sothic appearances? Were they all being dated by the same calendar or were there different calendars? This subject occupies the following chapters. Knowing what calendars the ancient Egyptians used is crucial for resolving the chronology of Egypt.



## Chapter 3

### Investigating Ancient Egyptian Calendars

Much has been written about the calendars that the ancient Egyptians used, and none as perplexing as the calendar on the Ebers papyrus mentioned in chapter 1 and again here. Because scholars could not understand how to interpret its columns and its Sothic date in the ninth year of Amenhotep I it was virtually “disallowed” at the Gothenburg Colloquium in 1987 as a tool to aid chronology.

The Ebers calendar is a critical piece of evidence for the dating of the early 18th Dynasty. It must be correctly understood and not disallowed, as Kitchen suggested was the position of “most opinion” in the late 1990s.

Interest surrounds the dating of Amenhotep I because his reign preceded that of Thutmose I followed by Thutmose II, Hatshepsut, and Thutmose III; a range of reigns in which scientists have dated the eruption of the volcano Thera in the mid-to-late-17th century BCE updating the early 18th Dynasty by some 100–150 years.

Discussing other calendars used by the Egyptians may reveal how they understood the Ebers calendar. But before discussing the Ebers calendar, it is necessary to understand some fundamental matters, such as the solar or agricultural year based on the Nile phases, the Sothic year and Sothic cycle, the civil calendar, and dating by the use of lunar phases.

#### Seasonal or Agricultural Calendar

For the ancient Egyptians, the agricultural year began with the flooding of the Nile when heavy summer rains and melting snow brought silt-laden water down from East Africa and the Ethiopian highlands.<sup>1</sup> The inundation provided them with rich, friable soil, essential for the planting and growing of crops. When the Nile overflowed its banks, this first season of the year was known as *akhet* (*3ḥt*) or “inundation” lasting approximately four months—I *3ḥt*, II *3ḥt*, III *3ḥt*, IV *3ḥt*—from June to September in our Gregorian calendar; somewhat later in the Julian calendar—the calendar used to date ancient Egypt. When the waters had receded and land emerged, crops were planted and this season was known as *peret* (*pṛt*) “emergence”, approximately October to January—I *pṛt*, II *pṛt*, III *pṛt*, IV *pṛt*—the Egyptian winter. In the third season, *shomu* (*šmw*), “harvest”, crops were gathered, lasting from about February to May—I *šmw*, II *šmw*, III *šmw*, IV *šmw*—the Egyptian summer.<sup>2</sup>

These phases gave their names to the three seasons, which approximately, but not exactly, corresponded in length to the solar year: the time it takes the Earth to orbit around the Sun from one starting point until its return to that same point.

<sup>1</sup> W.M. O’Neil, *Time and the Calendars* (Sydney: Sydney University Press, 1975) 70.

<sup>2</sup> See H.E. Winlock, “The Origin of the Ancient Egyptian Calendar,” *Proceedings of the American Philosophical Society* 83 (New York: Metropolitan Museum of Art, 1940) 452; A.J. Spalinger, “Calendrical Evidence and Hekanakhte,” *ZÄS* 123 (1996) 90 and sources cited in n. 26; R. Krauss, “Dates Relating to Seasonal Phenomena and Miscellaneous Astronomical Dates,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 369.

### Civil Calendar

The so-called civil calendar was based on the three seasons of the Nile, each of four months of 30 days, plus five epagomenal (extra) days added to give it 365 days. It is not clear when the five days were added as there are indications that the Egyptians may once have had a year of 360 days.<sup>3</sup> In computing the Egyptian calendar, as we will see in Casperson's tables throughout these chapters, the five epagomenal days appear as days 1–5 in month 13.

It will help newcomers to Egyptology to make themselves a simple chart like the one below (Table 3.1) to compare the months as reckoned by the Julian calendar,<sup>4</sup> as used in Egyptian studies with the 12 months plus 5 days of the Egyptian civil calendar.

**Table 3.1: Chart of Julian calendar months plus five days of the Egyptian civil calendar**

Month		Season\month	Days	
1	I	Akhet = <i>3ḥt</i>	1–30	
2	II	Akhet = <i>3ḥt</i>	1–30	
3	III	Akhet = <i>3ḥt</i>	1–30	
4	IV	Akhet = <i>3ḥt</i>	1–30	
5	I	Peret = <i>prt</i>	1–30	
6	II	Peret = <i>prt</i>	1–30	
7	III	Peret = <i>prt</i>	1–30	
8	IV	Peret = <i>prt</i>	1–30	
9	I	Shomu = <i>šmw</i>	1–30	
10	II	Shomu = <i>šmw</i>	1–30	
11	III	Shomu = <i>šmw</i>	1–30	
12	IV	Shomu = <i>šmw</i>	1–30	
13			1–5	Epagomenal days

### The Solar Year

In fact, the solar year consists of about 365.25 days. The inconsistency of the Egyptian civil calendar described above led, in due course, to the adoption of the Julian calendar, and ultimately to the Gregorian calendar used today.

While the solar year governs the seasonal agricultural cycle, the timing of the inundation or flooding of the Nile could vary by several months from one year to the next,<sup>5</sup> and was no reliable indicator of the beginning of the solar year. The civil calendar would stand alone as an independent record of the passing of time. Yet a civil calendar composed of 365 days instead of 365.25 days would also fall behind the realities of time dictated by our solar system. The Egyptians had a better indicator of the passage of long periods of time than their civil calendars (of 365 days) or the variable arrival of the inundation.

The helical rising of the star Sothis provided an assured signal every year of the beginning of the new solar year. It kept to the strict solar timetable of 365.25 days, but its appearance was recorded on a calendar composed of only 365 days. As a result, the heliacal rising of Sothis would appear on the same day for four years then on the next day of the civil calendar for the next four years, and so on. It would take approximately 1460 years for the Sothic cycle to once again be synchronized with the civil calendar. This is explained further shortly, but first a significant complication needs to be

<sup>3</sup> See A.J. Spalinger, "Some Remarks on the Epagomenal Days in Ancient Egypt," *JNES* 54 (1995) 33-34. See also idem, "Month Representations," *Cd'É* 70 (1995) 113 n. 14, 114. The temple day was described as 1/360th part of the year on a tomb at Asyût (A.H. Gardiner, "The Problem of the Month-Names," *Rd'É* 10 [1955] 20, 24) where tombs from the 9th, 10th, and 12th Dynasties were found.

<sup>4</sup> The later Gregorian Calendar used today adjusted for the time needed every 400 years to accommodate minor differences not dealt with by the quadrennial leap year.

<sup>5</sup> The beginning of inundation could vary from 335 to 415 days, according to Winlock, "Origin," 452.

mentioned, because the failure to recognize it has led to the disarray that exists throughout Egyptian chronology.

### Seasonal Dates Differed in Upper and Lower Egypt

The inundation of the Nile took place earlier at Egypt's southern border near the first cataract at Elephantine (modern Aswan) where the lowest water occurred about the end of May. Rising slowly at first, the flood reached its height about the beginning of September in Upper Egypt and arrived at the Delta some time later.<sup>6</sup> Krauss writes:

There are 34 maximum [flood] dates for Aswan on record, the earliest is August 18, the latest October 1, yielding maximum dates for Luxor between August 21/22 and October 4/5. Based on a comparison of the dates at Aswan and Roda [old Cairo], it follows that the maximum gauge occurred between 4 days (1882) and 63 days (1894) at Roda later than at Aswan.<sup>7</sup>

The difference in the arrival time of the Nile flood at the southern border of Egypt, and its arrival in the Delta, would have delayed the agricultural seasons accordingly. This has significance for our later discussion.

### The Rising of Sirius was a Better Sign of the New Solar Year

A more exact marker of the new solar year was the annual reappearance of Sirius, the brightest star in the eastern sky just before sunrise, signalling the solar induced climatic seasons of the agricultural year.

Sirius, the Dogstar in the constellation of Canis Major, was known to Egyptians as *Spdt* after their goddess Sopdet, and as Sothis by the Greeks. As the Earth orbited around the Sun, Sirius could be observed for all but the 70 days of the year when it was obliterated from view by the Sun's light. Its reappearance came predictably every 365¼ days, known as its heliacal rising. It was a reliable indicator of the beginning of the solar year, and that the anticipated inundation beginning the agricultural cycle was near.

The striking reappearance of Sothis after 70 days was an expected event because the ancient Egyptians scrupulously observed the stars that were seen above the horizon throughout the year. Sirius was preceded by the constellation of Orion. R.A. Wells writes: "The red giant at the left shoulder of the figure of Orion, Betelgeuse ( $\alpha$  Ori), and the slightly fainter, bluer star in the right leg, Rigel ( $\beta$  Ori), rise close together in time. When they are high enough in the sky so that Sirius can just be seen rising, the 3 stars together form a very distinctive triangle pointing downwards."<sup>8</sup> Together with other attendant stars the rising of Sirius was eagerly awaited and celebrated by the ancient Egyptians.

### The "Going up of Sothis"

This "going up of Sothis" could be seen by the naked eye in Egypt's cloudless summer sky, but its observation depended on the arc of vision (*arcus visionis*). That is:

The angle between Sirius and the sun when the star is first observed. The point of observation is not on the horizon, where observation is impossible. Modern calculations show that this angle is 7.5 degrees, with Sirius two degrees above the horizon, the sun

<sup>6</sup> Winlock states that it arrived about a month later, ("Origin," 452), while Spalinger cites 10 days ("Calendrical Evidence," 90). V. Hankey says, "It took 12 days for the first sign of the Nile flood, which was observed in the cataract at Elephantine to reach Memphis" (quoted in *High, Middle or Low? Acts of an International Colloquium on Absolute Chronology Held at the University of Gothenburg 20th–22nd August 1987* [ed. P. Åström; Gothenburg: Paul Åström's Förlag, 1989] Pt. 3, 45).

<sup>7</sup> Krauss, "Dates Relating to Seasonal Phenomena," 371.

<sup>8</sup> R.A. Wells, "Re and the Calendars," *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 11.

5.5 degrees below it. Variations in this angle will affect the time of observation, hence the chronological conclusions drawn from the assumption that an ancient heliacal rising was made with one of 7.5 degrees.<sup>9</sup>

Rita Gautschy writes:

A realistic value for a successful first sighting of Sirius after its period of invisibility is an apparent altitude of 2° to 3° above the horizon, whereas the effect of refraction should be taken into account. In the following I will always denote that angle between Sun and star as arc of vision for which the star has an apparent height of 2° to 3° and the Sun 6° (7°, 8°, 9°, respectively) below the horizon. This is in contradiction to the classical definition of the arcus visionis, but reflects the true constraints in the sky.<sup>10</sup>

Gautschy notes three main uncertainties in calculating the heliacal risings of Sothis: the Sun's proper motion since Sirius is close to it; the arc of vision is not constant; and the rotation of the Earth decreases over time.<sup>11</sup>

### Sothic Year

The Sothic year, understood as the time from one heliacal rising to the next, coincided with the length of the Earth's annual orbit around the Sun of 365.25 days. The "going up" of Sothis was first seen in Egypt at its southern border and was observed a day later for every degree of latitude going north. It stayed on the same day in the civil calendar usually for four consecutive years, occasionally for only three years or even five,<sup>12</sup> before moving on to the next day. In dynastic times the passage of Sothis through the year was recorded using the so-called civil calendar, but being a schematic calendar this was a later invention that we now need to discuss.

This schematic or civil calendar was a quarter of a day shorter than the solar year on which it was based, and, since days are always 24 hours in duration, the extra six hours were not represented in a year. The civil calendar was timed to begin with the heliacal rising of Sothis, which marked the first day of the new year on I *3ht* 1.

However, without a leap-year day to correct the ¼ day deficiency, the civil year moved forward of the solar year. Over four years the civil calendar moved forward of the rising of Sothis by one day, and on the fifth to eighth years by two days. Instead of being seen on I *3ht* 1 in the civil calendar, it was seen on I *3ht* 2. After 120 years the inundation no longer took place (ideally) in the month of I *3ht* but began to fall in II *3ht*, and after another 120 years in III *3ht*, and so on. After approximately 730 years the civil months were displaced by six months from their original positions so that the rising of Sothis and the inundation fell in the middle of the civil year in the months of II-III *prt* of the civil calendar. Sothis took a little less than 1460 years to move through each day of the civil calendar in dynastic times becoming marginally shorter over succeeding centuries.<sup>13</sup>

<sup>9</sup> W.A. Ward, "The Present Status of Egyptian Chronology," *BASOR* 288 (1992) 58.

<sup>10</sup> R. Gautschy, "The Star Sirius in Ancient Egypt and Babylonia," at <http://www.gautschy.ch/~rita/archast/sirius/siriuseng.htm>

<sup>11</sup> Ibid.

<sup>12</sup> Ibid.

<sup>13</sup> A Sothic year was a minute longer than a Julian year, and when the difference added up to six hours, Sothis stayed on the same date only three years before moving on to the next day (R. Krauss, "Egyptian Sirius/Sothic Dates, and the Question of the Sothic-Based Lunar Calendar," *AEC* (2006) 441; M.F. Ingham, "The Length of the Sothic Cycle," *JEA* 55 (1969) 36-40.



When the rising of Sothis again coincided with I *3ht* 1 the Sothic cycle recommenced. The four years on which the heliacal rising appears on the same date is known as a quadrennium or a tetraeteris.

### **Date of the Rising of Sothis Differs at Different Latitudes**

However, the heliacal rising of Sothis is not seen on exactly the same day throughout Egypt in any given year. It is seen first in the south near Elephantine with a latitude of 24.06°. For every degree moving north, the sighting is one day later, so that at Thebes with a latitude of 25.7° it is about two days later, and at Memphis with a latitude of 29.9° it is seen about six days later than at Elephantine. Wells explains the difference that latitude makes.

Because the inclination of the ecliptic is greater relative to the level horizon at lower altitudes, the farther south the observation site, the earlier Sirius will be seen to emerge from solar occultation with a large enough elongation. In a given year, such a heliacal rising of Sirius would occur about four days earlier at Thebes, and about six days earlier at Elephantine, than at Memphis. Moreover, before sunrise the angular depression of the sun below the horizon (assumed to be level and free of clouds) at the moment of first stellar sighting is greater at latitudes nearer the equator than at higher latitudes.<sup>14</sup>

For example, Amenhotep I had a Sothic heliacal rising dated to III *šmw* 9 (the 9th day of the 11th month) in his ninth regnal year. This is the Ebers calendar date that we look at below. If this heliacal rising was observed at Thebes, because of the effects described by Wells, it would not be seen until about four days later at Memphis, when the date will be III *šmw* 13, because the Sothis rising stays on the same day for four years. The four days difference between Thebes and Memphis means that the passage of Sothis through the civil calendar will take about 16 years to move from III *šmw* 9 to III *šmw* 13. If the Sothic rising is seen at Thebes on a certain day of the civil calendar, the civil calendar or Julian date attributed to it at Memphis will be 16 years later.

The latitude of the northern coast of the Nile Delta is 31.33°. The distance between Elephantine and the Delta coast, being about 7° in latitude, amounts to a period of about 28 years in the Sothic cycle. Krauss notes that in the 28th century BCE Sothis rose 8–10 days later at the Mediterranean coast than at Elephantine.<sup>15</sup> It is always important to know where a specific heliacal rising was seen from. As noted previously, in the 1980s scholars spoke of a “high” date for Memphis, a “middle” date for Thebes, and a “low” date for Elephantine.<sup>16</sup> The “low” date of Elephantine is now favored, setting Ramesses II’s accession date in 1279, rather than earlier options of 1290, or 1304. But this date is not compatible with the science-based dates for the early 18th Dynasty. We shall examine the dates for Ramesses II’s reign later.

### **Sothic Dates and Kings’ Regnal Dates**

The heliacal rising of Sothis is dated by the civil calendar to a specific regnal year in the reign of a number of kings. When the dates of two Sothic risings are known, dated to specific regnal years of two kings in the same place, it is possible to determine the number of years between the two dates because it usually took four years for Sothis to move one day in the civil calendar.

<sup>14</sup> R.A. Wells, “Some Astronomical Reflections on Parker’s Contribution to Egyptian Chronology,” *Egyptological Studies in Honor of Richard A. Parker: Presented on the Occasion of His 78th Birthday* (ed. L.H. Lesko; Hanover and London: University Press of New England, 1986) 170 n. 13.

<sup>15</sup> R. Krauss, “Egyptian Sirius/Sothic Dates,” 440.

<sup>16</sup> “High, Middle or Low?” *Acts of an International Colloquium on Chronology held at the University of Gothenburg, 20th–22nd August 1987*.

For example, the Sothic rising in Amenhotep I's ninth year (early 18th Dynasty) dated to III *šmw* 9 and an earlier Sothic rising in the seventh year of Sesostri III (mid-12th Dynasty) dated to IV *pṛt* 16 shows that there is approximately 336 years between them. (The number of days between the two dates amounts to 84, and each day represents four years in the Sothic cycle). The individual reigns of the kings between these two dates, as derived from historical records, ought to agree with this span of years. Once the reign of one king associated with a helical rising is dated to a specific Julian date, it is theoretically possible to date other kings with heliacal risings associated with their reigns, assuming that the place of observation is the same for the others kings. If the rising of Sothis is observed from another location the difference in latitude must be taken into account.

The Julian dates to be attributed to the sightings of the heliacal risings also depend on whether the civil calendar has remained unchanged through the centuries or whether there has been an alteration to it at some time. A new Sothic cycle is known to have begun in 139 CE on I *3ḥt* 1 (see "Sothic Cycle ends/begins in 139 CE" in chapter 10). It is assumed by most scholars that one can calculate back nearly 1460 years to the beginning of the previous Sothic cycle, and another 1460 years for the beginning of its preceding cycle. However, this assumes that there had always been only one civil calendar, without change, over the centuries and that the recordings of the heliacal risings of Sothis have not been affected by any change—a precarious assumption as we shall see in chapter 10.

### **Amenhotep I's Ninth Year Reported at Thebes?**

It is relevant to note that the Ebers papyrus recording the heliacal rising in Amenhotep I's ninth year was found *in Thebes* where Amenhotep resided. That suggests the observation was made in that vicinity. But the heliacal rising recorded in 139 CE is attributed to *Memphis*.

Most scholars presently reckon on an unchanged continuum of civil calendars and Sothic cycles, assuming that the date of III *šmw* 9 was recorded by the same calendar that recorded the one of I *3ḥt* 1 in 139 CE.<sup>17</sup> Krauss suggests that a shift was made from Upper Egypt to Memphis possibly in the 4th century BCE. (30th Dynasty).<sup>18</sup> A change did occur, but not at the time that Krauss assumes, as I will show.

### **The Civil Calendar**

The civil calendar was given month-names. The origin of the names is uncertain and disputed. We shall discuss the early Egyptian month-names later, but in the Greco-Roman period they were given Greek pronunciation, as below.

- I to IV *3ḥt*: Thoth, Phaophi, Hathor, and Choiak;
- I to IV *pṛt*: Tybi, Mechir, Phamenoth, and Pharmouthi;
- I to IV *šmw*: Pachons, Payni, Epiphi, and Mesore.

This calendar of three seasons was reformed in 238 BCE when Ptolemy III Euergetes I issued a decree in Canopus (near present-day Alexandria) requiring that every fourth year the Egyptian civil calendar should have a sixth epagomenal day. This decree was not generally implemented. In 46 BCE, the Roman Emperor, Julius Caesar, in consultation with the Alexandrian astronomer, Sosigenes, reformed their Roman calendar. The new calendar became known as the Julian calendar and added a 29th day to February every fourth year, giving the year 366 days.

<sup>17</sup> Krauss, "Egyptian Sirius/Sothic Dates," 440.

<sup>18</sup> *Ibid.*, 444.

It was not until 25 BCE, in the rule of the Emperor Augustus, that the Egyptians changed their civil calendar to include the leap-year day. The first day of this calendar, known as the Alexandrian, corresponded to the 29th day of August in the Julian calendar.

However, the Julian and Alexandrian calendars did not take into account that the solar year was 11 minutes shorter than the 365.25 day year, and over time it was realized that the years were too long and needed to be modified. In 1582, Pope Gregory XIII decreed that three leap-year days would be omitted every 400 years, in years evenly divisible by 100 but not by 400, as in 1700, 1800, 1900 but not 2000. This Gregorian calendar, now in use in many countries, is reckoned from January 1 and keeps in step with the seasons. However, it is the Julian calendar with its 365<sup>1</sup>/<sub>4</sub> days every year that is used to reconstruct ancient Egyptian chronology.

### Dates of Heliacal Rising of Sirius (Sothis) Relating to Egyptian Kings

Modern computer programs can now calculate the heliacal rising of Sothis at any given location in Egypt going back over many millennia. Jean Pierre Lacroix provides tables in his HELIAC program for the heliacal rising (and setting) of Sothis and other stars seen from any location in Egypt over many millennia using the Julian or Gregorian calendars. For example, in 2000 BCE, using an altitude of 2° at Thebes (long. 32.6°; lat. 25.7°) Sothis rose heliacally on July 11, and at Memphis (long. 31.2°; lat. 29.9°) on July 16, and slowly changed so that it occurred on July 16 at Thebes and July 20 at Memphis in 139 CE.<sup>19</sup> However, Lacroix does not reference the rising of Sothis to Egyptian dates.

Gautschy provides tables from which one may download dates for the heliacal risings of Sothis at any location in Egypt with a range of options for the altitude and arc of vision from 3000 BCE to 2000 CE with Julian calendar dates converted to Egyptian calendar dates.<sup>20</sup> This gives a range of possible dates for the heliacal rising of Sothis in any one year so the appropriate altitude and arc of vision is important in order to obtain the correct date.

Some of the heliacal risings of Sothis discussed in this present work are shown in Table 3.2. (Question marks indicate that the dates are not recorded or preserved.)

**Table 3.2: Heliacal risings of Sothis relating to Egyptian kings**

<b>5th Dynasty</b>	1st or 2nd year of Neferefre on I <i>3ht</i> 1 at Abusir (near Memphis) based on a <i>w3gy</i> feast date on III <i>prt</i> 11
<b>11th Dynasty</b>	[1st] year Mentuhotep II on II <i>prt</i> 21, on coffin of Ashyat at Illahun
<b>12th Dynasty</b>	7th year Sesostri III on IV <i>prt</i> 16 at Illahun
<b>17th Dynasty</b>	11th (or 31st) year of unnamed king on II <i>šmw</i> 20 in Western Desert at Gebel Tjauti (this may be a new moon date not a Sothic date)
<b>18th Dynasty</b>	9th year Amenhotep I on III <i>šmw</i> 9 at Thebes; [? 33rd] year Thutmose III on III <i>šmw</i> 28 at Elephantine
<b>19th Dynasty</b>	41st year of Ramesses II on I <i>3ht</i> 22 at Thebes; 2nd or 4th year of Merenptah on I <i>3ht</i> 29 at Thebes
<b>20th Dynasty</b>	[?] year Ramesses III on I <i>3ht</i> [?]
<b>Greek period</b>	9th year Ptolemy III Euergetes I in 238 BCE on II <i>šmw</i> 1 at Canopus (near Alexandria); 11th year Ptolemy IV Philopator in 211 BCE on II <i>šmw</i> 7 at Memphis
<b>Roman period</b>	A new Sothic cycle started on I <i>3ht</i> 1 during the second consulate of Emperor Antoninus Pius and Bruttius Praeses in 139 CE at Memphis. In 238 CE, Sothis rose heliacally 100 years after 139 CE cited by Censorinus

<sup>19</sup> J-P. Lacroix, "Heliacal rising of Sirius in Thebes,"

<http://www.ancientcartography.net/LEVERheliqueAN.html>

<sup>20</sup> R. Gautschy, "The Star Sirius in Ancient Egypt and Babylonia,"

<http://www.gautschy.ch/~rita/archast/sirius/siriuseng.htm>

The dating of these Sothic risings will depend on what calendar or calendars were used by the Egyptians—and whether they were all dated by the same calendar over the course of dynastic history. In an effort to answer that question, we turn first to determine what calendar(s) the Egyptians used *before* the civil calendar—or before civil calendars—came into existence.

### Early Calendars Disputed

Evidence from calendar citations in ancient sources led scholars throughout the last century to attempt various explanations. The chronological puzzles and the controversies they have generated will be considered in depth in future chapters. Here, I offer a brief survey of significant viewpoints.

### Two Civil Calendars?

Sir Alan Gardiner (1879–1963), a renowned Egyptologist, contended over 100 years ago that there were *two civil* calendars used in ancient Egypt: an early and a late calendar that ran simultaneously and overlapped each other so that the months of the later calendar were always one month behind those of the earlier calendar.

He assumed that Mesore was the first month of the earlier calendar and the last month of the later and the other 11 months followed suit.<sup>21</sup> Opposing Parker's idea in 1955 that the Egyptians had used an original lunar, a civil, and a later lunar calendar, Gardiner maintained that the month-names for both calendars were civil, with the festivals associated with various months having been moved back to the next month from the earlier to the later calendar. This accounted for the fact that some festivals had two dates one month apart.

He did not believe in Parker's lunar calendar.<sup>22</sup> Gardiner's and Parker's views will be discussed at length in later chapters.

### Lunar Calendar(s)

The idea that the ancient Egyptians had originally used a lunar calendar was suggested by Heinrich Brugsch (1827–1894) and developed by Ludwig Borchardt (1863–1938). But the main proponent has been Richard A. Parker. Parker wanted to find the calendar behind the fourth century BCE 25-year cycle of new moons dated to the civil calendar on the Carlsberg 9 Papyrus (see chapter 5) and worked back to try to find evidence for an original lunar calendar.<sup>23</sup>

In 1950, he proposed that the ancient Egyptians had used an original lunar calendar, followed by a *civil* calendar, and then a *later lunar* calendar.<sup>24</sup> He wrote, “The season of inundation, and with it the year, would begin, we may suppose, with the lunar month which started after the river first began to rise, and the year would then run until the next inundation.”<sup>25</sup> Then he writes:

Primitive man, with the lunar month as his unit of time, would soon come to the realization that, while the interval between successive floods was highly variable, the interval between successive risings of Sothis was practically constant. Sothis' rising,

<sup>21</sup> A.H. Gardiner, “Mesore as First Month of the Egyptian Year,” *ZÄS* 43 (1906) 136–44.

<sup>22</sup> A.H. Gardiner, “The Problem of the Month-Names,” *Rd'É* 10 (1955) 22–25.

<sup>23</sup> R.A. Parker, “The Problem of the Month-Names: A Reply,” *Rd'É* 11 (1957) 92; O'Neil, *Time and the Calendars*, 66; R. Krauss, “Lunar Days, Lunar Months, and the Question of the ‘Civil-Based’ Lunar Calendar,” *AEC* (2006) 389.

<sup>24</sup> Idem, *The Calendars of Ancient Egypt* (SAOC 26; Chicago, IL: Oriental Institute of the University of Chicago, 1950) 30–50; idem, “The Calendars and Chronology,” *The Legacy of Egypt* (ed. J.R. Harris; Oxford: Clarendon, 1971) 13–26.

<sup>25</sup> *Ibid.*, 32 §156.

then, could be used as a point of departure for a calendar of lunar months with three seasons, a calendar completely agricultural and based on the Nile and governed by Sothis only because Sothis itself had come to be the herald of the Nile. A few decades of trial and error would certainly be sufficient to work out the simple rule of intercalation, so that the event of *wp rnpt* would be maintained properly in the last month of the year.<sup>26</sup>

By the “event of *wp rnpt*” he means the heliacal rising of Sothis. Parker proposed that an intercalary month was inserted whenever the first day of the lunar year fell before the first day of the civil year.<sup>27</sup> This was assumed necessary in order to keep the “great feast of the rising of Sothis, called *wep renpet*, ‘opener of the year’, ... [in] the last month of the year ... It was necessary therefore to arrange a calendar which would keep this event properly within the month which it named.”<sup>28</sup>

Parker rejected Gardiner’s idea that there had been two civil calendars. He assumed that the month-names for the civil calendar derived from an original lunar calendar, and that the appearance of festivals being held out of their eponymous months (the months that the festivals were named after) was due to the time that the month-names were transferred from the lunar to the civil calendar. He proposed a later lunar calendar introduced after the inauguration of the civil calendar to account for the fact that several of the annual festivals had two dates one month apart, one being a fixed date, and the other moveable, based on a lunar date moving in the civil calendar.<sup>29</sup>

Parker sought to support his theory by various lines of argument, which we shall look at in greater detail when we come to the Gardiner/Parker controversy. Based on Parker’s arguments, most Egyptologists now accept that the first calendar of the ancient Egyptians was a lunar calendar, and it is little wonder that most Egyptologists dismiss the Ebers calendar from consideration, or that the puzzles in ancient Egyptian chronology remain unsolved.

### **A Schematic Calendar Based on the Sun-god Re**

R.A. Wells proposed another theory that takes into account Parker’s idea of a lunar calendar. He noted that in Upper Egypt, the rising of Sothis was celebrated at the beginning of the solar/agricultural year in an annual festival known as *pri Spdt* “the going forth of Sopdet.”<sup>30</sup> However, in Lower Egypt the people celebrated the birth of Re, the sun-god, in the 12th month of the year.

Wells postulated two early calendars: a southern lunistellar calendar in Upper Egypt and a northern lunisolar calendar in Lower Egypt. He proposed that the sky mythology associated with the sun-god Re and the goddess Nut correlated with solar positions in the Milky Way, placed Re’s conception at the spring equinox just before he entered the mouth of Nut. Nine months later (272 days in 3500 BCE<sup>31</sup>), Re exited at Nut’s birth canal at the winter solstice.<sup>32</sup> Six months later, Re arrived at the summer solstice, at about the time of the rising of Sothis in Upper Egypt. Re’s mythical travel through the horizons took 365 days or one solar year, understood as the time it took Re

<sup>26</sup> Ibid., 32 §157.

<sup>27</sup> Ibid., 26 §126; idem, “Calendars and Chronology,” 15-16; A.J. Spalinger, “Thoth and the Calendars,” *Revolutions in Time*, 45-47.

<sup>28</sup> Parker, “Calendars and the Chronology,” 15.

<sup>29</sup> Idem, *Calendars*, 54, §§269-72; 58, §290.

<sup>30</sup> Wells, “Re and the Calendars,” 1, 20.

<sup>31</sup> Idem, “The Goddess Nut, Pharaoh’s Guarantor of Immortality,” *VA* 10 (1995) 208 and n. 8.

<sup>32</sup> Idem, “The Mythology of Nut and the Birth of Ra,” *SAK* 19 (1992) 305-21; idem, “Re and the Calendars,” 4-9; idem, “Goddess Nut,” 205-14.

to make a round trip from Upper Egypt to Lower Egypt and back, or from winter solstice to winter solstice.<sup>33</sup>

The 12th month of the civil calendar in Lower Egypt was named Re Horakhty (*R<sup>c</sup>-Hr-3hty*), that is, “Re Horus of the Two Horizons,” inferring Re’s year-long travel through the skies. According to Wells, the lunistellar calendar of Upper Egypt took precedence over the lunisolar calendar of Lower Egypt and the two calendars amalgamated before the emergence of the civil calendar.

In Pharaonic Egypt, Re’s feast was celebrated at about the same time as *prt Spdt* in Upper Egypt, that is, at the time of the summer solstice, assumed to be a “secondary birthplace.”<sup>34</sup> This was an appropriate time for Re, the sun-god, to be worshipped as the personification of the Sun.

In the Greco-Roman Period, the 12th month was called Mesore, from Egyptian *mswt R<sup>c</sup>*, “the birthday of Re.” When it was seen that the lunar calendar over time did not keep in step with the seasons, the Egyptians introduced a schematic calendar, the so-called civil calendar, which was based on the lunistellar calendar.<sup>35</sup> Wells adopted Parker’s view of the lunar and civil calendars, both having *R<sup>c</sup>-Hr-3hty* as a substitute for *wp rnpt* as the 12th month,<sup>36</sup> even though *wp rnpt* means “the opener.”

Though Parker theorized a second, later, lunar calendar—to make up for the slippage after 200 years between the original lunar and the civil calendar, and to account for feasts with two dates a month apart, Wells pointed out that there is no textual evidence of any kind for a later lunar calendar.<sup>37</sup> He recognized one lunar and one civil calendar and proposed that the “dual calendar system co-existed throughout the remainder of Egyptian history until it was supplanted by the Julian calendar and later Alexandrian calendar reforms.”<sup>38</sup>

### A Calendar Based on the Stars

One of the earliest attested methods that Egyptians used to tell the passage of time was by observing the night positions of the stars, or decans as they were called. A new decan arose every 40 minutes, making it possible to divide the night sky into sections.<sup>39</sup> There were two decanal systems: the original one used the heliacal risings of certain stars or star groups, and the later one used meridian transits, being the time at which the decans reached the highest point in the sky; that is, the meridian.

The first system consisted of 36 stars used as markers on the eastern horizon. After an invisibility of 70 days, each star rose heliacally 10 days after the preceding star, thus marking a period of 10 days.

The pictorial representation of the decans in 36 columns, where the first is replaced by the second and so on, each moving upwards a row and from right to left every “ten days” gave the appearance of a diagonal line, thus their misnomer: “diagonal star calendars.” These star clocks represented the year of 360 days, having 12 months of three decades (or three weeks of 10 days) as in the civil calendar.<sup>40</sup>

The five epagomenal days (that is, the five days remaining after the 360th at the end of the year) were treated separately as days of festivity for the five deities they

<sup>33</sup> Ibid., 312; idem, “Goddess Nut,” 205-14.

<sup>34</sup> Idem, “Re and the Calendars,” 22.

<sup>35</sup> Ibid., 21-23.

<sup>36</sup> Ibid., 25, table 1.

<sup>37</sup> Ibid., 27.

<sup>38</sup> Ibid.

<sup>39</sup> See J.G. Read, “Placement of El-Lahun Lunar Dates and Resulting Chronology,” *DE* 33 (1995) 105-6.

<sup>40</sup> Read, “Placement of El-Lahun Lunar Dates,” 105-6.

represented: Osiris, Isis, Horus, Seth, and Nephthys. The first system was found drawn or carved on coffin lids primarily from the Middle Kingdom (11th and 12th Dynasties) when the civil calendar was already established, though the origin of the decans may have gone back much earlier. The second system was introduced when the earlier system was no longer useable because the  $\frac{1}{4}$  day extra to the 365 days of the year was not accommodated by the civil calendar, so that by about the time of the 12th Dynasty the civil calendar was not synchronized to the decans. The new system used mostly different decans from the first system, and measured hours by means of the transits in half-monthly intervals, so that there were 24 half-month periods to every year.

The earliest surviving star clock is depicted on the southern ceiling of the tomb of Senmut,<sup>41</sup> vizier to Queen Hatshepsut (early 18th Dynasty). Senmut had two tombs, one at Sheikh Abd el-Qurna (TT71), and a larger one situated just east of Hatshepsut's mortuary temple at Deir el-Bahri (TT353). The latter has astronomical ceilings, with star maps on the southern and northern panels of the ceiling, but the tomb itself was never finished. On the southern ceiling, the decans are shown from right to left, Sirius, no. 36, is drawn just above the horizon, the last and most important of the decans.<sup>42</sup>

In addition to decans, the star clocks exhibited stars and other deities. Referring to the astronomical ceiling of Senmut's tomb, Ove von Spaeth claimed that judging from the positions of the planets at conjunction, with Mars significantly placed by itself on the extreme right and the possibility of a faint solar eclipse depicted in the same year, that the star map points to a specific time: 7th May 1534 BCE.<sup>43</sup>

Earlier scholars, however, suggested it was copied from a star clock dating from 400 years previously (presumed to be at the end of the 12th Dynasty).<sup>44</sup> It remains to be seen whether Spaeth's recent analysis and date of the star clock can be corroborated by, and correlated with, other chronological data.

Similar star conjunctions to that of Senmut's tomb appear on star maps of Amenhotep III, Seti I, and Ramesses II.<sup>45</sup> In addition, later astronomical *calendar* depictions appear also on the ceiling of the tomb of Ramesses VI, Ramesses VII, and Ramesses IX, of the 20th Dynasty. Water clocks, such as that of Amenhotep III, eventually replaced star clocks, which I explain later.

The decanal clocks show that, from early on, the Egyptians used star patterns to tell time during the night hours and the length of a year, and specifically that of the star Sirius whose heliacal rising was used as the harbinger of the solar year and coming inundation. Parker asserted that their calendar depictions of deities with month-names represented a *lunar* calendar, but this is contested by Anthony Spalinger. I examine their views later. With this succinct overview, I will now briefly introduce the calendar on the Ebers papyrus, leaving a fuller discussion to a later chapter.

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<sup>41</sup> See O. Neugebauer and R. Parker, *Egyptian Astronomical texts III. Decans, Planets, Constellations and Zodiacs* (Providence, RI: Brown University Press, 1969) 10.

<sup>42</sup> Ove von Spaeth, "Dating the Oldest Egyptian Star Map," *Centaurus International Magazine on the History of Mathematics, Science and Technology* 42 (Blackwell, 2000) 164. Also: at [http://www.moses-egypt.net/star-map/dating\\_the\\_senmut\\_star\\_map.pdf](http://www.moses-egypt.net/star-map/dating_the_senmut_star_map.pdf)

<sup>43</sup> *Ibid.*, 159-179; date from p. 173. See star maps depicted on pp. 160 and 161.

<sup>44</sup> See, e.g., Neugebauer and Parker, *Ancient Egyptian Astronomical Texts*, III, 118; R. Krauss, Excursus 3, "Lässt sich die astronomische Decke im Senenmut-Grab für die absolute Thutmosiden-Chronologie auswerten?" in "Das Kalendarium des Papyrus Ebers und seine chronologische Verwertbarkeit," *Ä und L* 3 (1992) 93-96.

<sup>45</sup> Von Spaeth, "Dating the Oldest Egyptian Star Map," 170.

### The Ebers Calendar

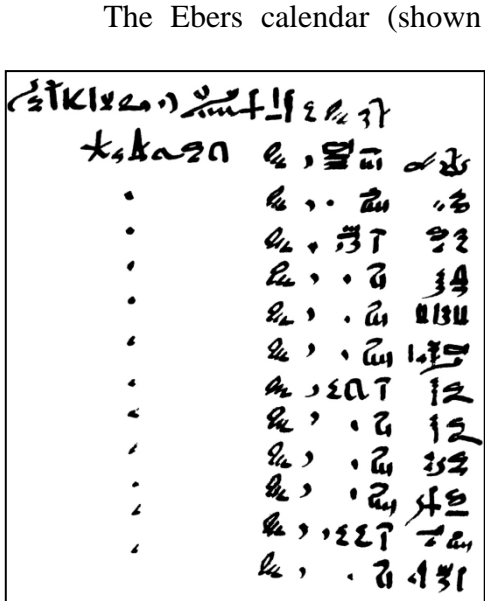


Figure 3.1: The Ebers calendar.

The Ebers calendar (shown here in Figure 3.1), arguably the most famous calendar of ancient Egypt, is inscribed on a medical papyrus bought in Luxor by the German Egyptologist Georg Ebers in 1873—hence its name. Ebers bought the papyrus from an American dealer, Edwin Smith, acting on behalf of its owner who had access to it as early as 1862. The papyrus was wrapped in old mummy cloths and was in an excellent state of preservation.<sup>46</sup> It is 30 cm high and about 20 meters long.<sup>47</sup> Written in Egyptian hieratic script, it has 108 columns each containing 20–22 lines of text relating to a medical condition, possibly diabetes, and ends in a calendar on the first column of the verso.<sup>48</sup> Initially published in German by Heinrich Brugsch in 1870,<sup>49</sup> the papyrus now resides in the University of Leipzig library.

A hieratic copy is displayed above (Figure 3.1),<sup>50</sup> and a hieroglyphic transliteration<sup>51</sup> of the calendar with an English translation is displayed in Figure 3.2. In the original, the calendar is written from right to left, but for our orientation its columns are arranged from left to right.<sup>52</sup>

<sup>46</sup> M. Clagett, *Ancient Egyptian Science, Vol. 2: Calendars, Clocks, and Astronomy* (Philadelphia, PA: American Philosophical Society, 1995) 193; L. Depuydt, “The Function of the Ebers Calendar Concordance,” *Orientalia* 65 (1996) 61; S. Carpenter et al., *An Interlinear Transliteration and English Translation of Portions of the Ebers Papyrus Possibly Having to do with Diabetes Mellitus* (Annandale-on-Hudson, NY: Bard College, 1998) 3.

<sup>47</sup> A.J. Spalinger, “Dates in Ancient Egypt,” *SAK* 15 (1988) 257.

<sup>48</sup> Carpenter et al., *Interlinear Transliteration*, 3.

<sup>49</sup> H. Brugsch, “Ein Neues Sothis-Datum,” *ZÄS* 8 (1870) 108-11.

<sup>50</sup> Copied from Krauss, “Das Kalendarium des papyrus Ebers,” 76.

<sup>51</sup> Copied from Depuydt, “Function and Significance,” 119 (unattributed). Other references cite K.H. Sethe, “Urkunden der 18. Dynastie,” Vol. 1 of *Urkunden des ägyptischen Altertums*, 44.

<sup>52</sup> For a description and discussion of the Ebers calendar, see, e.g., L. Borchardt, *Die Mittel zur Zeitlichen Festlegung von Punkten der Ägyptischen Geschichte und ihre Anwendung* (Quellen und Forschungen zur Zeitbestimmung der Ägyptischen Geschichte; Band 2; Kairo: Selbstverlag, 1935) 19-29; Parker, *Calendars*, 37-42, §§188-219; idem, “The Sothic Dating of the Twelfth and Eighteenth Dynasties,” *Studies in Honor of George R. Hughes, Jan 12, 1977* (eds. J.H. Johnson and E.F. Wade; SAOC 39; Chicago, IL: Oriental Institute of the University of Chicago, 1976) 185-86; E. Hornung, *Untersuchungen zur Chronologie und Geschichte des Neuen Reiches* (Ägyptologische Abhandlungen 11; Wiesbaden: Otto Harrassowitz, 1964) 14-23; idem, “‘Lang oder kurz?’ - das Mittlere und Neue Reich Ägyptens als Prüfstein,” *High, Middle or Low?* (Pt. 1) 27, 31-32; R.D. Long, “A Re-examination of the Sothic Chronology of Egypt,” *Orientalia* 43 (1974) 266-68; K.A. Kitchen, “The Basics of Egyptian Chronology in Relation to the Bronze Age,” *High, Middle or Low?* (Pt. 1) 42; R. Krauss, *Sothis- und Monddaten* (HÄB 20; Hildesheim: Gerstenberg, 1985) 104-16; idem, “Das Kalendarium des Papyrus Ebers und seine chronologische Verwertbarkeit,” *Ä und L* 3 (1992) 75-85, 96; U. Luft, “Noch Einmal zum Ebers-Kalender,” *GM* 92 (1986) 69-77; idem, “Remarks of a Philologist on Egyptian Chronology,” *Ä und L* 3 (1992) 112-13; “W. Helck’s paper,” *High, Middle or Low?* (Pt. 3) 40-45; J. von Beckerath, “Das Kalendarium des Papyrus Ebers und das Sothisdatum vom 9. Jahr Amenophis’ I.,” *SÄK* 14 (1987) 72-33; idem, “Das Kalendarium des Papyrus Ebers und die Chronologie des ägyptischen Neuen Reiches. Gegenwärtiger Stand der Frage,” *Ä und L* 3 (1992) 23-27; W. Barta, “Das Kalendarium des Papyrus Ebers mit der Notiz eines Sothisaufgangs,” *GM* 101 (1988) 7-12; W. Helck, “Erneut das angebliche Sothis-Datum des Pap. Ebers und die Chronologie der 18. Dynastie,” *SÄK* 15 (1988) 149-64; A.J. Spalinger, “Dates in Ancient Egypt,” *SAK* 15 (1988) 255-58;



Year 9 under the majesty of the king of Upper and Lower Egypt Dsr-k3-Rc may he live forever			
	III šmw	day9	going up of Sothis
	IV	day9	•
	I 3ht	day9	•
	II	day9	•
	III	day9	•
	IV	day9	•
	I prt	day9	•
	II	day9	•
	III	day9	•
	IV	day9	•
	I šmw	day9	•
	II	day9	•

**Figure 3.2:** The Ebers calendar with hieroglyphic transliteration and English translation. (• = ditto.)

The Ebers calendar assists the reconstruction of Egyptian chronology in a number of ways.

- It reports the solar year and months of Upper Egypt related to the seasonal or agricultural year.
- It displays the civil months of the year used in Upper Egypt.
- It connects the civil and solar calendars to the Sothic cycle for one particular year, and discloses the relationship between them.
- It locates the ninth year of Amenhotep I in the Sothic cycle.

At this stage our purpose is only to introduce the features that relate to the solar calendar with its seasonal festivals of the agricultural year, and the civil calendar of Upper Egypt. In later chapters, we will see how it assists the reconstruction of the chronology of the Egyptian kings, especially with respect to Amenhotep I.

As shown, the inscription consists of 13 lines arranged in 4 columns.

### Describing the Calendar

The heading of the calendar (two lines in English), is written in red ink and locates the calendar in the 9th year of *Dsr-k3-R<sup>c</sup>*, king of Upper and Lower Egypt. The prenomen (throne name) identifies the king as Amenhotep I, second king of the 18th Dynasty. The remainder of the calendar is written in black ink.

The first row of the calendar plainly indicates that the rising of Sothis occurred on the ninth day of III *šmw*.

Looking at the columns, scholars agree that the second column gives month designations of a civil calendar. III *šmw* is followed in the next line by IV *šmw*, then in

idem, "A Return to Papyrus Ebers," *BES* 10 (1989/90) 137-44; idem, "Notes on the Ancient Egyptian Calendars," *Orientalia* 64 (1995) 19-22; idem, "From Esna to Ebers: An Attempt at Calendrical Archaeology," *Studies in Honor of William Kelly Simpson*, Vol. 2 (Boston, MA: Museum of Fine Arts, 1996) 755-63; C. Leitz, *Studien zur ägyptischen Astronomie* (Ägyptologische Abhandlungen 49; Wiesbaden: Otto Harrassowitz (1989) 23-34; idem, "Bemerkungen zur astronomischen Chronologie," *Ä und L* 3 (1992) 99; M. Clagett, *Ancient Egyptian Science*, Vol. 2, 37-48, 193-216; Depuydt, "Function of the Ebers Calendar," 61-68 (see bibliography on Ebers calendar pp. 86-88); idem, *Civil Calendar*, 90-95; idem, "Function and Significance of the Ebers Calendar's Lone Feast-Hieroglyph (Gardiner Sign-List W3)," *JEH* 1 (2008) 118-19.

the following lines by I to IV *3ht* and I to IV *pri*, ending with I and II *šmw*. The other months are indicated only by their numerical designations, II, III, or IV, followed by a mark like a large dot, which cannot be anything other than ditto marks referring to the season given above. This column reflects an underlying calendar originally based on the agricultural seasons with four months each of inundation (*3ht*), sowing (*pri*), and reaping (*šmw*). But the discrepancy between the actual agricultural seasons (the solar year) and the civil calendar is what the Ebers calendar displays.

The third column gives “day 9” for all 12 months. The word for “day” is a small mark shaped somewhat like an apostrophe and the “9” is a hieratic “squiggle.”<sup>53</sup>

In the fourth column, under the “rising of Sothis,” large dots appear in the subsequent 11 rows, similar to the dots used for the unnamed civil months, suggesting that they too are ditto marks. The first line of the second, third, and fourth columns are to be read together to give “going up of Sothis [on] III *šmw* 9,” which refers to Amenhotep I’s ninth year stated in the heading.

Thus, the civil calendar appears to begin with the rising of Sothis on III *šmw* 9, followed by the other months in the usual order. The repetition implies 12 months of 30 days without the five epagomenals. It is said that the epagomenals are not accounted for because the “day 9” of IV *šmw* ought to have been followed by “day 4” of I *3ht*.<sup>54</sup>

The civil months cannot start on “day 9” because they always start on day 1. Furthermore, lunar months consist of 29 or 30 days, not 12 months of 30 days, and they would not all start on day 9.

The oddity of all the remaining rows being designated “day 9,” and the use of ditto marks indicates that the compiler is focusing on the same day in the successive months of the civil calendar. The civil calendar is in the orthodox order, except for the fact that it begins the 12 months of the year on III *šmw*. But that is merely because in the ninth year of Amenhotep I the rising of Sothis occurred on that date in the Sothic cycle.

The primary interest of the compiler is to construct a seasonal or agricultural calendar for that year beginning with the rising of Sothis, represented in the first column. This is the Sothis-related calendar of Upper Egypt. He lists the months of Upper Egypt. The first month is *wp rnpt* (the opener of the year), the second is *thy* and so on, aligning the solar year with the civil calendar for that year. Thus, columns one and four are the framework of the calendar, the rising of Sothis triggering the seasons and festivals of the year, while columns two and three display how they connect to the civil calendar in that same year.

### Interpreting the First Column

The interpretation and application of the Ebers calendar has been extensively discussed by scholars in the past, especially the nature of the first column. Earlier scholars proposed that it represented a fixed Sothic year of 365¼ days, correlated with the 365-day civil calendar and the heliacal rising of Sothis on III *šmw* 9.<sup>55</sup> But more recent scholars rejected this idea because there is no evidence that Egyptians ever added a day every fourth year to attain a fixed-year calendar until the decree of Canopus in 238 BCE.<sup>56</sup>

<sup>53</sup> In the 1870s, scholars were unsure whether this mark was 3, 6, or 9, and “new moon” (*psdntyw*) was suggested in 1935, but nowadays 9 is accepted as correct. See Depuydt, “Function and Significance,” 120-21.

<sup>54</sup> M. Clagett, *Ancient Egyptian Science*, Vol. 2, 196.

<sup>55</sup> *Ibid.*, 15, 193-95; L. Depuydt, “Function of the Ebers Calendar,” 75.

<sup>56</sup> See A.J. Spalinger, “The Canopus Stela,” *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 36-7.

In 1950, Richard Parker used various arguments for the existence of an original lunar calendar, and asserted that it was this lunar calendar that appears in the first column of the Ebers calendar.<sup>57</sup> Anthony Spalinger argued, in 1995, that the month representations on other calendars were not lunar but civil,<sup>58</sup> and, in 1996, that the first and second columns of the Ebers calendar were also civil.<sup>59</sup> However, Spalinger did not jettison the idea of a lunar calendar altogether because he needed it to account for the fact that in certain inscriptions some feasts were held out of their eponymous months.<sup>60</sup>

That feasts were held *in* their eponymous months in the Ebers calendar was one of Gardiner's prime items of evidence in 1906 and 1955 for two civil calendars, one starting with Mesore and the other with *thy*. Feasts were held out of their eponymous months in a latter calendar, as seen in the Greco-Roman calendar. Gardiner totally rejected the idea of a lunar calendar.<sup>61</sup> Spalinger did not want to resort to Gardiner's 1906 hypothesis that there were two civil calendars as he saw no need for it.<sup>62</sup> These matters will be dealt with at length in subsequent chapters.

The controversy over the interpretation of the Ebers calendar—whether the first column represented a lunar or civil calendar (instead of the solar/agricultural year as explained), and how to interpret the Sothic date, must be settled before we can decide what calendars the ancient Egyptians used to date their reigns and other events.

### The Order of the Months on the Ebers Calendar

The order of the seasonal months beginning with *wp rnpt* “the opener of the year,” which coincides with the helical rising of Sothis as shown in the Ebers calendar, is not replicated in most other calendars associated with Egyptian chronology.

In many later calendars, the feasts all appear to have been moved to the first day of the following month, and, therefore not in the month to which they gave their name.

This anomalous situation, of feasts apparently occurring outside their eponymous months in later calendars but within their appropriate months in the Ebers calendar, has remained an enigma to scholars for well over 100 years. The first column in the Ebers calendar contains what appear to be month-names of a calendar. These months are referred to on various other calendars and inscriptions.<sup>63</sup>

### Opener of the Year *wp-rnpt* (*wep-renpet*)

The first name is *wp-rnpt* which means “opener of the year” and seems to be appropriately named for the first month in the list of 12 months. It is followed by *thy* (Tekhy) in the line beneath.

But other calendars have *thy* in *first* place. This is seen in calendar depictions on the northern ceiling of the tomb of Senmut, the Karnak water clock from the reign of Amenhotep III (both of the 18th Dynasty), on the Ramesseum ceiling of Ramesses II

<sup>57</sup> Parker, *Calendars*, 50 §252; idem, “The Problem of the Month-Names: A Reply,” *Rd'É* 11 (1957) 96-97.

<sup>58</sup> A.J. Spalinger, “Month Representations,” *Cd'É* 70 (1995) 110-22.

<sup>59</sup> A.J. Spalinger, “From Esna to Ebers: An Attempt at Calendrical Archaeology,” *Studies in Honor of William Kelly Simpson* Vol 2; (Boston: Museum of Fine Arts, 1996) 762. Also at [http://www.gizapyramids.org/pdf%20library/festschrift\\_simpson/s9t](http://www.gizapyramids.org/pdf%20library/festschrift_simpson/s9t)

<sup>60</sup> A.J. Spalinger, “Ancient Egyptian Calendars: How Many Were There?” *JARCE* 39 (2002) 241-50.

<sup>61</sup> Gardiner, “Mesore as First Month,” 136-44; idem, “The Problem of the Month-Names,” *Rd'É* 10 (1955) 9-31.

<sup>62</sup> Spalinger, “From Esna to Ebers,” 761-62.

<sup>63</sup> The names have also been proposed as feast names (e.g. Clagett, *Ancient Egyptian Science*, Vol. 2, 46-7, 200).

(19th Dynasty), its copy at the Medinet Habu temple of Ramesses III (20th Dynasty), and elsewhere.

This is a major difference, and the cause of questions and controversy. Apart from this difference, the succeeding 11 months in the Ebers calendar are found in the same order as in the later representations. The Ebers calendar ends with the month of *Ipt hmt* (later Epiphi), as its 12th month. But in other calendars *Ipt hmt* is the 11th month, and the 12th month displays either *wp rnpt* (from the first month position in the Ebers calendar) or *R<sup>c</sup>-Hr-3hty* (Re Horakhty) or Mesore.

In calendars dating from after the reign of Amenhotep I, *wp rnpt* is never in first place. It is always in last place unless that position is occupied by *R<sup>c</sup>-Hr-3hty* (“Re Horus of the Two Horizons”), and *wp rnpt* does not appear at all. This repositioning is significant for our later discussion.

In summary, for an artefact like the Ebers calendar to exist, there needed to be:

- an underlying calendar originally based on the agricultural seasons with four months each of inundation (*3ht*), sowing (*pnt*), and reaping (*šmw*) seen in the second column, which is termed the civil calendar; and
- the observance of the solar year related to the heliacal rising of Sothis in which the difference with the civil calendar is recorded (as the ninth day of III *šmw*); and
- an annual calendar of Upper Egypt related to the actual solar year and the heliacal rising of Sothis, beginning with the month named *wp-rnpt* meaning “opener of the year.”

## Chapter 4

### Reviewing Gardiner's and Parker's Calendars

The previous chapter discussed the calendars that the ancient Egyptians used. Unless we employ their calendar(s) used to date the regnal years of kings, or Sothic or lunar sightings, Julian calendar dates we give to these events may be incorrect by as much as 100 years.

Egyptologists today prefer Richard Parker's proposal of an original lunar calendar followed by a civil calendar (with their doubts about a later lunar calendar) rather than Alan Gardiner's two civil calendars starting one month apart. Gardiner, who first published in 1906, later vigorously opposed Parker's view published in 1950. Their 1955 and 1957 exchanges were heated. The debate continued amongst later scholars and remains unresolved to the present day.

I take the debate further and offer a solution. While some might dislike consideration of the Parker and Gardiner versions of the Egyptian calendars, and the controversy attached to their arguments, the quest for a solution is aided by their debate. The intricacies of a debate that searches for a coherent calendar system to account for the many inscriptional references to feasts held outside of their eponymous months is certainly tedious. Yet it has exercised the minds of Egyptologists for over a century, and ultimately provides the evidential data pointing to the eventual solution.

This chapter reviews the differing opinions of Sir Alan Gardiner (1879–1963) and Richard A. Parker (1905–1993), both esteemed Egyptologists, concerning the calendars they believed the ancient Egyptians used. Their views were introduced in chapter 3.

Central to the issue is how the Ebers calendar should be understood. Specifically, why is *wp rnpt* the first month in that calendar and the last month in later calendars? The attendant enigma is why the feast or birth of Re can be dated to I *3ht* 1 when its eponymous month, *R<sup>c</sup>-Hr-3hty*, is the 12th month. Only when the calendars that the ancient Egyptians used have been identified can we proceed with the chronology.

Firstly, I review Gardiner's 1906 article where he discusses examples of feasts having two dates usually one month apart. He gives examples of months that appear to derive from a calendar beginning with *wp rnpt* (understood by him to be synonymous with the later Mesore), and not with *thy* or Thoth—the first month of the Greco-Roman calendar.

Secondly, I review Parker's theory of Egyptian calendars published in 1950,<sup>1</sup> and summarize his objections to Gardiner's 1906 theory of two civil calendars. Then I review the arguments and counter-arguments in Gardiner's and Parker's articles in 1955 and 1957, respectively. Other scholars' contributions to the discussion of the alleged month-shift, and my own explanation, will follow.

To avoid as much repetition as possible, I also add comments arising from my previous discussion of calendars.

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<sup>1</sup> R.A. Parker, *The Calendars of Ancient Egypt* (SAOC 26; Chicago, IL: Oriental Institute of the University of Chicago, 1950).

### Gardiner's Two Civil Calendars Theory

Gardiner's theory began in the late 19th century when Egyptologists such as Heinrich Brugsch (1827–1894) and Ludwig Borchardt (1863–1938) assumed that the pre-dynastic Egyptian calendar was *lunar* and regulated by the heliacal rising of Sothis. Brugsch supposed that months were named after the festivals held in them, but then found from the Greco-Roman calendar that some festivals were *not* held in their eponymous months but were held in the *next* month. He noticed that in two tombs of the 18th Dynasty, those of Khaemhet and Neferhotep,<sup>2</sup> the feast of Pharmouthi in the Greco-Roman calendar was not dated to the month of Pharmouthi, IV *pri*, but to the first day of the next month of I *šmw*, or the month named Pachons.<sup>3</sup>

In 1906, Gardiner added more instances to Brugsch's two examples of festivals apparently falling in the month *after* the one to which they had (allegedly) given their name.<sup>4</sup> Gardiner provided the hieroglyphic text for the month-names and dates for the festivals as given in the original inscriptions so there could be no doubt about what he saw and read.

About a century after Gardiner wrote about feasts dated to a month after their eponymous month in the Greco-Roman calendar, the inscriptions from ostraca, plus papyri and weights, from Deir el-Medina were catalogued and made available on a website.<sup>5</sup> Heidi Jauhiainen wrote a thesis published in 2009, and posted on the internet the feasts mentioned in non-literary documents at Deir el-Medina using their classification numbers.<sup>6</sup> Where applicable, I seek to identify the examples cited by Gardiner with those discussed by Jauhiainen, and in the following chapter some additional items she identifies not mentioned by Gardiner or other scholars.

### Feasts *not* Falling in their Eponymous Months cited by Gardiner

Added to Brugsch's two examples from the tombs of Khaemhet and Neferhotep, separated by several decades, Gardiner cites other examples shown in Table 4.1.

(1) In the 3rd regnal year of Ramesses X, workmen at Thebes celebrated the feast of Epiphi on IV *šmw* 2,<sup>7</sup> and not in III *šmw*, the month of Epiphi in the Greco-Roman calendar.

(2) Gardiner notes from the verso of the papyrus Boulak 19 words that he translates as: "Fourth(?) summer-month, day 15, in Epiphi." It is not clear whether this refers to a month-name or the day of an Epiphi festival "which is hardly likely to have

<sup>2</sup> Khaemhet was Superintendent of Royal Granaries during the reign of Amenhotep III. His tomb is dated to the king's 30th regnal year (M. Andrews, "The Private Tomb of Khaemhat on the West Bank at Luxor," (1999-2003), <http://www.touregypt.net/featurestories/khaemhatt.htm>; "Sheikh Abd el-Qurna – Tomb of Khaemhet," <http://planetware.com/egypt/sheikh-abd-el-qurna-tomb-of-khaemhet-egy-qena-tmbkha.htm> Neferhotep was a priest in the reign of Horemhab, ("Sheikh Abd el-Qurna – Tomb of Neferhotep," <http://www.planetware.com/egypt/sheikh-abd-el-qurna-tombs-in-the-plain-egy-qena-plain.htm>). The tombs are numbered TT57 and TT50, respectively.

<sup>3</sup> H.K. Brugsch, *Die Ägyptologie* (Leipzig: Wilhelm Friedrich, 1891) 362-63, cited by A.H. Gardiner, "Mesore as First Month of the Egyptian Year," *ZÄS* 43 (1906) 137 n. 1.

<sup>4</sup> Gardiner, "Mesore as First Month," 137 and n. 1.

<sup>5</sup> "The Deir el-Medina Database", <http://www.leidenuniv.nl/nino/dmd/dmd.html>

<sup>6</sup> H. Jauhiainen, "Do not Celebrate Your Feast Without Your Neighbours": A study of References to Feasts and Festivals in Non-Literary Documents from Ramesside Period Deir el-Medina (Publications of the Institute for Asian and African Studies 10; Helsinki, Helsinki University Print, 2009) and <http://www.doria.fi/bitstream/handle/10024/46975/donotcel.pdf>

<sup>7</sup> Gardiner, "Mesore as First Month," 137-38; referenced to *Pap. Chabas-Lieblein* in Turin. Gardiner was unsure whether the day was 1 or 2. Since then the day date has been settled as day 2 (Parker, *Calendars*, 58 §286).

lasted fifteen days.”<sup>8</sup> He omits this from consideration as an example of a Mesore-beginning calendar because of the uncertainty of the text's meaning.

(3) From a diary of the Necropolis (Thebes) dating to the 13th regnal year of Ramesses IX, the last day of the summer month, IV *šmw*, is followed by the five epagomenal days.<sup>9</sup> Gardiner translates, “‘Year 13, first month of inundation day 1, birthday of Re-Horakhti.’ The words *mšwt-R<sup>c</sup>* are obviously the prototype of the month-name Mesore.”<sup>10</sup> This indicated to Gardiner that I *3ht* was the month of Mesore, not the 12th month or IV *šmw* as in the Greco-Roman calendar.

(4) In the 35th year of an unnamed king, but said to refer to Amenemhet III of the 12th Dynasty, a list of attendances of singers found at Illahun identifies Hathor as the month of IV *3ht*, whereas in Greek times the month of Hathor is III *3ht*.<sup>11</sup>

(5) The Medinet Habu calendar from the time of Ramesses II places the feast of Hathor on IV *3ht* 1, not III *3ht* 1.<sup>12</sup>

(6) In a later 1952 article, Gardiner also notes that IV *3ht* referred to the month of Hathor at the time of Thutmose III. He says it could not have been held in IV *3ht* according to the Greco-Roman calendar for, “Thutmose III reserved that date for the festival of Neheb-kau, which I impenitently continue to equate with the later Khoiak.”<sup>13</sup> Therefore, the feast of Hathor was also held on IV *3ht* in the reign of Thutmose III.

(7) On the same papyrus as that of the singers at Illahun (see (6) above), dated to the 12th Dynasty, the “uniting of the *kas*” (the life force) is dated to I *prt* 1. Since the earlier name of the feast of Choiak was *k3 hr k3* “ka upon ka” and the feast of *nḥb-k3w* (Neheb-kau) fell in the New Kingdom on I *prt* 1, Gardiner conjectured that the feast of Neheb-kau and the feast of *k3 hr k3* “were but two names for one and the same festival.” However, in Greek times Choiak was IV *3ht*.<sup>14</sup>

In two, less certain, instances Gardiner points out the following.

(8) In a Ramesside ostrakon (oBM 29560), Erman, cited by Gardiner, “shows that certain groups of words that occur at intervals in the text are the originals of the Greek designations of the Egyptian months.”<sup>15</sup> To Gardiner, the month/feast of Thoth seemed to be preceded by “the going forth of Horus” or an alternative expression for the month of Mesore, which would then put it in first place. In the same ostrakon, between the months Choiak and Mechir is “the periplous of Mut,” which corresponds to the sixth position or II *prt* if Mesore is in first place, but known as the month of Tybi or I *prt* in the Greco-Roman calendar. (Consequently, all the months listed would move down one place.)

However, Gardiner is doubtful about the festival of Mut being held in II *prt*, because in the 17th year of a king, assumed to be Ramesses IX, the “periplous of Mut” festival occurred on the last day of I *prt*.<sup>16</sup> On the other hand, because he thinks it unlikely for a feast that is typical of the month to be held on the last day and give its

<sup>8</sup> Ibid., 138.

<sup>9</sup> I *3ht* 1 *Mswt R<sup>c</sup> hr 3hty*; P Turin Cat. 1999 + 2009 vs. I, 12; Jauhiainen, “Do not Celebrate,” 79 n. 14.

<sup>10</sup> Gardiner, “Mesore as First Month,” 138-39.

<sup>11</sup> Ibid., 139; referenced to Griffith, *Kahun Papyri*, 24-25. This appears to refer to Papyrus UC 32191.

<sup>12</sup> Ibid., referenced to Brugsch, *Thesaurus*, 364. (The Medinet Habu Temple ceiling calendar, however, assigns Hathor to III *3ht*, as discussed previously.)

<sup>13</sup> Idem, “Thutmose III Returns Thanks to Amūn,” *JEA* 38 (1952) 22; and see n. 7.

<sup>14</sup> Idem, “Mesore as First Month,” 139; referenced to Illahun in the Middle Kingdom in Griffith, *Kahun Papyri*; and in the New Kingdom, Brugsch, *Thesaurus*, 335, 362, 364; Sethe, *Urk* IV, 107, 109.

<sup>15</sup> Ibid., 140; referenced to Adolf Erman, “Monatsnamen aus dem Neuen Reich,” *ZÄS* 39 (1901) 128-30.

<sup>16</sup> Ibid., referenced to *Pap. Turin* 68, col. 3, 1; *ib.* 6.

name to that month, he suggests that it really lasted two days and continued into II *prt*, which could then be another example of Tybi being dated to II *prt*.

Gardiner is uncertain whether this is a valid example of a feast out of its eponymous month, and is prepared to discount the last two examples (of Mesore and Tybi).<sup>17</sup> We may discount the latter in the reign of Ramesses IX because it is not an actual example of a feast held out of its eponymous month in the Greco-Roman calendar. In the ostrakon, the position of Tybi and the other months depends on the validity of the “going forth of Horus” being in first place. Since the above examples to do with Horus and Mut both come from ostrakon oBM 29560, they will be designated collectively, and represented by “the going forth of Horus” in the first month in Table 4.1.

What Gardiner assumed about the position of the feasts is shown below (Table 4.1). The down-arrow indicates what Gardiner saw as a move of a feast from its eponymous month to the one following. Thus Thoth is associated with both the “birthday of Re” and the “going forth of Horus” in I *3ht* not IV *šmw* (the previous month). Hathor is celebrated in the month of Choiak or IV *3ht* as in the list of singers. Choiak is celebrated in the month of Tybi or I *prt*. Renutet, or the month later named Pharmouthi, is celebrated in I *šmw* as it was on the two tombs. And Epiphi is the 12th month or IV *šmw* as in the list of workmen at the Epiphi festival.<sup>18</sup>

**Table 4.1: Gardiner’s examples of feasts held in the next month after their eponymous month from the perspective of the Greco-Roman calendar**

Feast date	Month named	Moved to	Out of their eponymous month
IV <i>šmw</i>		↓	
I <i>3ht</i>	Thoth		“Birthday of Re” & the “going forth of Horus” (3) and (8)
II <i>3ht</i>	Phaophi		
III <i>3ht</i>	Hathor	↓	
IV <i>3ht</i>	Khoiak	↓	Month of Hathor in list of singers at a festival (4), and Medinet Habu calendar (5)
I <i>prt</i>	Tybi		Feast of Choiak (6) and (7)
II <i>prt</i>	Mechir		
III <i>prt</i>	Phamenoth		
IV <i>prt</i>	Pharmouthi	↓	
I <i>šmw</i>	Pachons		Feast of Pharmouthi on 2 tombs (Brugsch)
II <i>šmw</i>	Payni		
III <i>šmw</i>	Epiphi	↓	
IV <i>šmw</i>	Mesore	↓	Feast of Epiphi (1) and (2)

↓ = the move of a feast from its eponymous month to the one following.

### Gardiner’s Conclusions

A result of the positioning of these feasts Gardiner concluded that the first month must have been *wp-rnpt* (called Mesore by Gardiner) and the second month *thy*, and so on, and the last month *ipt hmt* (Epiphi). From these examples, he believed that “all twelve month-names stood in early times one place ahead of their later position.”<sup>19</sup> He thought this was confirmed by his last piece of evidence: the Ebers calendar.

### Gardiner and the Ebers Calendar.

In the Ebers calendar the month-names stand in the same position as in the previous examples (Table 4.1). They start with *wp-rnpt* and end with *ipt hmt*, the later Epiphi. Gardiner writes, “All the month-names are seen to stand in the Ebers calendar

<sup>17</sup> Ibid.

<sup>18</sup> Ibid., 141.

<sup>19</sup> Ibid.



just where they ought to stand.”<sup>20</sup> He saw in *wp-rnpt* not merely the feast of the New Year, but the name of the *first month* of the year, and assumed that it was synonymous with the “going forth of Horus” and the “birthday of Re” or Mesore. He also notes from the temple of Edfu that the month *wp-rnpt* is also the name of IV *šmw*, and he sees this as another example of *wp-rnpt* being synonymous with Mesore.<sup>21</sup>

Gardiner identified the first column of the Ebers calendar as composed of *civil* months as also in the Greco-Roman civil calendar. However, he could not explain why the Greco-Roman calendar had festivals celebrated out of their eponymous months. He suggested that some days may have been intercalated causing the monthly feasts to fall backward into the preceding calendar months, “which would naturally vitiate the whole of our chronology,” or alternatively, that the festivals and not the months were, “transferred as a body from their original place,” but he could not find a motive for such a proceeding.<sup>22</sup>

Furthermore, Gardiner noted that the month positions in the Ebers calendar were also being used concurrently with those months having positions known from the calendar of Greco-Roman times. On the one hand, in the reign of Ramesses XI (20th Dynasty) the festival of Epiphi *still* fell on IV *šmw* 1 (as it did in Ebers in the early 18th Dynasty), and under Ramesses IX the feast of the first day of the new year was the “going forth of Horus” (Mesore), while on the other hand, earlier on, in the reign of Ramesses II as witnessed in the Ramesseum, the *Greek* positions of the months had apparently already been adopted.<sup>23</sup>

## Two Civil Calendars

Gardiner came to the conclusion that Egypt had had two calendars, an earlier and a later, which ran concurrently, with the earlier calendar starting with the month of Mesore, and the later beginning at the same time with the month of Thoth, so that the two overlapped.<sup>24</sup>

Though Gardiner did not provide a calendar, by using the civil calendar numerical designations and the Greek names of the months, Table 4.2 illustrates what he must have had in mind for his Mesore and Thoth years.

**Table 4.2: Gardiner's supposed calendars**

	Mesore year	Thoth year
I <i>3ht</i>	Mesore	Thoth
II <i>3ht</i>	Thoth	Phaophi
III <i>3ht</i>	Phaophi	Hathor
IV <i>3ht</i>	Hathor	Choiak
I <i>pri</i>	Choiak	Tybi
II <i>pri</i>	Tybi	Mechir
III <i>pri</i>	Mechir	Phamenoth
IV <i>pri</i>	Phamenoth	Pharmouthi
I <i>šmw</i>	Pharmouthi	Pachons
II <i>šmw</i>	Pachons	Payni
III <i>šmw</i>	Payni	Epiphi
IV <i>šmw</i>	Epiphi	Mesore

<sup>20</sup> Ibid.

<sup>21</sup> Ibid., 142.

<sup>22</sup> Ibid., 143; see also 141 n. 2.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

### **The Feasts of Thoth and Phaophi: Are they Further Examples of Feasts Falling Out of their Eponymous Months?**

Gardiner's perplexity was heightened by a further problem regarding the feasts of Thoth and Phaophi. He noted that the feast of Thoth occurred on the 19th day of the first month at Medinet Habu during the reign of Ramesses III as well as in Greek times, and had not moved down to the next month as had other feasts.<sup>25</sup> Thoth's companion feast, the feast of *w3gy* (*wagy*), was held on the 18th day of Thoth in the Old Kingdom, which suggested to Gardiner that the feast of Thoth was also held on the 19th of the first month at this early time.

Gardiner did not think it likely that a feast on the 19th day of the first month could give its name to the second month, and, noticing that the Ebers calendar and the Ramesseum have the hieroglyphic sign for *thy*, whereas at Medinet Habu the sign for Thoth was used, he suggests that Thoth succeeded *thy* as a month-name, yet he notes that "Thoth is apparently a month-name on the Ramesside ostrakon in the British Museum"<sup>26</sup> (and therefore was being used at the same time as *thy*). Gardiner was unable to determine whether the feast of *thy* had once been the feast of the second month, where if it had been, in the Greco-Roman calendar it would have fallen out of its eponymous month as he had noticed for other examples.

The situation with Thoth was similar to that of the month of Phaophi in the Greco-Roman calendar, where Phaophi was the later name for the second month, earlier known as *mnht* (*Menche*). During the Ramesside period, Gardiner thought the feast of Phaophi had "shifted its position considerably" and had "extended over from the latter part of the second month into the third." He then suggested that only after Mesore had become the 12th month did Phaophi become adopted as a feast of the second month, "which avoids the necessity of assuming that the name Phaophi ever belonged to the third month." This was an assertion he could not sustain because, contrarily, Phaophi appears to be third month or feast name in the Ramesside ostrakon.<sup>27</sup>

The preceding examples were known to Gardiner in 1906. He ends his paper feeling inadequate to deal with it competently and hopes the materials will be of service to others.<sup>28</sup>

### **Heidi Jauhiainen's Observations**

Gardiner does not discuss the feast of Phaophi again in 1955, so it is pertinent to add a further observation here. In 1982, R. van Walsem noted from the Ostrakon Deir el Medina 46, 10, in a journal of rations, the feast of Phaophi is dated to III *3ht* 11, whereas Phaophi in Ostrakon Deir el Medina 1265 col. I, 4-5 in a literary text is II *3ht*.<sup>29</sup> The latter is its position in the Greco-Roman calendar. Van Walsem accounts for the two dates by noting that the feast lasted 23 days, so extending from II *3ht* into III *3ht*, analogous to one in the time of Ramesses III lasting 27 days.<sup>30</sup>

That the festival of Phaophi, or Opet as it was later known, was held over the months of II *3ht* into III *3ht* is affirmed by Heidi Jauhiainen in her recent study.<sup>31</sup> She

<sup>25</sup> Ibid., 143-44.

<sup>26</sup> Ibid. This is a reference to oBM 29560 noted earlier on page 59.

<sup>27</sup> Ibid., 144.

<sup>28</sup> Ibid., 144, referring again to oBM 29560.

<sup>29</sup> R. van Walsem, "Month-Names and Feasts at Deir el-Medina," *Gleanings from Deir el-Medina* (eds. R.J. Demaree and J.J. Janssen; Leiden: Nederlands instituut voor het Nabije Oosten, 1982) 220. See also, Jauhiainen, "Do not Celebrate," 92 and works cited by Černý, Kitchen, and Helck in n. 11, where she notes that this ostrakon has been attributed the date of Year 2 of Ramesses IV.

<sup>30</sup> Ibid., 236 n. 45, citing Schott, *Festdaten*, 76, 85, II, III and 85, 41.

<sup>31</sup> Jauhiainen, "Do not Celebrate," 95-96.

writes, "Since the Opet Festival, was, according to the Great Harris Papyrus (P. BM EA 9999), celebrated on the same civil calendar days (II 3 $\dot{h}t$  19 – III 3 $\dot{h}t$  15) for thirty-one years in the reign of Ramesses III, I am not convinced that the date was always determined by the lunar calendar."<sup>32</sup>

As such, it does not qualify for a feast being held out of its eponymous month in the Greco-Roman calendar. The feast of Thoth, being held on I 3 $\dot{h}t$  19 in the Greco-Roman calendar does not appear to have a known counterpart on II 3 $\dot{h}t$  19 though the month of *thy* is second month in the Ebers calendar. The fixed (not moveable) feast of *w3gy*, held on I 3 $\dot{h}t$  18 also does not appear to have a known counterpart on II 3 $\dot{h}t$  18.<sup>33</sup>

These two feasts, *w3gy* and Thoth, are not valid examples of feasts being held out of their eponymous months. Note also that they do not date to the first day of the month. Our concern is about fixed feasts having a counterpart in the following month. We have more to say about the *w3gy* feast when we discuss the 12th Dynasty in later chapters.

### **Parker's Original Lunar Calendar, Civil Calendar, and Later Lunar Calendar Theory**

Forty-four years after his first article appeared in 1906, Gardiner was not prepared for the attack on his "evidence" of two civil calendars that came from Parker.

In his book, *The Calendars of Ancient Egypt*, published in 1950, Parker proposed three Egyptian calendars: an original lunar calendar, a civil calendar, and then a later lunar calendar tied to the civil calendar.<sup>34</sup> His book was not written as a response *per se* to Gardiner's "theory" for he only tackles Gardiner's work in an excursus at the end.

Rather, he sought to find the lunar calendar that he thought was behind the Carlsberg 9 papyrus giving the dates of the first day of each month, that is, the day of each new moon, in a 25-year period. (See chapter 5, pp. 76-80). He explained the Carlsberg 9 calendar as "a schematization not of the original lunar calendar of Egypt but rather of what may more correctly be termed *the later lunar calendar*"<sup>35</sup> (emphasis his).

Believing that a lunar year must have preceded the civil year on which the later lunar calendar was based, he wrote in 1955, "One of my problems in my book was to identify this original lunar year and to try to formulate a theory of its operation which would pass the test of all the evidence. This I attempted to do in *Cal.*, Chapter III, and it is the theory I offered there which Gardiner has now so strongly challenged."<sup>36</sup>

Parker refers to a number of earlier Egyptologists (Gatterer, 1786; Lepsius, 1849; Martin, 1864; Hincks, 1865; Brugsch, 1891; Meyer, 1904; Sethe, 1920; Borchardt, 1935) who proposed that a lunar calendar was the original calendar used by the ancient Egyptians.<sup>37</sup> Borchardt's theory about the lunar calendar was very similar to the one

<sup>32</sup> Ibid., 96.

<sup>33</sup> U. Luft sought to make a case for the fixed feast of *w3gy* falling in the second *lunar* month on II 3 $\dot{h}t$  18 and then transferred to I 3 $\dot{h}t$  18 of the civil calendar in *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992) 150-52, 221-22. This proposition was taken up by A.J. Spalinger, "Notes on the Ancient Egyptian Calendars," *Orientalia* 64 (1995) 23. Since the lunar calendar is hypothetical, so too are the dates assumed to be from it.

<sup>34</sup> See also idem, "The Calendars and Chronology," *The Legacy of Egypt* (ed. J.R. Harris; Oxford: Clarendon, 1971) 13-26.

<sup>35</sup> Parker, *Calendars*, 24.

<sup>36</sup> Idem, "The Problem of the Month-Names: A Reply," *Rd'É* 11 (1957) 92.

<sup>37</sup> Idem, *Calendars*, 30 §§142-49.

Parker adopted.<sup>38</sup> Parker gives his conclusions about the calendar before attempting to give evidence of its existence. He writes:

Whatever it may have been in prehistory, the first Egyptian calendar of record was lunar, and it was based upon the heliacal rising of the star Sothis. This event was called by the Egyptians *wp rnpt*, “Opener of the Year.” The twelve months of the normal year were divided into three seasons, *3ht*, *pri*, and *šmw*, of four months each. The individual months were named after the most important feasts which occurred in them. The first month of the year, the month of the *thy*-feast, began with the day of invisibility of the moon before sunrise after *wp rnpt*. This first day of the year was called *typ rnpt*. The twelfth month of the year was named *wp rnpt* after that feast, which always had to fall in it. Because the lunar year was normally but 354 days long, whenever the first month began within 11 days of *wp rnpt*, it was intercalary, lest at the end of that year the feast *wp rnpt* fall out of its month. This intercalary month which was intercalated every three, rarely two, years was dedicated to Thoth, and a feast of this god, *Dhwtyt*, was celebrated in it.<sup>39</sup>

Parker proposes several lines of argument for the existence of the original lunar calendar. Both Gardiner’s comments and my own are added.

**Parker: The Loango people used a lunar calendar.**

Parker cites the use of a lunar calendar with an intercalary month based on Sothis by the people of Loango in western Africa south of the equator, to support his proposal that “the first Egyptian calendar need not have been the product of a highly developed culture” for “it had common roots with many other primitive calendars.”<sup>40</sup>

Gardiner 1955: “Grounds [for an intercalary month] can hardly be found in the fact that the West African tribe of the Loango possessed a lunar year which reconciled itself with the Sothic year by just such an intercalary month,” because—he says—the Decree of Canopus (238 BCE) shows that the Egyptians had not even used an extra day to put their calendar right, let alone had inserted a month.<sup>41</sup>

**Tetley:** The Loango calendar is not evidence for an Egyptian lunar calendar.

**Parker: Primitive man used lunar months; therefore, Egyptians used a lunar calendar.**

Since this is integral to his theory, we repeat his comments noted earlier. Parker writes:

Primitive man, with the lunar month as his unit of time, would soon come to the realization that, while the interval between successive floods was highly variable, the interval between successive risings of Sothis was practically constant. Sothis’ rising, then, could be used as a point of departure for a calendar of lunar months with three seasons, a calendar completely agricultural and based on the Nile and governed by Sothis only because Sothis itself had come to be the herald of the Nile. A few decades of trial and error would certainly be sufficient to work out the simple rule of intercalation, so that the event of *wp rnpt* would be maintained properly in the last month of the year.<sup>42</sup>

**Tetley:** Parker’s idea that a lunar calendar with an intercalary month was used to determine the seasons of the Nile is at odds with my earlier discussion of the solar

<sup>38</sup> Ibid., 30-31 §§149-51.

<sup>39</sup> Ibid., 31 §151.

<sup>40</sup> Ibid., 31 §§152-54.

<sup>41</sup> A.H. Gardiner, “The Problem of the Month-Names,” *Rd’É* 10 (1955) 22.

<sup>42</sup> Parker, *Calendars*, 32 §157.

calendar and seasonal phases of the Nile in which the rising of Sothis occurred near the summer solstice at the beginning of the solar year, not in the last month of a lunar calendar. Agricultural seasons determined by the sun and starting with the rising of Sothis are not evidence for a lunar calendar.

**Parker: The moon and Sothis either separately or together are associated with a form of year which could be lunar.**

Parker cites several such texts, mainly from the late period. He admits that it is not clear what type of year was involved, but a lunar year would suit the passages.<sup>43</sup>

**Tetley:** The association of the moon and Sothis is not evidence for a lunar calendar.

**Parker: The meaning of *wp rnpt* is assumed to have its equivalence in *prt spdt*, the “going forth of Sothis.”**

Parker points out that, “*wp rnpt* was in existence before the civil year was inaugurated, so that its application to the first day of that year can only have been secondary and through analogy with the lunar calendar.”<sup>44</sup> He cites several late texts which seem to equate *wp rnpt* and *prt spdt*, and says that the primary meaning of *wp rnpt* was the “opener of the year.” He writes, “As ‘Opener of the Year’ it would mean the heliacal rising of Sothis, assuming a lunar year based on Sothis.”<sup>45</sup> But when the civil calendar was introduced from about the time of the Middle Kingdom, Parker says that *wp rnpt* came to mean the first day of the year and was synonymous with *prt Spdt*.<sup>46</sup>

**Tetley:** Spalinger notes that *wp rnpt*'s association with the rising of Sothis (*prt Spdt*) appears first only in texts from the Greco-Roman period.<sup>47</sup> He writes: “No festival calendar or dated feast writes *prt Spdt* and *wp rnpt* side by side.”<sup>48</sup> Parker's presumed equivalence of *wp rnpt* “the opener” with *prt Spdt* “the going forth of Sothis” is unattested and there is no analogy with a lunar year, and therefore provides no evidence for a lunar calendar.

**Parker: Lists of feasts from the mastabas (tombs) of the Old Kingdom are assumed to have a lunar origin.**

Parker compares the *chronological order* of feasts in lists coming from the 4th and 5th Dynasties with the order of feasts in the *civil* calendar, to argue for an original *lunar* calendar. Parker cites 25 lists, not all of them complete, but 22 of them have five or more feasts and they *all* start with *wp rnpt*. The feasts are in the same order with the exception of two lists, which have a different order for the second, third, and fourth feasts.<sup>49</sup>

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<sup>43</sup> Ibid., 32-33 §§158-63.

<sup>44</sup> Ibid., 33 §165.

<sup>45</sup> Ibid., 34 §174.

<sup>46</sup> Ibid., 34 §§172-74.

<sup>47</sup> A.J. Spalinger, “The Canopus Stela,” *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 46; idem, “Thoth and the Calendars,” *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 46, 51.

<sup>48</sup> Ibid., 48.

<sup>49</sup> Parker, *Calendars*, 35 §§176-78. D 60 has the order: 1, 3, 4, 2, 10, 11, 12, and D 69 has 1, 4, 2, 3, 5, 6, 7, 10, 11.

Table 4.3 shows Parker's list of 12 festival names from the *mastabas* in their usual order, having *wp rnpt* in first position.<sup>50</sup>

**Table 4.3: Order of feasts on Mastabas as noted by Parker**

(1) <i>wp rnpt</i>	(5) <i>hb Skr</i>	(9) ( <i>3bd</i> )* ( <i>n</i> ) <i>š3d</i>
(2) <i>Dḥwtyt</i>	(6) <i>hb wr</i>	(10) ( <i>tp</i> ) <i>3bd</i>
(3) <i>tpy rnpt</i>	(7) <i>rkh</i>	(11) <i>tp šmdt</i>
(4) <i>w3g</i>	(8) <i>pṛt Mn</i>	(12) <i>hb nb r<sup>c</sup> nb</i> or variant

Parker seeks to equate these names with *lunar* feasts, and thus with lunar months, as evidence for his original lunar calendar. However, he makes an exception for *wp rnpt*, which he states is not a lunar month, but believes that, in its first application, it refers to the rising of Sothis “which opened the new year, but which, in itself, did not form part of it.”<sup>51</sup> After *wp rnpt* he identifies *Dḥwtyt* as the feast of the intercalary lunar month that occurred once every two or three years “dedicated to Thoth, the moon-god.”<sup>52</sup> He assigns *tpy rnpt*, the third feast, to the first day of the month of *thy*, that is, to the first month of the *lunar* year. For feasts nos. 4-8 he assigns dates in their chronological order in the *civil year* (Table 4.4).

**Table 4.4: Feasts 4–8 according to Parker**

	Feast	Date
4	<i>w3g</i>	<i>I 3ḥt 18</i>
5	<i>hb Skr</i>	<i>IV 3ḥt 26</i>
6	<i>hb wr</i>	<i>II pṛt 4</i>
7	<i>rkh (wr)</i>	<i>II pṛt 9 (Edfu) and III pṛt 1 (Illahun)</i>
8	<i>pṛt mn</i>	<i>I šmw 11 (Medinet Habu)</i>

The feast of *w3gy*, the fourth festival, is also considered to be lunar (see below).

The fifth name on the *mastaba* list, referring to the festival of *skr* (Sokar being the god of the dead and of the underworld) is not given an explanation by Parker. Of the feasts of [*rkh*] *wr* and *rkh* [*nds*], which follow in sixth and seventh positions, Parker writes: “*rkh* as the name of a lunar month cannot be other than lunar,”<sup>53</sup> by which he seems to mean that if the preceding months are lunar the *rkh* months must be lunar too. But since he's trying to prove that the feasts *are* lunar in origin, this statement proves nothing.

Parker refers the feast of *Mn* (eighth month) to a moveable feast falling on the day of the new moon in a lunar month, dated to *I šmw 11* in the Medinet Habu calendar;<sup>54</sup> therefore, this lunar feast must indicate a lunar calendar. Referring to the 9th, 10th and 11th *mastaba* names, Parker notes that the feast of *3bd* was that of the new crescent moon, and *šmdt* that of the full moon, so Parker assumes that *š3d* was probably also lunar.<sup>55</sup>

Since these were lunar feasts he makes the comment: “There is no other plausible explanation for the sequence *wp rnpt*, *Dḥwtyt* and *tpy rnpt* than the assumption that the latter two also were lunar.”<sup>56</sup> The last feast, the feast of Re (*hb nb r<sup>c</sup> nb*), Parker does not

<sup>50</sup> Ibid., 35. The same list is shown by A.J. Spalinger, “The Private Feast Lists of Ancient Egypt,” *Ägyptologische Abhandlungen* 57 (1996) 110.

<sup>51</sup> Ibid., 36 §180.

<sup>52</sup> Ibid.

<sup>53</sup> Ibid., 36 §179.

<sup>54</sup> Ibid., 36 §179; 39-40 §§203-04. See S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies; Liverpool: University Press, 2000) 128.

<sup>55</sup> Ibid., 36 §179.

<sup>56</sup> Ibid.

refer to, but he says these last four feasts were “monthly feasts celebrated at least twelve times a year.”<sup>57</sup>

Gardiner says in 1955: “Surely the logic of his argument demands that nos. 1–3 should, like nos. 4–8, be interpreted in terms of the civil calendar ... instead ... he attributes to them positions in a wholly imaginary lunar year.”<sup>58</sup>

**Tetley:** Parker writes: “The proposed original lunar calendar fits the chronological order perfectly, and I know of no other explanation.”<sup>59</sup> In order to achieve his “chronological fit” Parker has to remove *wp rnpt* from first place and assign *Dhwtyt* to his lunar intercalary month.

But, *Dhwtyt* is the first month on documents from Deir el-Medina, replacing the former *thy* in earlier calendar depictions, and is known as Thoth in the Greco-Roman calendar where it is a *civil* month-name. All the month-lists previously studied exhibit the same names (taking into account some later changes) and belong to the same civil calendar.

Parker, in all his discussions simply assumes that the civil calendar derived its names from the lunar calendar, but provides no proof. *Thy* or *Dhwtyt* is in first position except in the Ebers calendar where *thy* is in second place directly after *wp rnpt* as in the *mastaba* lists. Twenty-two lists begin with *wp rnpt*, which suggests that the feast gave its name to the first month of a calendar—a calendar that is represented in the first column of the Ebers papyrus.

I conclude that the chronological order of the *mastaba* feasts is not evidence for a lunar calendar.

**Parker: A fixed *w3gy* feast set in the civil calendar on I *3ht* 18 and a moveable *w3gy* feast set in the second month of *smw* in the Middle Kingdom reveals a lunar calendar.**

Parker notes that the festival of *w3g* (or *w3gy*) has two dates in the civil calendar: one fixed on I *3ht* 18 and the other moveable with various dates. He noted the example of a *w3gy* feast on II *smw* 17 in the 18th year of either Sesostri III or Amenemhet III, and assumed that, “this moveable feast fell on a certain day in the first month of the *lunar year*”<sup>60</sup> (emphasis his).

**Tetley:** Parker assumes that because the *w3gy* feast was lunar in origin, it indicated that a lunar calendar existed.<sup>61</sup> The whole subject of the *w3gy* feast and how the days for its moveable feasts were determined is quite complex and will be discussed at length later. Suffice it to say that the presence of lunar phases dated to the *civil* calendar is no proof of a lunar calendar.

**Parker: The temple year consisting of 12 lunar months of priestly service suggests a lunar year.**

A papyrus known as pBerlin 10056 is a temple account from Illahun (12th Dynasty), which records six periods of service of its priests for 12 months.<sup>62</sup> It covers a full year but only alternate months are noted by date. It lists the monthly service of

<sup>57</sup> Ibid., 36 §178.

<sup>58</sup> Gardiner, “Problem of the Month-Names,” 23.

<sup>59</sup> Parker, *Calendars*, 36 §180.

<sup>60</sup> Ibid., 36 §183.

<sup>61</sup> Ibid., 36 §§179, 181-85.

<sup>62</sup> Ibid., 37 §186, 63-64 §318.

phyle-priests starting with the month dated II *šmw* 26 and ending in III *šmw* 25 as shown below.

II *šmw* 26 down to (*nfryt r*) III *šmw* 25  
 IV *šmw* 25 down to regnal year 31, I *3ht* 19  
 Regnal year 31, II *3ht* 20 down to III *3ht* 19  
 IV *3ht* '19 or 18' down to I *prt* 18  
 II *prt* 18 down to III *prt* 17  
 IV *prt* 17 down to I *šmw* 16<sup>63</sup>

Parker writes, "Since a twelve-month period is covered, the suggestion is strong that some sort of lunar year is involved."<sup>64</sup>

Gardiner says in 1955: "If the priests possessed a special lunar calendar of their own, they did not content themselves with using it ... We find them constantly quoting the civil year ... we also have the explicit statement ... that a temple-day was the 1/360th part of the year."<sup>65</sup>

**Tetley:** Referring to pBerlin 10056, Rolf Krauss notes that "The complete account is headed 'Account of earth almonds and honey over the course (?) of a year. List over the course (?) of six months of the temple scribe Hornakhte. Regnal year 31. Offerings from this list.'"<sup>66</sup> From this it appears that the months listed are the alternate months of the year in which Hornakhte was responsible for the almonds and honey for the priests. Thus *nfryt r* means "down to" the next date, which is the date of a new lunar month. Do they represent a lunar *calendar* as asserted by Parker or lunar phases dated by a civil calendar?

The following lunar table is supplied by Lee Casperson, in which the Egyptian calendar begins with the month of Thoth as in the calendar of Greco-Roman times. The dates come from my chronology for Amenemhet III's 30th year in 1938 BCE (which is -1937) continuing into his 31st year (given in the temple account above). The 12 dates given below in the Egyptian calendar (Table 4.5) appear to be dates of new moons falling on the day of conjunction (0 column), except for the two bolded months in the -1 column (equated to January 9 and February 8), indicating that the moon was invisible the day before conjunction (and therefore the actual day of new moon) because the numbers are less than 100. The new moon fell on I *3ht* 19 and II *3ht* 19, not I *3ht* 20 and II *3ht* 20.<sup>67</sup>

**Table 4.5: Amenemhet III, 30th and 31st years (new moon listing from -1937 to -1936)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1937	<b>9</b>	<b>12</b>	-1937	8	26	844	<b>9</b>	<b>26</b>	1	16:53	5:34	297	5:35	173	5:36	<b>53</b>
-1937	<b>10</b>	<b>12</b>	-1937	9	25	844	<b>10</b>	<b>26</b>	3	5:06	6:01	224	6:02	106	6:03	<b>-8</b>
-1937	<b>11</b>	<b>10</b>	-1937	10	24	844	<b>11</b>	<b>25</b>	4	19:39	6:27	284	6:28	163	6:29	<b>51</b>

<sup>63</sup> Ibid., 64 §318.

<sup>64</sup> Ibid., 37 §186.

<sup>65</sup> Gardiner, "Problem of the Month-Names," 24.

<sup>66</sup> R. Krauss, "Egyptian Sirius/Sothic Dates, and the Question of the Sothis-Based Lunar Calendar," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 453.

<sup>67</sup> Please refer to Casperson's tables in chapter 5, pp 81-84, where he provides a complete explanation in the context of his *JNES* articles, showing comparisons between several examples. A clear understanding of "how the tables work" is essential for their interpretation, and for evaluating the validity of this author's chronology throughout the whole scope of this work.



-1937	12	10	-1937	11	23	844	12	25	6	12:27	6:49	227	6:49	108	6:50	9
-1936	1	9	-1937	12	23	845	1	20	1	6:49	6:57	169	6:57	69	6:57	-9
-1936	2	8	-1936	1	22	845	2	20	3	1:14	6:48	130	6:47	53	6:46	-8
-1936	3	8	-1936	2	20	845	3	19	4	18:05	6:27	221	6:26	113	6:25	49
-1936	4	7	-1936	3	21	845	4	19	6	8:23	6:01	188	6:00	100	5:59	40
-1936	5	6	-1936	4	19	845	5	18	7	20:08	5:37	302	5:36	155	5:35	76
-1936	6	5	-1936	5	19	845	6	18	2	5:59	5:15	224	5:14	113	5:14	27
-1936	7	4	-1936	6	17	845	7	17	3	14:49	5:03	300	5:03	158	5:03	51
-1936	8	2	-1936	7	16	845	8	16	4	23:26	5:07	359	5:07	211	5:08	87
-1936	9	1	-1936	8	15	845	9	16	6	8:25	5:25	264	5:26	135	5:27	10
-1936	9	30	-1936	9	13	845	10	15	7	18:17	5:50	316	5:51	187	5:52	60

DoW = day of week; ToD = time of day.

The exactitude of the phyle list, if planned in advance, with the actual new moon observations, is remarkable. Only two dates in the table differ *from the temple account* by a day, remembering that the Egyptian civil months and days are reconstructed by modern computers. The one-day difference in these dates may be due to the minor variations between the expected new moon and the actual, but are chronologically insignificant. The dates for the priests are fully explicable as dates for new moons on which they began their period of service dated to the *civil* calendar known from Greco-Roman times. I conclude that lunar dates in a civil calendar are not evidence for a lunar calendar.

#### **Parker. The Ebers calendar is not a Sothic or fixed year but a lunar year.**

Parker reasoned that because the second column of the Ebers calendar had civil-month designations, the first column could not also be civil, so therefore it must be either lunar or Sothic.<sup>68</sup> The Sothic year was the idea, argued by scholars who preceded Parker, that the Ebers calendar showed evidence of a Sothic or fixed year that kept the natural seasons in step with the civil year by the addition of a sixth epagomenal day every fourth year.<sup>69</sup> Since there is no evidence of this happening until the failed Decree of Canopus in 238 BCE, Parker eliminated the Sothic calendar, and thus was left with the lunar calendar.<sup>70</sup>

He viewed the Ebers calendar as “a table of concordance between the original lunar calendar and the civil year.”<sup>71</sup> However, the presence of *wp rnpt* as the first month of the year had to be explained when all other month-lists placed *wp rnpt* in 12th position. He cited evidence from the tomb of Senmut, the Geographical Papyrus from Tanis, the Necho water clock, and three partly-parallel texts from Edfu (a, b, and c).<sup>72</sup> Texts (a) and (c) refer to “day 18 of the 4th month of *šmw*,” whereas the parallel text (b) refers to “day 18 of *wp rnpt*,” showing clearly that the fourth month is *wp rnpt*. Having asserted that the correct place for *wp rnpt* is the 12th month, he went on to explain why *wp rnpt* is in first place in the Ebers calendar, saying:

The explanation is not complicated. The event which regulated the original lunar calendar was the rising of Sothis, called *wp rnpt*. The date of this event would, then, correctly go at the head of a calendar governed by it. But this event also gave its name to the last month of the year. In the first column of the Ebers calendar, therefore, the last month of the year appears at the head of the months merely because its eponymous feast determined the following year. The correct interpretation of the second line of the calendar seems to me to be that the date III *šmw* 9 is common both to the going forth of

<sup>68</sup> The Ebers calendar is depicted at chap. 3, pp. 50ff. and see chapter 9.

<sup>69</sup> Parker, 38-39 §§193-196.

<sup>70</sup> *Ibid.*, 37-38 §§191-193.

<sup>71</sup> *Ibid.*, 41 §211.

<sup>72</sup> *Ibid.*, 41-42 §§212-17. The Edfu texts are referred to again below on pp. 24-28.

Sothis and to the beginning of the lunar month *wp rnpt*. From this date as a starting point was projected a schematic lunar calendar of full months of 30 days.<sup>73</sup>

**Tetley:** Because Parker assumed only two possible types of calendar for the first column of the Ebers calendar—fixed Sothic or lunar<sup>74</sup>—he did not recognize the possibility that the first column of the Ebers calendar could be some other sort of calendar with names corresponding to the civil-month designations in the second column. As discussed in chapter 3 (p. 50ff.), Spalinger proposed that the first column of the Ebers calendar consists of civil not lunar months, and the month-lists (like those from the tomb of Senmut) cited by Parker as lunar (see next section), Spalinger attributes to a civil calendar. If all the month-lists are civil, they cannot be evidence for Parker’s original lunar calendar. We also noted that the identification of *wp rnpt* with the rising of *Sothis* is a late, not early, phenomenon.

I conclude that the first column of the Ebers papyrus is not evidence of a lunar calendar.

**Parker: The astronomical ceiling in the tomb of Senmut is a depiction of a lunar calendar.**

The astronomical ceiling of the tomb of the vizier Senmut is shown in chapter 6, page 88. It is dated to the time of Hatshepsut of the 18th Dynasty. Parker notes that the names of the months above the 12 circles are the same as those on the first column of the Ebers calendar, which he has determined are lunar. He writes: “The circles represent the eponymous monthly feasts of the original lunar calendar, with the twenty-four segments each an hour of the feast day. The *thy* feast is here correctly in the first place and *wp rnpt* in the last.”<sup>75</sup> He goes on, “It cannot be argued that the circles represent the civil months and the civil year. Not only does the Ebers calendar speak against that, but the clearest possible evidence that we are here concerned with a lunar calendar is the fact that the deities below the circles are deities of the lunar month.”<sup>76</sup>

Of the 15 deities, Parker identifies 11 as gods representing days of the *lunar* months by comparing them with Greco-Roman lists. Considering that the latter are a thousand years later than the Senmut ceiling, Parker says of the deities, “The fact that four out of fifteen are unidentified is not enough to outweigh the strong presumption that they also are earlier lunar day deities who have been supplanted.”<sup>77</sup>

Gardiner notes in 1955, that like the Ramesseum, the Senmut tomb ceiling has *thy* as the first month and *wp rnpt* “paradoxically stands as the last.”<sup>78</sup> He cannot agree with Parker that the ceiling is lunar in character.<sup>79</sup>

**Tetley:** In later discussion the calendar portrayed by the 12 circles in Senmut’s tomb, compared with other presentations of the same or similar month-names with their respective deities as established by Spalinger, are all civil.<sup>80</sup> The Senmut tomb ceiling is not evidence of a lunar calendar.

<sup>73</sup> Ibid., 42 §218.

<sup>74</sup> Ibid., 37 §191, 38 §193.

<sup>75</sup> Ibid., 42 §221.

<sup>76</sup> Ibid., 42 §222.

<sup>77</sup> Ibid., 42-43 §§220-23.

<sup>78</sup> Gardiner, “Problem of the Month-Names,” 25.

<sup>79</sup> Ibid., 25.

<sup>80</sup> See A.J. Spalinger, “Month Representations,” *Cd’É 70* (1995) 110-122, esp. 119.

**Parker: The astronomical ceiling in the Ramesseum is a depiction of a lunar calendar.**<sup>81</sup>

Parker notes that elements in the Senmut tomb ceiling are also present in the Ramesseum ceiling, though somewhat different in form. Concerning the lowest panel he notes that eight of the 12 names are also found on the Senmut circles, so that “the identification is certain.”<sup>82</sup> Significant for Parker is the central blank strip in the upper panel that is directly above the cynocephalus (baboon) on the *Djed* pillar in the lower panel, the symbol for Thoth. Parker is convinced that this represents, “the intercalary thirteenth month of the original lunar calendar with its eponymous deity, *Dhwty*, whose feast, *Dhwtyt*, occurred in it.”<sup>83</sup> Since the civil calendar does not have a 13th intercalary month, this section seems to Parker to settle the question that an original lunar calendar was depicted, “a more convincing representation is difficult to imagine.”<sup>84</sup>

Gardiner, in 1955, sees the cynocephalus, not as an intercalary month of a lunar year, but the five epagomenal days of the civil year. He writes, “I need hardly repeat that I regard such an intercalary month as pure fantasy, and that I cannot admit the ceilings of Senenmut and the Ramesseum as being lunar in character in his [Parker's] sense of the word.”<sup>85</sup>

**Tetley:** The Ramesseum ceiling depiction and its copy at Medinet Habu has been determined by Spalinger to be that of a civil calendar. He does not recognize the cynocephalus as Parker's intercalary month, or as the five epagomenal days proposed by Gardiner. Rather, he writes, “The Thoth symbol performs its duty as year closer and year opener ... Is not Thoth the god associated with months—hence, with the year?”<sup>86</sup>

I conclude that the Ramesseum ceiling is not evidence of a lunar calendar.

**Parker: The names of the civil months show an original lunar calendar.**

Parker understood that lunar months had names and these were derived from festivals held in each month. After the civil calendar was introduced, the month-names were transferred from the lunar calendar, with newer festivals and month-names giving way to more popular ones, so that right down to Ptolemaic times, the lunar month-names were represented in the civil calendar.<sup>87</sup>

Table 4.6 is from *Calendars*<sup>88</sup> showing in column 1 the numerical designations of the months, recognized by Parker as lunar. Column 2 shows the presumed lunar calendar month-names beginning with Parker's intercalary month identified as *Dhwtyt* (Djehuty). For the 12th lunar month he gives two names, *wp rmpt* and *R<sup>c</sup>-hr-3hty*. In the third column are the names for the early civil calendar (supposedly transferred from the lunar calendar), with three names for the 12th month, followed in the fourth column by their late Greco-Roman names.

<sup>81</sup> Depicted in chapter 6.

<sup>82</sup> Parker, *Calendars*, 43 §224.

<sup>83</sup> *Ibid.*, 43 §224.

<sup>84</sup> *Ibid.*, 43 §225.

<sup>85</sup> Gardiner, “Problem of the Month-Names,” 25.

<sup>86</sup> Spalinger, “Month Representations,” 110-22, esp. 115-17.

<sup>87</sup> Parker, *Calendars*, 43 §226, 45-46 §230.

<sup>88</sup> *Ibid.*, 45 §230.

**Table 4.6: Parker’s original lunar and civil calendars**

Lunar calendar month-names		Civil calendar month-names	
		Early	Late
Intercalary	Dḥwtyt		
I 3ḥt	ṯhy	Dḥwty	Thoth
II 3ḥt	Mnḥt	p-n ṽlpt	Phaophi
III 3ḥt	Ht-hr	Ht-hr	Hathor
IV 3ḥt	k3 ḥr k3	k3 ḥr k3	Choiak
I prt	šf bdt	t3 °3bt	Tybi
II prt	rkh-wr	p-n mḥr	Mechir
III prt	rkh nds	p-n ṽImnḥtp	Phamenoth
IV prt	Rnwtt	p-n Rnwtt	Pharmouthi
I šmw	Ḥnsw	p-n Ḥnsw	Pachons
II šmw	Ḥnt-ḥty	p-n int	Payni
III šmw	ṽlpt ḥmt	ipip	Epiphi
IV šmw	wp rnpt R°-ḥr-3ḥty	(mswt R°-ḥr-3ḥty) <sup>89</sup> wp rnpt, p3 šmt n Ḥi <sup>90</sup>	Mesore

Parker notes that there are four months in his second lunar column that are the same as four months in the third civil column: *Ht-ḥr*, *k3 ḥr k3*, *Rnwtt*, and *Ḥnsw*. He writes, “This, to my mind, is a clear-cut indication that at some earlier time, nearer the date of origin of the civil calendar, all the months of the civil year had borrowed their popular names from the lunar year.”<sup>91</sup>

Having assumed that he has provided evidence of an original lunar calendar in the month-names, Parker then seeks further support for its existence by appealing to the lunar nature of the deities on the frieze of the temple of Edfu. Near the end of the second half of the frieze, 12 deities are inscribed along with their month designations (I 3ḥt, II 3ḥt, etc.) and the individual names of the months they represent (for example, the deity of I 3ḥt is named *ṯhy*). Preceding the 12 deities, the frieze depicts 30 more deities with their names, which Parker assumes to be the deities of a 30-day *lunar* month, because, preceding the 30 deities are a further 14 deities, which Parker assumes to be those representing the waxing moon, coming before 14 steps on top of which is the *wḏ3t*-eye, the symbol for the day of the full moon.<sup>92</sup> Parker reasons that the 14 + 30 deities are lunar; therefore, the 12 that follow representing the month designations must be lunar too. Spalinger later argued, in contradiction to Parker, that the Edfu frieze depicts months of a *civil* calendar. He observes, “Not merely at Edfu but likewise earlier in the New Kingdom no specific lunar calendar can be found.”<sup>93</sup>

Seeking to find further evidence for the *lunar structure* of the calendar Parker sought to confirm that the rising of Sothis coincided with the seasons beginning in the *12th month* of the year, which would then indicate that the lunar calendar regulated the seasons. He assumed that the Two Lands were united in 3100 BCE, and at that time Sothis rose heliacally about June 20 (Greg.).

The four winter months of *prt*, that is, *šf bdt*, the “swelling of the emmer,” the two *rkh* or “fire” months, and *rnwtt* or harvest, coincided with the winter solstice, thus a year began approximately six months earlier at the time of the summer solstice when the

<sup>89</sup> Parker notes, “This is not yet attested as a month name in the 20th Dynasty,” (*Calendars*, 45 §230 Table 7).

<sup>90</sup> “The going forth of Horus” comes from oBM 29560 formerly 5639a, which we discussed earlier, in which this name is found ahead of the others in the text. It is unclear whether this is a month-name or a feast name. See on p. 57, example (8), above.

<sup>91</sup> Parker, *Calendars*, 45 §230.

<sup>92</sup> See the extended frieze on pl. 4 and 5 of Parker, *Calendars*.

<sup>93</sup> Spalinger, “Month Representations,” 119.

heliacal rising of Sothis was assumed to take place.<sup>94</sup> Believing that *wꜣ rnpt*'s primary meaning was the heliacal rising of Sothis, which he alleges took place in the last month, and noting too, Gardiner's belief that *wꜣ rnpt* was a solar feast, and that Re the sun-god, "in his first act of rising, opened the succession of months and years, as the originator of which he is so often eulogized,"<sup>95</sup> Parker combined the two events to give them their primary application.

He reasoned, "To the ancient Egyptians who used a lunar year based on the rising of Sothis, any other day than that one for the creation of the universe would have been unthinkable, for that event determined the months and the seasons in their proper succession."<sup>96</sup>

The result of this coincidence was one month having two names. "So easily also, when the one term "*wꜣ rnpt* was taken over and applied to the first day of the civil year, could the second term *mswt R<sup>c</sup>* have been taken along with it and applied to the same day."<sup>97</sup> Spalinger amplifies, "In other words, as Sothis heliacally rose and inaugurated a new year, the sun god Re also rose and equally commenced the new year."<sup>98</sup>

Gardiner, in 1955, adds nothing to this argument since he doesn't believe in Parker's lunar calendar.

**Tetley:** Firstly, the month-names Parker assigns to the lunar calendar (*thy*, *mnht*, *ht-hr*, etc.) are the same as the months determined by Spalinger to be civil—apart from Parker's gratuitous inclusion of *Dhwtyt* as the intercalary month at the beginning of the list. Parker says that alternative month-names in the civil calendar are due to newer names replacing older ones, and that in the Ptolemaic period archaizing tendencies meant that older names were once more, "taken over from the lunar months."<sup>99</sup>

Furthermore, he conjectures that the month-names of his *later lunar* calendar, "were the ones borne by the civil months, and not those of the original lunar calendar."<sup>100</sup> In other words, he cannot differentiate his later lunar calendar month-names from the civil calendar month-names because they are the same, and the civil calendar month-names were themselves taken over from the (alleged) *original* lunar calendar month-names, some of which were replaced with later names.

This infers that over the entire span of ancient Egyptian history only one list of month-names (with some replacements) is known, so that the existence of an original *lunar* calendar is *not* demonstrated by the fact that all the month-names come from one set. They could all be civil coming from a civil prototype, or from some other calendar. Spalinger has stated that "We do not have the names of the original lunar calendar; we have to derive those designations from later material."<sup>101</sup> Further on he writes, "The Egyptian civil calendar reveals the original lunar calendar through the names of its months. A few month-names changed after the early third millennium BC, but that had to do with historical causes over centuries, and not with the invention [of *sic*] a third calendar"<sup>102</sup> ("third calendar" means the later lunar calendar). So what evidence is there

<sup>94</sup> Parker, *Calendars*, 46 §§232-34.

<sup>95</sup> *Ibid.*, 47 §236.

<sup>96</sup> *Ibid.*, 47 §237.

<sup>97</sup> *Ibid.*

<sup>98</sup> Spalinger, "Wꜣ rnpt in the Esna Festival Calendar," *Three Studies*, 54.

<sup>99</sup> Parker, *Calendars*, 45-6 §§230-31.

<sup>100</sup> *Ibid.*, 46 §231.

<sup>101</sup> A.J. Spalinger, "Ancient Egyptian Calendars: How Many Were There?" *JARCE* 39 (2002) 243.

<sup>102</sup> *Ibid.*, 249.

that the month-names in the civil calendar came from a lunar calendar? None whatsoever.

Though Spalinger does not agree with Parker's hypothesis of a later lunar calendar, he follows Parker in assuming that the original calendar can be found in the civil month-names because he sees the need for Parker's original lunar calendar to explain the anomaly of festivals being held out of their eponymous months in the Greco-Roman calendar. He accepts Parker's hypothesis that there was a transfer of lunar festivals and month-names from the original lunar to the civil calendar because he sees this as the answer to festivals being held out of their eponymous months.<sup>103</sup> But there is no evidence that the month-names were transferred from a lunar calendar, or even the existence of a lunar calendar.

Secondly, Parker's argument that the seasonal structure of the calendar is evidence for a lunar calendar is based on his own hypothesis that the primary meaning of *wp rnpt* was the rising of Sothis which gave its name to the 12th month of the year, and that this happened on June 20 in ca. 1300 BCE. Since the meaning of *wp rnpt* is the "opener of the year," and not the rising of Sothis (*prt spdt*) the equivalence is highly suspect.

Spalinger points out that any equation between *wp rnpt* and *prt spdt* comes only from the late period. Furthermore, it is the date of the annual rising of Sothis that has been used to fix New Year's Day in the solar year at the beginning of a seasonal cycle, not the alleged lunar calendar with the rising of Sothis in its 12th month. Spalinger discusses the agricultural orientation of the names of the months (citing Gardiner<sup>104</sup>), and sees at least three or four epochs in the civil calendar: ecological-agricultural, Sothic, solar, and the rebirth of agriculture.<sup>105</sup> He also speculates that there might have been "a whole series of local years in the Nile Valley."<sup>106</sup> So Parker's "seasonal structure argument" has no actual basis.

Parker presupposes a lunar calendar, for which he is actually trying to find evidence. He does not establish the lunar origin of the month-names or that the names of the civil months were transferred from a lunar calendar. Civil month-names are not evidence of a lunar calendar.

The above arguments for the alleged lunar calendar were discussed by Parker in 1950. I return to the controversy with Gardiner in chapter 7. But to continue with Parker's hypothesis: How does the *assumption* of an original lunar calendar contribute to Parker's understanding of the civil calendar—the second of his three calendars?

### Parker's Civil Calendar

Parker's idea of the introduction of a civil calendar arises from his belief in an earlier original lunar calendar. He assumes the civil calendar was introduced when the alleged lunar calendar, which inserted an intercalary 13th month every three (or two) years to keep the rising of Sothis in the 12th month, became a disadvantage to "a well organized kingdom."<sup>107</sup> This new, schematic calendar had three seasons of four months each, with 30 days to a month, and five additional days. Parker notes that the circumstances of the introduction of the civil calendar are not known, though he hazards

<sup>103</sup> Idem, "Notes on the Ancient Egyptian Calendars," *Orientalia* 64 (1995) 20, 24-25; idem, "From Esna to Ebers: An Attempt at Calendrical Archaeology," *Studies in Honor of William Kelly Simpson*, Vol. 2 (Boston: Museum of Fine Arts, 1996) 757; idem, "Ancient Egyptian Calendars," 250.

<sup>104</sup> A.H. Gardiner, "Review of J.G. Frazer, 'The Golden Bough: Adonis, Attis, Osiris; Studies in the History of Oriental Religion,'" *JEA* 2 (1915) 125; cited by Spalinger in "Ancient Egyptian Calendars," 27.

<sup>105</sup> Spalinger, "Ancient Egyptian Calendars," 27-28.

<sup>106</sup> *Ibid.*, 30.

<sup>107</sup> Parker, *Calendars*, 53 §265.

a guess that it was ca. 2937 and 2821 because he calculates that the rising of Sothis, which had come to be recognized as its first day, took place ca. 2773 BCE.<sup>108</sup>

The old lunar year was not abandoned but ran concurrently with the new civil calendar and in accord with it as far as possible. It was not tied to Sothis at first but to some variable event, which disguised the fact that the two calendars were not actually synchronized to each other.<sup>109</sup>

After time had passed, the ancient Egyptians realized that the lunar calendar and the civil calendar were no longer in complete agreement due to the shift forward of the civil year. Parker emphasizes that there is no evidence of adjustment or tampering of the civil calendar to bring it into agreement with the lunar year.<sup>110</sup> To remedy the separation of the hypothetical original lunar calendar from the introduced civil calendar, Parker hypothesized a *later* lunar calendar.

### **Parker's Later Lunar Calendar**

Parker proposed the creation of a special lunar year “whose sole purpose would be to provide the civil year the same sort of dualistic setup which had obtained when the civil year was first inaugurated ... In this fashion the original lunar calendar would continue on independently as before, while the later lunar calendar and the civil calendar, the dual year, would be free to progress forward through the seasons.”<sup>111</sup>

He assumed that this later lunar year took its names from the civil year because they were both components of the dual year.<sup>112</sup> He hypothesized that the presence of several lists of 59 divinities having decanal names and representations found in the late temples of Dendera, Edfu, and Esna, were evidence of the dual year.<sup>113</sup> He asserted that 48 of the divinities represented the 12 months of the normal lunar year and the remaining 11 were the difference between the 354 days and the 365 days of the civil year.<sup>114</sup> He concludes, “Could the essential duality of the year be more graphically portrayed?”<sup>115</sup>

Spalinger, who is critical of Parker's later lunar calendar, observed that the 59 divinities, “need not, on an *a priori* basis, support the existence of the hypothesized second lunar calendar but rather reflect upon the first lunar system.”<sup>116</sup> In what way the divinities reflected upon the (alleged) first lunar system is not stated.

Parker used the original and later lunar calendars and the civil calendar to provide an alternative explanation to Gardiner's hypothesis that two civil calendars accounted for festivals being held out of their eponymous months in the Greco-Roman calendar.

In sum, Parker sought to connect the later lunar calendar to the schematic 25-year lunar cycle shown on papyrus Carlsberg 9. He thought that a later lunar calendar that kept in step with the civil calendar was behind the 25-year cycle of new moon dates.

Our analysis has shown that lunar phases were always dated by the civil calendar, and there is no evidence that the 25-year cycle of Carlsberg 9 was based on a lunar calendar with seasons and month-names, whether original or later.

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<sup>108</sup> Ibid., 53 §§265-68.

<sup>109</sup> Ibid., 52-54 §§260-71.

<sup>110</sup> Ibid., 54 §270.

<sup>111</sup> Ibid., 54 §271, 56 §281; see also, idem, “Calendars and Chronology,” 18-19; J. von Beckerath explains that the later lunar calendar did not depend on the going up of Sothis but began with the first new moon after the first day of the civil calendar; thus, it was not tied to the natural year but to the civil calendar (“Der ägyptische Mondkalender und seine Schaltregulierung,” *GM* 47 [1981]).

<sup>112</sup> Parker, *Calendars*, 56 §281.

<sup>113</sup> Ibid., 55 §274.

<sup>114</sup> Ibid., 55-56 §§273-80.

<sup>115</sup> Ibid., 56 §280.

<sup>116</sup> Spalinger, “Thoth and the Calendars,” 48.

Despite Parker's assertions that he found evidence for a lunar calendar, our scrutiny provides not a scrap of proof for the existence of either an original lunar or a later lunar calendar. All his arguments have lacked substance, even though he says that the lunar calendar "has met every test that can be brought against it at this time ... Since the original lunar calendar must then be counted a certainty, we are confronted with the situation that in the later period there were three calendars in use."<sup>117</sup> In a chapter of a book written in 1971, he reaffirmed his belief in his three calendars "which continued in use to the very end of pagan Egypt."<sup>118</sup>

Only at the end of his *Calendars* does Parker finally interact with Gardiner's evidence for feasts being held out of their eponymous months written 44 years previously. Having already asserted his belief in the lunar, civil, and later lunar calendars, he then sought to provide from them an answer to this enigma, which I am about to explore further.

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<sup>117</sup> Parker, *Calendars*, 50 §§252-53.

<sup>118</sup> Idem, "Calendars and Chronology," 18.



## Chapter 5

### Dating by Lunar Months and Phases

Richard Parker and others espoused Egyptian chronology based on lunar calendars, in opposition to Alan Gardiner. Further exposition of that controversy will permit an assessment of Parker's views. A reasoned evaluation, and dismissal, of Parker's school of thought will consolidate the correct approach to reconstructing ancient Egyptian chronology.

But it is also important, while dismissing a lunar "calendar," not to dismiss the function and importance of lunar observations, months, and phases in the Egyptian view of their world and its times. References to lunar phases abound. And they can provide *crucial validation for confirming any attempted reconstruction of Egypt's chronology*, as I shall show. That does not mean that the chronology of Egypt was predicated on a lunar calendar. This chapter expands on the use of Lee Casperson's tables.

#### Lunar Months

The ancient Egyptians observed the Moon's orbit around the Earth with a day or so of invisibility prior to the reappearance of the first crescent, increasing to full moon about 15 days later, and then diminishing to its final crescent again, before the rotation began anew.<sup>1</sup>

A complete orbit of the Moon around the Earth is 27.3 days (a sidereal month), but because the Earth is also moving in the same direction as the Moon, the Moon takes on average two days longer so that 29.530589 days elapse to reach the point at which it began its orbit (a synodic month). The latter is the month used in lunar calculations.

Lunar months dated from conjunction to conjunction (when the Sun, Earth, and Moon are in a line and the Moon is not visible from the Earth) take 29 or 30 days depending on the Moon's proximity to the Earth. The closer to the Earth, the faster the Moon travels, resulting in a 29-day lunar month, and the farther the Moon is from the Earth the slower it moves, resulting in a 30-day month.<sup>2</sup>

The time between one new moon and the next can vary between 29.2679 and 29.8376 days, but never 28 or 31 days.<sup>3</sup> Twelve lunar months consisting of 29 or 30 days each, amount to only 354 days, whereas the Egyptian civil year of 12 months of 30 days plus 5 epagomenal days amounts to 365 days. Twelve lunar months do not fit

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<sup>1</sup> See R.A. Parker, *The Calendars of Ancient Egypt* (SAOC 26; Chicago, IL: Oriental Institute of the University of Chicago, 1950) 1-6 §§1-19 for a full discussion on the moon and crescent visibility.

<sup>2</sup> *Ibid.*, 2 §7, 6 §18; R.A. Wells, "Re and the Calendars," *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 2, 15; *idem*, "The Role of Astronomical Techniques in Ancient Egyptian Chronology: The Use of Lunar Month Lengths in Absolute Dating," *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; Alter Orient and Altes Testament 297; Münster: Ugarit, 2002) 459.

<sup>3</sup> A.J. Spalinger, "Ancient Egyptian Calendars: How Many Were There?" *JARCE* 39 (2002) 247, citing B.E. Schaefer, "The Length of the Lunar Month," *Archaeoastronomy* 17 (supplement to *Journal for the History of Astronomy* 23 [1992]) 32.

comfortably into the length of a solar year being 11 days too short. Thirteen months give 384 days, being 19 days too long.<sup>4</sup>

### What did Egyptians regard as the Beginning of a New Lunar Month?

Considerable discussion has taken place in the past regarding when the Egyptians began their lunar month.<sup>5</sup> A consensus of opinion now endorses Parker's conclusion that a new moon in ancient Egypt was reckoned to have occurred "on the morning of the day when the old crescent of the new moon was no longer visible in the eastern sky before sunrise."<sup>6</sup> The last appearance of the old crescent was a startling phenomenon occurring only a few hours before the sun itself rose near the same spot on the horizon.<sup>7</sup> The following dawn, when the Moon was actually *invisible* due to its proximity to the sun, was the day of a new moon, often the day of conjunction, and was recognized by the Egyptians as the first day of the new lunar month. The new moon also occurs but less often on the day preceding conjunction, and rarely on the day after conjunction.<sup>8</sup>

The Egyptian term for a new moon is *ps̄dntyw*. The full moon occurs on average about 15 days after the new moon, but it may vary from 13.73 to 15.80 days after conjunction.<sup>9</sup> Egyptian festivals were often held on the day of the new moon or within several days of its reckoning, and others were held to coincide on or near the full moon, such as the installation of the Apis bull at Memphis.

### Dating by Lunar Phases

Leaving aside the important issue as to whether the ancients used a lunar *calendar* with seasons and month-names, and an intercalary month when needed to keep the rising of Sothis in the 12th month, we now consider how lunar *phases* can be used in the reconstruction of Egyptian chronology.

Records of some of these festivals, dated to the civil calendar and tied to a specific regnal year of a king, have survived and make an important contribution to resolving Egyptian chronology. About 40 new moon dates come from the reigns of Sesostri III and Amenemhet III of the 12th Dynasty, and 40–50 other lunar dates that can be tied to new moons or full moons are found scattered in the 5th–26th Dynasties. These include the famous new moons of Thutmose III's 23rd year dated to I *šmw* 20 and his 24th year dated to II *pṛt* 30, and Ramesses II's 52nd year dated to II *pṛt* 27. A few dates come from the Ptolemaic period too, and we shall consider all these in context.

### Carlsberg 9 Papyrus

Egyptians of the fourth century BCE possessed a table whereby they could reckon the date of every new moon in a 25-year cycle. This cycle table appears on a section of the Carlsberg 9 Papyrus and shows the civil dates on which a new moon fell on each month of a 25-year cycle timed to start when the first month began with a new moon on I *3ḥt* 1<sup>10</sup> (see Table 5.1).

<sup>4</sup> See also, Wells, "Re and the Calendars," 2, 15; idem, "Role of Astronomical Techniques," 459.

<sup>5</sup> See, e.g., R. Krauss, "Lunar Days, Lunar Months, and the Question of the Civil based Lunar Calendar," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 387-88.

<sup>6</sup> Parker, *Calendars*, 9 §25; see idem, "The Beginning of the Lunar Month in Ancient Egypt," *JNES* 29 No. 4 (1970) 217-20.

<sup>7</sup> Wells, "Re and the Calendars," 15, 33 n. 39.

<sup>8</sup> Parker, *Calendars*, 9-23 §§25-108.

<sup>9</sup> *Ibid.*, 6 §19.

<sup>10</sup> *Ibid.*, 15. For the background to the Carlsberg 9 papyrus, see L. Depuydt, "The Demotic Mathematical Astronomical Papyrus Carlsberg 9 Reinterpreted," *Egyptian Religion: The Last Thousand Years. Studies*

**Table 5.1: The 25-year cycles of the Carlsberg 9 Papyrus**

Year	<i>3ht</i>				<i>prt</i>				<i>šmw</i>			
	Months				Months				Months			
	I	II	III	IV	I	II	III	IV	I	II	III	IV
1		1		30		29		28		27		26
2		20		19		18		17		16		15
3		9		8		7		6		5		4
4		28		27		26		25		24		23
5		18		17		16		15		14		13
6		7		6		5		4		3		2
7		26		25		24		23		22		21
8		15		14		13		12		11		10
9		4		3		2		1		30		29
10		24		23		22		21		20		19
11		13		12		11		10		9		8
12		2		1		30		29		28		27
13		21		20		19		18		17		16
14		10		9		8		7		6		5
15		30		29		28		27		26		25
16		19		18		17		16		15		14
17		8		7		6		5		4		3
18		27		26		25		24		23		22
19		16		15		14		13		12		11
20		6		5		4		3		2		1
21		25		24		23		22		21		20
22		14		13		12		11		10		9
23		3		2		1		30		29		28
24		22		21		20		19		18		17
25		12		11		10		9		8		7

When Parker analyzed the information given in Papyrus Carlsberg 9 for the table of new moon dates, it seemed to him to give only the even months of each season: II & IV *3ht*, II and IV *prt*, II and IV *šmw*. He *calculated* the dates for the uneven months and the epagomenal days.<sup>11</sup> Sometimes he gives the same date on three consecutive months, followed by one date on one month before moving on to the next date for the next two or three months.<sup>12</sup> However, Depuydt's recent translation of the papyrus led him to understand that each of the dates given apply to both the *odd- and even-numbered* months; that is, each consecutive odd and even month has the same date for the new moon.<sup>13</sup> The outcome of this interpretation is that there are no changes in the dates for the first six months (I to IV *3ht*; then I to II *prt*), nor for the remaining even-numbered months, (IV *prt*, II *šmw* and IV *šmw*),<sup>14</sup> but the days of III *prt* and III *šmw* are all one day earlier in Depuydt's table (Table 5.2) than in the table reconstructed by Parker (Table 5.1).<sup>15</sup> Compare Parker's table above and Depuydt's table below. It is presumed by both scholars to be a schematic table produced to fit 309 lunar months into a period of 25

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*Dedicated to the Memory of Jan Quaegebeur, Part 2* (Orientalia Lovaniensa Analecta 85; Leuven: Peeters, 1998) 1277-79.

<sup>11</sup> See full discussion in Parker, *Calendars*, 13-17 §§49-64, 24-29 §§109-141.

<sup>12</sup> *Ibid.*, 25 §119 Table 5.

<sup>13</sup> Depuydt, "Demotic Mathematical," 1277-97.

<sup>14</sup> On four occasions it is not certain whether day 30 or day 1 should be supplied. Depuydt marks with an X 30 and Parker with 1-30. The places are III *3ht* Year 1 (of cycle), I *šmw* Year 9, I *prt* Year 12, III *prt* Year 23.

<sup>15</sup> See Macedonian table compared with Parker's table: A. Jones, "On the Reconstructed Macedonian and Egyptian Lunar Calendar," *Zeitschrift für Papyrologie und Epigraphik* 119 (1997): 157-66. (From website: Uni-Koeln.de/phil-fak/ifa/zpe/downloads/1997/119pdf/119157pdf)

years, rather than one of observation.<sup>16</sup>

Leo Depuydt explains the synchronization between the lunar and civil years over a 25-year period:

It is a fact of nature that 309 lunar months, each on average counting about 29.53059 days, with the shortest being 29.26 days long and the longest 29.80 days, are about as long as 25 Egyptian civil years of 365 days. The former count 9124.95231 days ( $309 \times 29.53059$ ); the latter exactly 9125 days ( $25 \times 365$ ). Or, the former is on average about an hour shorter than the latter. For example, if, in a given Egyptian civil year, the conjunction of sun, moon, and earth occurs at 5:00PM on I 3 $\dot{h}t$  1, that is, New Year's Day, then 25 civil years of 365 days later, it will, on average, occur at about 4.00PM of I 3 $\dot{h}t$  1. After about 500 years, the difference between 309 lunar months and 25 civil years will add up to a day.<sup>17</sup>

Parker provided the date of 357 BC for the first year of the table.<sup>18</sup> He and Leo Depuydt think the papyrus itself dates to about 144 CE.<sup>19</sup> Depuydt's table is presented below (Table 5.2) in all but the first column, in which I have inserted the years for the period.<sup>20</sup>

**Table 5.2: New moon days in a recurring 25-year cycle (Cy yr) dated to the Julian Calendar (Jul.) 4th century BCE reconstructed from the Carlsberg 9 Papyrus**

Jul. yrs recurring	Cycle yr	3 $\dot{h}t$				prt				šmw				epag
		I	II	III	IV	I	II	III	IV	I	II	III	IV	
382/57/32/07	1	1	1/X	30	30	29	29	28	28	27	27	26	26	
381/56/31/06	2	20	20	19	19	18	18	17	17	16	16	15	15	
380/55/30/05	3	9	9	8	8	7	7	6	6	5	5	4	4	(4)
379/54/29/04	4	28	28	27	27	26	26	25	25	24	24	23	23	
378/53/28/03	5	18	18	17	17	16	16	15	15	14	14	13	13	
377/52/27/02	6	7	7	6	6	5	5	4	4	3	3	2	2	(2)
376/51/26/01	7	26	26	25	25	24	24	23	23	22	22	21	21	
375/50/25/00	8	15	15	14	14	13	13	12	12	11	11	10	10	
374/49/24/99	9	4	4	3	3	2	2	1	1/X	30	30	29	29	
373/48/23/98	10	24	24	23	23	22	22	21	21	20	20	19	19	
372/47/22/97	11	13	13	12	12	11	11	10	10	9	9	8	8	
371/46/21/96	12	2	2	1	1/X	30	30	29	29	28	28	27	27	
370/45/20/95	13	21	21	20	20	19	19	18	18	17	17	16	16	
369/44/19/94	14	10	10	9	9	8	8	7	7	6	6	5	5	(5)
368/43/18/93	15	30	30	29	29	28	28	27	27	26	26	25	25	
367/42/17/92	16	19	19	18	18	17	17	16	16	15	15	14	14	
366/41/16/91	17	8	8	7	7	6	6	5	5	4	4	3	3	(3)
365/40/15/90	18	27	27	26	26	25	25	24	24	23	23	22	22	
364/39/14/89	19	16	16	15	15	14	14	13	13	12	12	11	11	
363/38/13/88	20	6	6	5	5	4	4	3	3	2	2	1	1	(1)
362/37/12/87	21	25	25	24	24	23	23	22	22	21	21	20	20	
361/36/11/86	22	14	14	13	13	12	12	11	11	10	10	9	9	
360/35/10/85	23	3	3	2	2	1	1/X	30	30	29	29	28	28	
359/34/09/84	24	22	22	21	21	20	20	19	19	18	18	17	17	
358/33/08/83	25	12	12	11	11	10	10	9	9	8	8	7	7	

epag = epagomenal.

<sup>16</sup> Parker, *Calendars*, 24 §111; L. Depuydt, *Civil Calendar and Lunar Calendar in Ancient Egypt* (Orientalis Lovaniensia Analecta 77; Leuven: Peeters, 1997) 200; idem, "Demotic Mathematical," 1292.

<sup>17</sup> Depuydt, *Civil Calendar*, 151-52; similarly, idem, "Demotic Mathematical," 1281-82.

<sup>18</sup> Parker, *Calendars*, 25 §120.

<sup>19</sup> Ibid., 13-17 §§49-64; Depuydt, "Demotic Mathematical," 1279.

<sup>20</sup> Depuydt, "Demotic Mathematical," 1292.

In the first column, each of the 25 rows contains digits for four years, 25 years apart, applied to the 4th century BCE with dates ending in 382/357/332/307.

In order to convert an Egyptian new moon date to a Julian date from the table above, one finds the Egyptian date and then the Julian years corresponding to that date in the first column. If the historical situation is known, one of the four dates should be applicable. The table shows that there is only one date for any new moon in the 25-year cycle, but there can be a date that is either one day earlier or later than the given date.

For example, the dates in cycle years 1–14 are one day less than in cycle years 12–25, and in cycle years 15–3 they are one year more. This can be illustrated using the Carlsberg 9 cycle for new moon dates falling in I 3 $ht$  over a 25-year period (Table 5.3).

**Table 5.3: Carlsberg 9 cycle new moons compared for I 3 $ht$  over 25 years**

Cycle Yrs 1–14	New moon dates	Cf. Cycle Yrs 12–25 with cycle yrs 1–14	1 or 2 days <i>more</i> than cycle yrs 1–14	Cf. Cycle Yrs 15–3 with cycle yrs 1–14	1 or 2 days <i>less</i> than cycle yrs 1–14
1	I 3 $ht$ 1	12	I 3 $ht$ 2	15	I 3 $ht$ 30
2	20	13	21	16	19
3	9	14	10	17	8
4	28	15	30	18	27
5	18	16	19	19	16
6	7	17	8	20	6
7	26	18	27	21	25
8	15	19	16	22	14
9	4	20	6	23	3
10	24	21	25	24	22
11	13	22	14	25	12
12	2	23	3	1	1
13	21	24	22	2	20
14	10	25	12	3	9

The similarity of dates either one day earlier or later than the dates that begin the list in the 25-year cycle can result in the incorrect date being attributed to a feast (or other occasion) when trying to convert to a Julian date. However, once the date is defined within a few years, only one date will be applicable, resulting in conversion to the appropriate Julian date—assuming that the Egyptian date has been recorded correctly. In other words, a new moon date is not repeated (or one day higher or lower) in years *close* to any *given* date, so a new moon date applies to a specific year within a limited range.

Before modern computer technology was able to provide precise Julian dates for Egyptian dates, scholars were helped in their computations by the lunar tables of Carl Schoch (1928)<sup>21</sup> or P.V. Neugebauer (1929).<sup>22</sup> However, these are now known to be inaccurate and out-of-date.<sup>23</sup> Even with up-to-date software, the correct Julian date

<sup>21</sup> C. Schoch, “Tables for Computation,” *The Venus Tablets of Ammizaduga* (eds. S. Langdon and J.K. Fotheringham; London, 1928).

<sup>22</sup> P.V. Neugebauer, *Astronomische Chronologie* (Berlin and Leipzig, 1929).

<sup>23</sup> See also Wells, “Role of Astronomical Techniques,” (460-61) where he also mentions the astronomical tables of H.H. Goldstine, *New and Full Moons 1001 BC to AD 1651* (Memoirs of the American Philosophical Society 94; Philadelphia: American Philosophical Society, 1973); M. Chapront-Touzé and J. Chapront, *Lunar Tables and Programs from 4000 BC to AD 8000* (Richmond, VA: William-Bell, 1991), and those of Fred Espenak: <http://sunearth.gsfc.nasa.gov/eclipse/eclipse.html>. Wells commends only the latter two. C. Leitz refers to Sothic and lunar dates supplied to him by Prof. Mucke of the Astronomical Office of Vienna, in “Bemerkungen zur astronomischen Chronologie,” *Ä und L* 3 (1992) 100-02; J.G. Read in “Placement of El-Lahun Lunar Dates and Resulting Chronology,” *DE* 33 (1995) 87-113 also uses the lunar tables supplied to him by L.W. Casperson. Casperson has excerpts of tables in two of his articles: “The Lunar Dates of Thutmose III,” *JNES* 45 (1986), and “The Lunar Date of Ramesses II,” *JNES* 47 (1988). Casperson’s tables are the ones used in this chronology.

depends on having the correct Julian year in the 25-year cycle for the Egyptian date. Unless the correct year is selected from the table there is a possibility that the wrong 25-year cycle has been attributed to the date. An added complication to ascertaining whether the correct date has been obtained is the possibility that there was an error in observation giving a date one day higher or lower than the actual.

### Accuracy and Exactitude

A 1994 study by Doggett and Schaeffer details the incidence of accurate and inaccurate sightings. They write:

For a group of experienced observers, the percentage who failed to sight the Moon when it should have easily been spotted is roughly 2%. The rate of positive errors, when an observer erroneously claims a sighting, is 15% ... If 100 observers look for the crescent, roughly 15 will mistakenly (yet honestly) claim to see the Moon. Therefore, lunar months based on a few positive sightings from a large number of observers will invariably and mistakenly start early.<sup>24</sup>

Rolf Krauss has recently commented on the situation with respect to the supposed repetition of lunar dates tending to repeat every 25 years. He points out that: "A lunar date repeats on the same calendar day, if 9125 days comprise 309 lunar months of which 164 are lunar months of 30 days and 145 are lunar months of 29 days:  $(164 \times 30 \text{ days}) + (145 \times 29 \text{ days}) = 4920 \text{ days} + 4205 \text{ days} = 9125 \text{ days}$ ."<sup>25</sup>

But, he notes that, because of the irregular movement of the Moon there can be 165 lunar months of 30 days and 144 lunar months of 29 days, in which case the repetition will be after 9126 days not 9125. Or alternatively, there can be only 163 lunar months of 30 days and 146 lunar months of 29 days over the 25-year period, which will mean a lunar day repetition after 9124 days.

Furthermore, Krauss writes, "On average only about 70% of the dates in a set repeat on the same day after a single 25 year shift. For multiples of 25 years, percentages of correct repetitions decrease. Shifts of  $2 \times 25$  and  $3 \times 25$  years yield exactly repeated dates in only 50% of the cases."<sup>26</sup>

Therefore, a record of an Egyptian new moon date is more likely to be an exact match in the appropriate 25-year cycle than in a 25-year period shifted from its historical setting. So if it is not an exact match but differs by a day, it may be because (1) the record is incorrect, perhaps due to poor visibility at the time of the supposed sighting (of an invisible new moon!); (2) the eyesight of the observer is defective or he mistook what he saw; (3) the wrong 25-year period is being applied to the date; or (4) an incorrect calculation of an Egyptian lunar date is applied to a Julian (or Gregorian) calendar.

In 2000, Bradley Schaefer warned Egyptian chronologists of five "astronomical difficulties" in attempting to reconstruct an absolute Egyptian chronology based on thin lunar crescent visibility,<sup>27</sup> and the same would apply to lunar crescent invisibility.<sup>28</sup>

In 2002, Ronald Wells examined the role of lunar month lengths and astronomical techniques used to date ancient Egyptian new moons and concluded that:

<sup>24</sup> L.E. Doggett and B.E. Schaefer, "Lunar Crescent Visibility," *Icarus* 107 (1994) 402.

<sup>25</sup> R. Krauss, "Lunar Dates," *AEC* (2006) 405.

<sup>26</sup> *Ibid.*, 405-6.

<sup>27</sup> B.E. Schaefer, "The Heliacal Rise of Sirius and Ancient Egyptian Chronology," *JHA* 31 (2000) 153. Briefly, (1) discredited visibility algorithms; (2) lack of visibility of the Moon due to clouds; (3) visibility predictions uncertain in 20% of cases; (4) hundreds of strings of lunar month lengths provide multiple matches; and (5) start of the day and start of lunar month still disputed.

<sup>28</sup> *Ibid.*, 153-54.

None of the Egyptian lunar dates offer any promise of yielding an absolute date for two reasons: (1) the likelihood that any observed sequence of multiple month lengths contains at least one error, but maybe more, invalidates its use; and (2) the large number of consecutive month lengths, given perfect observations and perfect computations of past events, required for statistical validity far exceeds the available Egyptian record.<sup>29</sup>

This conclusion caused Kitchen to exclaim, “The lunar dates are all now to be discarded—see Wells 2002.”<sup>30</sup> Wells, however, was referring to attempts to resurrect an absolute chronology relying on lunar dates alone; he proposed they be used in conjunction with other available data.<sup>31</sup> This is the procedure I have adopted.

### Casperson’s Application of Lunar dates to Ramesses II

I now consider how plausible new moon dates may be, based on the given data and applied to different centuries. In 1957, Parker proposed possibilities of accession years for Ramesses II in 1304, 1301, 1290, 1279 and 1276. Of these, he considered the 1290 date to be the most probable being based on a new moon date of II *prt* 26 falling in Ramesses II’s 52nd year on December 21, 1239.<sup>32</sup>

For this date to be correct an error had to be assumed for the date of II *prt* 27, which the text of the captain’s log reported in the 52nd year of Ramesses II, contained in *Papyrus Leiden* (I. 350, verso).

In 1988, Lee Casperson compared all five of Parker’s dates with those produced by his computer software. Reproduced below are two of the five sections of the new moon table (Table 5.4) supplied by Casperson giving new moon dates for the 52nd regnal year of Ramesses II with alternative accession years in 1290 and 1279.<sup>33</sup> An explanation of these dates is given to demonstrate how the tables are to be read, and Casperson’s subsequent tables throughout this book.

**Table 5.4: New moon dates proposed for Ramesses II’s 52nd year in –1238 and –1227 with an accession date in 1290 and 1279 BCE**

Heliopolis; Lat.30.1, Long.31.3; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1238	11	22	-1238	11	11	1544	5	27	1	9:51	6:42	227	6:43	123	6:43	22
<b>-1238</b>	<b>12</b>	<b>22</b>	-1238	12	11	1544	<b>6</b>	<b>27</b>	3	3:31	6:58	180	6:58	<b>83</b>	6:58	-7
-1237	1	20	-1237	1	9	1544	7	26	4	22:17	6:56	257	6:56	130	6:55	41
-1227	11	20	-1227	11	9	1555	5	28	6	19:00	6:41	336	6:41	181	6:42	56
<b>-1227</b>	<b>12</b>	<b>20</b>	-1227	12	9	1555	<b>6</b>	<b>28</b>	1	6:40	6:57	237	6:58	107	6:58	<b>5</b>
-1226	1	18	-1226	1	7	1555	7	27	2	19:00	6:57	325	6:56	155	6:56	62

DoW = day of week; ToD = time of day

Casperson explains: “The first eleven columns relate to the time of occurrence of the astronomical new moon, the instant of conjunction at which the ecliptic longitudes of Sun and Moon are equal.”<sup>34</sup> The first three columns give the new moon date: year, month, and day. In the table above the date of –1238 astronomical equates in the Julian

<sup>29</sup> Wells, “Role of Astronomical Techniques,” 470.

<sup>30</sup> K.A. Kitchen, “Ancient Egyptian Chronology for Aegeanists,” *Mediterranean Archaeology and Archaeometry* 2 (2002) 11.

<sup>31</sup> Wells, “Role of Astronomical Techniques,” 470.

<sup>32</sup> R.A. Parker, “The Lunar Dates of Thutmose III and Ramesses II,” *JNES* 16 (1957) 42-43.

<sup>33</sup> L.W. Casperson, “The Lunar Date of Ramesses II,” *JNES* 47 (1988) 183.

<sup>34</sup> L.W. Casperson, “The Lunar Dates of Thutmose III,” *JNES* 45 (1986) 146.

calendar system to 1239, and  $-1227 = 1228$ , and so on. “The astronomically expressed year with minus sign equals the civil year BC +1 because there is no zero civil year; 1 = 1 A.D.; 0 = 1 BC, -1 equals 2 BC etc.”<sup>35</sup> Columns four to six give the dates in the Gregorian calendar, and columns seven to nine give the Egyptian dates.

Concerning the 10th–15th columns, Casperson writes, “The last six columns indicate the local time of sunrise and the visibility of the Moon at sunrise for three days near the date of conjunction. The zero column heading corresponds to exactly the date of conjunction; minus one is one day before; and minus two is two days before. The visibility numbers represent one hundred times the ratio of the lunar height at sunrise to the minimum height for visibility.”<sup>36</sup>

Using the first example in the table above, in the row for Julian date “-1238 12 22” in columns eight and nine is the date “6 27”. This refers to II *prt* 27 (that is the 27th day of the sixth month), the date of Ramesses II’s new moon. In the last column under the 0 heading, appears the number -7, which means that the Moon was below the horizon. In the ninth column, under the -1 heading, the number 83 appears. Being between 1 and 100 means the Moon was *invisible* after sunrise. In column seven the number 180, that is greater than 100, indicates that the Moon was visible. For ease of reference I have presented significant numbers in bold type (including numbers in a table that are referred to later in the discussion).

### **New Moon Occurs on the First Day of Invisibility**

Since the new moon is reckoned to occur on the first day of *invisibility* after the last crescent is seen, the 83 in the -1 column indicates it was invisible one day before conjunction, and therefore was not seen on the 26th day of the sixth month; that is, on II *prt* 26, one day before II *prt* 27, the new moon date recorded in the ship’s log.

### **II *prt* 26 –1238 (1239 BCE) “In poor agreement with the text”**

The date of II *prt* 27 recorded in the log reports that the observer(s) saw the last crescent on the 26th day, making the 27th the first day of invisibility; whereas the computer analysis indicates that the 26th was the first day of invisibility. Casperson found that the 1290 accession date based on II *prt* 26 in Ramesses II’s 52nd year would have meant that observers would, “have ‘seen’ an invisible crescent;” therefore, in “poor agreement with the text” of the Leiden Papyrus.<sup>37</sup> This date is, therefore, not a good match on which to propose an accession date for Ramesses II, 52 years earlier in 1290 BCE.

### **II *prt* 28 –1227 (1228 BCE) “Almost consistent with the text”**

Proceeding to the second date, above, with an accession proposed for Ramesses II in 1279, the date of conjunction on -1227 corresponds to 1228 BCE. In the row in Table 5.4 for Julian date “-1227 12 20” an Egyptian date is given of “6 28” or II *prt* 28, a day *later* than the given date. In the 0 column the number 5 appears, indicating that the moon was invisible, and in the -1 column the number 107 indicates that the Moon was visible (assuming ideal conditions). Therefore the new moon fell on the 28th day of *prt*, not the 27th. It could be assumed that the observer missed a marginally visible crescent on the 27th, thus citing it as the day of *psdntyw* or new moon “when the lunar crescent was not visible before sunrise.”<sup>38</sup>

<sup>35</sup> Wells, “Re and the Calendars,” 32 n. 31.

<sup>36</sup> Casperson, “Lunar Date Ramesses II,” 182-83.

<sup>37</sup> *Ibid.*, 184.

<sup>38</sup> *Ibid.*, 181.



For the accession date of 1279, observers in –1227 would have, according to Casperson, “missed a marginally visible crescent (visibility 107) on II *prt* 27. This is not an unlikely kind of error, and thus a 1279 BCE accession date is almost consistent with the text.”<sup>39</sup>

Neither of these dates, however, gives the recorded date of II *prt* 27. Nevertheless, combined with an argument by Rolf Krauss for an Elephantine observation site for the “going up of Sothis,” which gives Ramesses II a “low” date, a 1279 accession date gained by lunar analysis is promoted by scholars in recent years.

### II *prt* 27 –1337 (1338 BCE) Exactly Consistent with the Text

However, in 1996, Casperson provided me with the tables for Ramesses II’s 52nd year. I assumed Ramesses to have had an accession around 1390 BCE, which I gained from my chronology based on historical data, and inquired about new moon dates in a range which included –1337. He provided the following table (Table 5.5), to which I have added the heading for ease of reference.

**Table 5.5: New moon dates proposed for Ramesses II’s 52nd year in –1337 with an accession year in 1390 BCE**

Heliopolis; Lat. 30.1, Long. 31.3; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1338	12	18	–1338	12	6	1444	5	28	7	10:46	6:56	212	6:57	111	6:57	23
–1337	<b>1</b>	<b>17</b>	–1337	1	5	1444	<b>6</b>	<b>28</b>	2	1:39	6:57	180	6:57	<b>87</b>	6:57	<b>7</b>
–1337	2	15	–1337	2	3	1444	7	27	3	13:22	6:42	274	6:41	137	6:40	55

From this table, the row for Julian date “–1337 1 17” gives a date of 6 28 or II *prt* 28 for the Egyptian date. The last column shows the number 7 in the 0 column, and previous to that the number 87 in the –1 column. The 87 indicates the day of the new moon, the first day the Moon is invisible, and in this case it occurs the day before conjunction. So the day of new moon is II *prt* 27 as given in the record of Ramesses II’s 52nd year, which corresponds to 16 January 1338 BCE.

A side-comment at this point is timely. This is a significant use of Lee Casperson’s extensive contributions to this work. His articles, referred to above, alerted me to the material confirmation he could offer to fix Egyptian chronology by the use of tables establishing lunar phases and cycles. As in this present case, my work has derived from the examination of the historical and documentary evidence, which often included reference to lunar data.

And as in this case, my procedure with Casperson has always been to seek lunar tabular information based upon assumptions derived from the historical and documentary evidence described earlier. When I have requested data about lunar phases, Casperson has not known what I have been looking for. His tables have provided me with a completely independent source of information. But because many chronological references relating to ancient Egypt include documentary, historical, and lunar references, and these can be separately researched (such as my historical and chronological reconstructive work and Casperson’s astronomically-based lunar tables), the independent work of each provide potential for corroboration that may be regarded with a high degree of plausibility.

The visibility criteria used for Table 5.5 are the same as for the previous tables computed in 1988. As with all Casperson tables the location, with latitude and longitude in the top line, are critical for accuracy. This reading is from Heliopolis, but others will

<sup>39</sup> Ibid., 184.

be from Alexandria, Armana, Elephantine, Illahun, Megiddo, Memphis, Tanis and Thebes, depending on the context of the sightings under discussion.

The captain's log date and the computer generated date are in agreement for the 14th century, unlike the previous attempts generated for the 13th century. Thus a date that does not give an exact match may indicate that the wrong cycle of 25 years is being applied to it. For most chronologists, the 1338 new moon date giving Ramesses II an accession year of 1390 BCE is far too early to accept. It does not fit with *their* initial assumption that Rehoboam's 5th year and Shoshenq I's 20th year date to 925, instead of 977, as demonstrated in chapter 2. My purpose is to demonstrate that the 1390 date is accurate for Ramesses II's accession, both on the basis of astronomical data and the historical record.

Wells advised, "Two methods (in determining absolute dates) have proved very important in the past and must always be considered in any absolute date analysis. One is a study of the synchronisms with neighboring countries: the other, a review of the internal consistencies of the proposed dates, such as that initially drawn up, for example, by Kitchen, Hornung, or von Beckerath,<sup>40</sup> in which lengths of reign, genealogies, events, climatological changes, seasons, and the like, form a coherent data set relatable to similarly coherent data sets from other countries. Kitchen has given the most recent analysis of this type, which must be considered a fundamental comparison standard for Egyptian chronology."<sup>41</sup>

One naturally endorses Wells' desire for support from the combined evidence of synchronisms and internal consistencies before an absolute date (in Julian years) can be assigned to the kings' reigns. The discussion of dating systems and calendars is a step in this direction.

The Assyrian chronology, as represented by the Assyrian Eponym Canon, cannot be relied upon before the eclipse of 763 BCE, which rules out any predetermined dates for synchronisms before then. With regard to the length of reigns, Kitchen's seminal work will be the basis of the "comparison standard" as promoted by Wells when we come to discuss the Egyptian chronology and its correlation with that of Israel. It remains for a correlation of Egyptian and Hebrew dates to provide an absolute chronology for the ancient Near East, including Assyria, rather than attempting chronologies of Hebrew and Egypt on the basis of erroneous assumptions about the Assyrian Eponym Canon.

Lee Casperson's lunar tables giving new moons and full moons dated to the Egyptian civil calendar converted to Julian (and Gregorian) dates will be used throughout the reconstruction of Egyptian chronology. They will also help with Sothic rising dates. Lunar tables are also supplied by Dr. Fred Espenak (NASA's Goddard Space Flight Center) for new moon, 1st quarter, full moon, and 3rd quarter phases applicable to Universal Time; that is, Greenwich Mean Time.<sup>42</sup> They do not include conversion from Egyptian dates, but they corroborate Casperson's Julian dates for the Egyptian new moons and full-moon dates.

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<sup>40</sup> Wells, "Role of Astronomical Techniques," 470, cites K.A. Kitchen "Supplementary Notes on 'The Basics of Egyptian Chronology'," *High, Middle or Low?* Part 3, 1989; E. Hornung, "Chronology of the New Kingdom," *High, Middle or Low?* Part 3, 1989; and J. von Beckerath, *Chronologie des Ägyptischen Pharaonischen* (Mainz: Phillip von Zabern, 1997).

<sup>41</sup> Wells cites K.A. Kitchen, "Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I): The Historical Chronology of Ancient Egypt, a Current Assessment," *SCIEM II* (2000).

<sup>42</sup> Fred Espenak, <http://sunearth.gsfc.nasa.gov/eclipse/phase/phasecat.html> or <http://eclipse.gsfc.nasa.gov/phases/phasecat.html>

## Chapter 6

### Pondering Egyptian Calendar Depictions

I have discussed the solar/agricultural calendar of ancient Egypt, the heliacal risings of Sothis and the Sothic cycle, the civil calendar, proposals about the original calendar, the Ebers calendar, the 25-year lunar cycle of the Carlsberg 9 papyrus, and new moon activity now accessible to us in a precise manner by computer-generated tables.

The Ebers calendar is introduced as the calendar of Upper Egypt based on the Sothic cycle. The rising of Sothis triggered the solar year—the seasonal agricultural year—in the early period of Upper Egypt. It was true to the solar timetable of 365 and a quarter days, and signaled the beginning of the actual agricultural seasons of inundation, sowing, and harvest, and their associated festivals. It had its counterpart in the calendar of Lower Egypt commencing one month later in the solar/agricultural year.

Also mentioned has been the adoption of the later schematic civil calendar, of 365 days, unsynchronized with the solar year, but recognized today as the calendar used by the ancient Egyptians for everyday affairs. Over the last century the discussion of Egyptian calendars has occupied the minds of Egyptologists intensely. This book concentrates upon the chronology of Egypt through the years, clearly tied to records that display the discrepancy between the timing of the heliacal rising of Sothis and the civil calendar. It offers solutions for dating the history of Egypt. The survey below suggests that the calendar of Upper Egypt represented by the Ebers calendar was progressively overtaken by the calendar of Lower Egypt.

#### Earliest Festival Calendars

Fragments of texts referring to temple offerings from the reigns of Sahure and Neuserre (Niuserre Iny) of the 5th Dynasty (Old Kingdom) appear to be the earliest existing evidence of calendars.<sup>1</sup> Festival calendars were specifically associated with the religious activities of the gods of Egypt.

The texts from Neuserre's reign come from inscriptions written on the left and right sides of a doorway in his solar temple found at Abusir (near Memphis).<sup>2</sup> Sherif el-Sabban proposes that the texts on either side represented different aspects of a whole calendar, or "twin calendars."<sup>3</sup> He notes that both texts contain: "a series of subjects; building texts and furnishings; estates supplying offerings [only left side preserved]; and the calendar proper of supplies for the cult, and of annual feasts on particular days."<sup>4</sup> He suggests that pyramid-complexes of the 3rd and 4th Dynasties may have had calendars and that they originated with the 1st and 2nd Dynasties.<sup>5</sup>

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<sup>1</sup> S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies; Liverpool University Press, 2000) 1-8, pls. 1-5.

<sup>2</sup> *Ibid.*, 2; A.J. Spalinger, "Festival Calendars," *The Ancient Gods Speak* (ed. D.B. Redford; Oxford University Press, 2002) 124.

<sup>3</sup> *Ibid.*, 7-8.

<sup>4</sup> *Ibid.*, 7.

<sup>5</sup> *Ibid.*, 2.

### Festival Calendars in the Middle and New Kingdoms

The presence of festival calendars in the New Kingdom (18th–20th Dynasties) presupposes their use in the Middle Kingdom (11th and 12th Dynasties) even though no calendars from the Middle Kingdom period have been found.<sup>6</sup> Materials in the Illahun archive, however, “give some idea of the range of feasts which would have featured in a Middle Kingdom calendar, if any had survived.”<sup>7</sup> In the New Kingdom, for example, Amenhotep I had a festival calendar recopied from the Middle Kingdom.<sup>8</sup> Thutmose III had a calendar at Abydos<sup>9</sup> and three at Karnak: one at the Temple of Akhmenu, one south of the granite sanctuary, and another at the north wing of the sixth pylon; and also at Elephantine.<sup>10</sup> Another was found at Buto in the Nile Delta.<sup>11</sup> The latter mentions the famous rising of Sothis on III *šmw* 28 but without giving the king’s regnal year (discussed later). Thutmose IV also has a temple festival calendar at Karnak.<sup>12</sup> Akhenaten too has one at Karnak.<sup>13</sup>

### Other Lists of Month-Names

From the 18th Dynasty to the Greco–Roman period a number of calendar depictions, other than festival calendars, have survived. Leo Depuydt has assembled these as lists of “names pertaining to months” which greatly assist the following discussion.<sup>14</sup> Reproductions of the calendar depictions shown in the following pages are taken from his or other publications. Table 6.1 is an adaptation of his table with the main month-lists but omitting four that are quite fragmented.<sup>15</sup> The earliest of these lists is from the Ebers calendar that occupies the first column with which the other month-names can be compared.

**Table 6.1: Comparison of month-names from month-lists**

Ebers Papyrus (18th Dyn)	Senmut Ceiling (18th Dyn)	Karnak Water Clock (18th Dyn)	Ramesseum (19th Dyn) & Medinet Habu Temple Ceilings (20th Dyn)	Cairo Papyrus 86637 (20th Dyn)	Edfu Temple Frieze (late 2nd century BCE)
<i>wp rapt</i>					
<i>thy</i>	<i>thy</i>	<i>thy</i>	<i>thy</i>	( <i>dhwty</i> )	<i>th</i>
<i>mnht</i>	<i>mnht</i>	<i>pth</i>	<i>pth</i>	<i>p n ipt</i>	<i>mnh(t)</i>
<i>hwt hr</i>	<i>hwt hr</i>	<i>hwt hr</i>	<i>hwt hr</i>	<i>hwt hr</i>	[ <i>hwt hr</i> ]
<i>k3 hr k3</i>	<i>k3 k3</i>	<i>shmt</i>	<i>shmt</i>	<i>k3 hr b (sic)</i>	<i>k3 hr k3</i>
<i>šf bdt</i>	<i>šf bdt</i>	<i>jmn r<sup>c</sup>nsw ntrw</i>	<i>mn</i>	<i>t3<sup>c</sup>bt</i>	<i>šf bdt</i>
<i>rkh</i>	<i>rkh</i>	<i>rkh wr</i>	<i>rkh wr</i>	[ <i>p n p3</i> ] <i>mhr</i>	<i>rkh wr</i>
<i>rkh</i>	<i>rkh</i>	<i>rkh nds</i>	<i>rkh nds</i>	[ <i>p n jmn htp</i> ]	<i>rkh ndst</i>
<i>rnnwtt</i>	<i>rnnwtt</i>	<i>rnnwtt</i>	<i>rnnwtt</i>	[ <i>p n</i> ] <i>rnnwtt</i>	<i>rnn(wtt)</i>
<i>hnsu</i>	<i>hnsu</i>	[ <i>hnsu</i> ]	<i>hnsu</i>	<i>p n [hnsu]</i>	<i>hnsu</i>
<i>hnt ht</i>	<i>hnt (hty)</i>	[ <i>hnt hty</i> ]	<i>hnt (hty)</i>	<i>p n i[nt]</i>	<i>hnty hd(?)</i>

<sup>6</sup> Ibid., 9.

<sup>7</sup> Ibid.

<sup>8</sup> Ibid., 141; Spalinger, “Festival Calendars,” 125.

<sup>9</sup> Ibid., 187, pls. 7-8.

<sup>10</sup> Ibid., 187, pls. 8-12; Spalinger, “Festival Calendars,” 125.

<sup>11</sup> Spalinger, “Festival Calendars,” 125. This calendar has a Sothic rising in the interval of III *šmw* 5-29 (inclusive); idem, “Sothis and ‘Official’ Calendar Texts,” VA 10/2-3 (1995) 176.

<sup>12</sup> El-Sabban, *Temple Festival Calendars*, 142-43; Spalinger, “Festival Calendars,” 125.

<sup>13</sup> Ibid., 144-46, 189; Spalinger, “Festival Calendars,” 125.

<sup>14</sup> L. Depuydt, *Civil Calendar and Lunar Calendar in Ancient Egypt*, (Orientalis Lovaniensia Analecta, 77 Leuven: Peeters, 1997) 109-119.

<sup>15</sup> Ibid., 116, fig. 15. The four fragmentary lists are from: the Necho water clock of ca. 600 BCE; Arrhidæus water clock nos. I and II of ca. 320 BCE; and the Tanis Geographical papyrus from the Roman era.

	<i>prty</i>				
<i>ipt hmt</i>	<i>ipt hmt</i>	<i>ipt hm(t)</i>	<i>ipt hmt</i>	<i>ip[ip]</i>	<i>ipt (?)</i>
	<i>wp rnpt</i>	<i>r<sup>c</sup> hr 3hty</i>	<i>r<sup>c</sup> hr 3hty</i>	<i>wp rnpt</i>	<i>r<sup>c</sup> hr 3hty</i>

[ ] = text that has been supplied but is not present in the source due to damage or lack of space.

Month-lists are found on the northern ceiling of Senmut's tomb (early 18th Dynasty: reign of Queen Hatshepsut), the Karnak water clock (late 18th Dynasty: Amenhotep III), the Ramesseum ceiling (19th Dynasty: Ramesses II) and its copy on the Medinet Habu Temple ceiling (20th Dynasty: Ramesses III), the Cairo Papyrus 86637, C verso XIV (early 20th Dynasty), and the Horus Temple frieze at Edfu (late 2nd century BCE), and several late fragments with a few month-names. Also an ostrakon from the 20th Dynasty (O. BM 29560) gives the names of months or monthly feasts in chronological order. We briefly describe these lists, and focus on the nature of the calendars they represent.

An explanation of the differences between the calendars may emerge from later analysis, but it will be helpful for the reader initially to note that the Ebers calendar begins with *wp rnpt* and the others with *thy*; the calendars that begin with *thy* end with *wp rnpt* or *R<sup>c</sup>-Hr-3hty*.

### Sen(en)mut Astronomical Ceiling

The southern ceiling of Senmut's unfinished temple at Luxor was noted when discussing the decanal star clocks. The northern ceiling is also of interest.<sup>16</sup> Both ceilings are represented below (Figure 6.1).<sup>17</sup> They are each approximately 3.60 m. long and 3 m. wide.<sup>18</sup> They join each other in the middle registers.

As can be seen on page 88, the northern ceiling displays 12 large circles in two rows. The upper and lower rows have six circles each, but are divided so that there are eight circles on the right separated from the four circles on the left. Between them is an arrangement of Egyptian northern constellations, including the Big Dipper or Great Bear represented by the bull at the top center.<sup>19</sup>

Each of the circles has a name above it of a month or a monthly feast. Starting from the top right and moving anti-clockwise, the names start with *thy*, then follow the same names and order as found in the Ebers calendar, except that *wp rnpt*, being above the last month of the third set of circles (bottom right), indicates that it was the name of the last month of the year, and not the first as in the Ebers calendar. This order of months suggests that at this location the festival months commenced with *thy* and ended with *wp rnpt*; an important observation to note. Scholars assume that the three groups of four circles represent the three seasons of the year, which are otherwise not indicated. Each circle represents a month, divided into 24 segments assumed to represent the 24 hours of

<sup>16</sup> See, e.g., R.A. Parker, *The Calendars of Ancient Egypt* (SAOC 26, Chicago, IL: Oriental Institute of the University of Chicago, 1950) 42-4 §§220-23 and pl. I; O. Neugebauer and R.A. Parker, *Ancient Egyptian Astronomical Texts, III: Decans, Planets, Constellations and Zodiacs* (Providence, RI: Brown University Press, 1969) 10-12; Depuydt, *Civil Calendar*, 92-95.

<sup>17</sup> Reproductions of the star maps may be found in various publications, e.g., Parker *Calendars*, pl. I; C. Leitz, *Studien zur ägyptischen Astronomie* (HÄB 49, Wiesbaden: Harrassowitz, 1989) 36; O. von Spaeth, "Dating the Oldest Egyptian Star Map," *Centaurus International Magazine on the History of Mathematics, Science and Technology* 42 (Blackwell, 2000) 160-61; also at [http://www.moses-egypt.net/star-map/dating\\_the\\_senmut\\_star\\_map.pdf](http://www.moses-egypt.net/star-map/dating_the_senmut_star_map.pdf). The Metropolitan Museum has a full scan of the Senmut Astronomical Ceiling depiction.

<sup>18</sup> Neugebauer and Parker, *Ancient Egyptian Astronomical Texts III*, 10.

<sup>19</sup> M. Clagett, *Ancient Egyptian Science, Vol. 2: Calendars, Clocks, and Astronomy* (Philadelphia: American Philosophical Society, 1995) 115-21.

the day. Beneath the circles is a row of 15 deities, among which Parker identified 11 as gods representing days of the *lunar* months by comparing them with Greco–Roman lists.

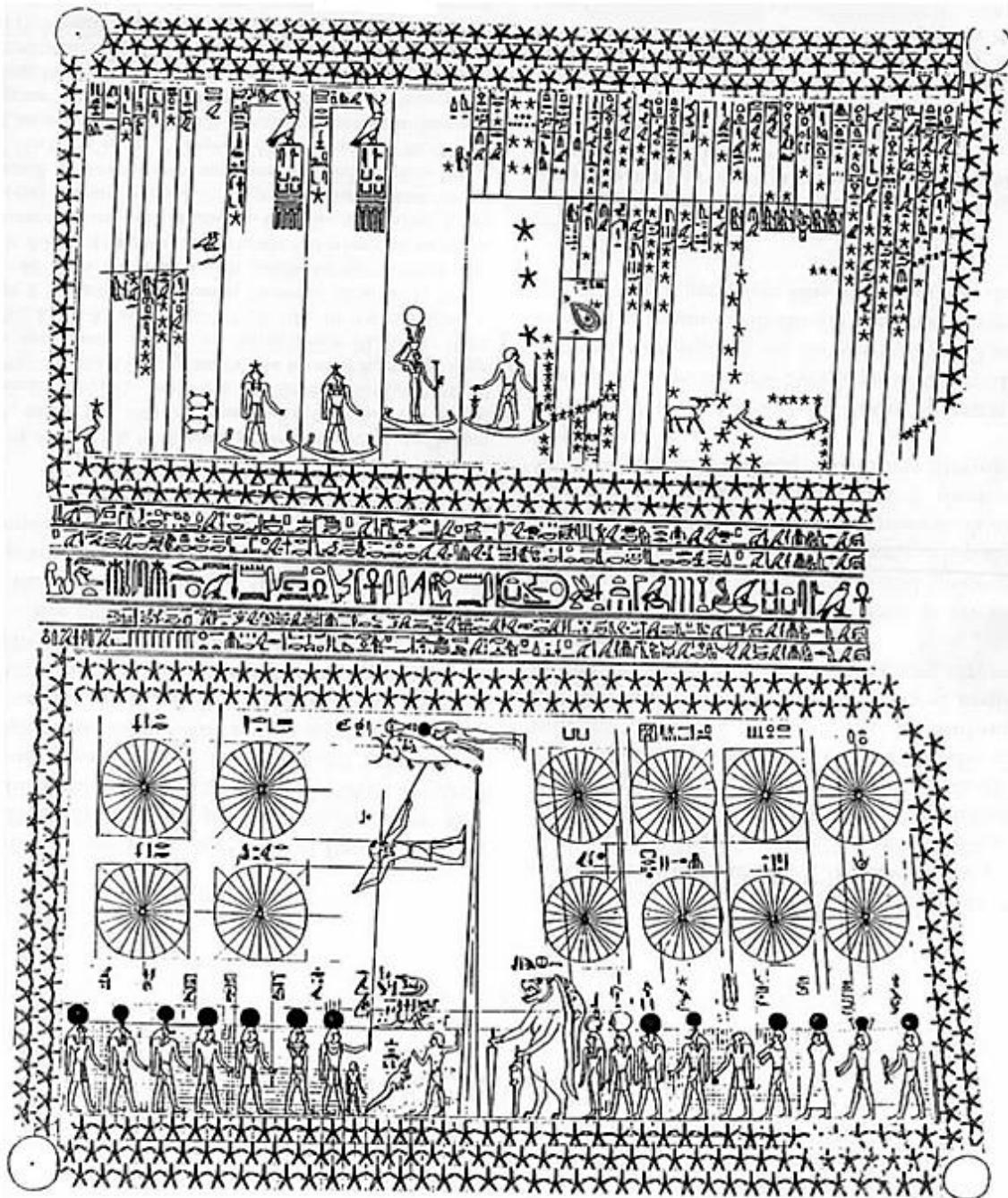


Figure 6.1: Senmut astronomical ceiling

Parker argued that the Senmut ceiling with its 12 circles represents “the monthly feasts of the original lunar calendar with the twenty-four segments each an hour of the feast day.”<sup>20</sup> Spalinger argues for the *civil* nature of the Senmut ceiling. He notes that there is no explicit indication of a lunar-based calendric system: the 12 months appear with their expected names and “no gods are present.”<sup>21</sup> He points out that the four

<sup>20</sup> Parker, *Calendars*, 42–43 §§220–23. Neugebauer and Parker assume the lunar nature of the calendar also in O. Neugebauer and R. Parker, *Egyptian Astronomical texts III. Decans, Planets, Constellations and Zodiacs* (Providence, RI: Brown University Press, 1969) 10.

<sup>21</sup> A.J. Spalinger, “Month Representations,” *Cd’É* 70 (1995) 119.



seasons separated from each other must be *civil*, reinforced by the fact that no intercalary lunar month is represented.<sup>22</sup>

The 24 segments in each circle represent a 24-hour day, traces of which can be seen in the decanal systems of the Middle Kingdom and later coffin depictions, which were all based on the *civil* year. In summary, Spalinger believes that Senmut's ceiling is a *civil* depiction of the Egyptian year with the five epagomenal days omitted.<sup>23</sup> However, Spalinger's main argument, that the months depict a civil calendar, comes from his analysis of the Karnak water clock.

### Karnak Water Clock of Amenhotep III

A water clock dating from the reign of Amenhotep III (mid-late 18th Dynasty) was found in the Karnak Temple in 1904 by the Egyptologist, Georges Legrain.<sup>24</sup> Karnak is part of the ancient city of Thebes. The water clock, made of alabaster and mostly intact, is shaped like a large flower pot, being 34.6 cm high, with a top diameter of 48 cm and a bottom diameter of 26 cm.<sup>25</sup> See representations below in Figure 6.2.<sup>26</sup>



Figure 6.2: Karnak water clock

To record the passage of time, the clock was filled with water at a pre-arranged time (like sunset), which then drained slowly through a small hole at the bottom; the passing of the hours is indicated by scales (markers) on the inside of the vessel. On the inside of the rim, the months are represented by their numerical designations except for I *3ht*, which is given its month-name: *thy*. Again, instead of *wp rnpt*—the first civil month of Upper Egypt—*thy* appears first,<sup>27</sup> and then the usual order is followed: *thy* – IV *3ht*, I – IV *prr*, I – IV *šmw*. The time it took for the water level to drop from one mark to the next of the appropriate month was approximately one hour, so the time elapsed since the filling of the clock could be estimated by the level of the remaining water.<sup>28</sup>

On the outside of the clock are three horizontal registers. The top register displays a decan list and planets, and the middle register displays northern constellations and deities, except that in the center of the top and middle registers, combined under the

<sup>22</sup> Ibid., 119.

<sup>23</sup> Ibid., 119.

<sup>24</sup> For information about Amenhotep III's water clock, see, e.g., Parker, *Calendars*, 40 §§207-08; Clagett, *Ancient Egyptian Science*, Vol. 2, 165-77; Spalinger, "Month Representations," 110-22; Depuydt, *Civil Calendar*, 111-16; for photo image see: <http://www.sciencemuseum.org.uk/images/I012/I0326214.aspx>

<sup>25</sup> Neugebauer and Parker, *Ancient Egyptian Astronomical Texts III*, 12.

<sup>26</sup> This image comes from Depuydt's *Civil Calendar* 112-113. Permission to use the digital image was granted by [www.culturediff.org](http://www.culturediff.org). In Depuydt's, *Civil Calendar*, these depictions are attributed to Ramsès le Grand, [Catalogue of an exhibition with this title]. Paris: Galeries nationales du Grand Palais 1976, 142, 144, 146.

<sup>27</sup> Spalinger, "Month Representations," 111.

<sup>28</sup> Parker, *Calendars*, 40, §208, fig. 17.

months of II and III *pṛt*, is a scene of Amenhotep III offering to *R<sup>c</sup>-Hr-3ḥty*, the sun-god, who is on his left, with Thoth, the moon-god behind him on his right.<sup>29</sup>

### Deities Represent Month-Names of the Civil year: Spalinger

Of most interest is the bottom register, which displays scenes of Amenhotep III and a deity behind him, both presenting offerings to the god they face. Each pair of month gods/goddesses is separated from the next by vertical lines of text, usually giving the king's names. Each god has a name; most names are recognized as the name of a month on the Ebers calendar and the Senmut ceiling. According to Spalinger, these 12 deities represent the 12 months of the *civil* year, and each is placed appropriately under the month they represent given on the inside of the rim.<sup>30</sup> A cynocephalus (dog-headed baboon) once came after the 12th month, but this is now lost.<sup>31</sup>

As on the astronomical ceiling of the Ramesseum, the cynocephalus separates the last month from the first, and on the water clock it is in the place for the spout, with no note given on the rim.<sup>32</sup> Neugebauer and Parker had earlier proposed that the deities on the bottom register represented 12 *lunar* months, and a “now lost figure of Thoth” (the cynocephalus) represented the intercalary 13th month between the first and 12th months.<sup>33</sup>

### Civil Not Lunar Calendar: Spalinger

Spalinger, however, points out that there could be no equation between the bottom and top registers if the symbol of Thoth was equivalent to the intercalary month.<sup>34</sup> He maintains that the Karnak water clock must be based on a civil not a lunar calendar because it was the “only reasonable system into which the hours of the Egyptian day could be located.”<sup>35</sup>

In 1955, Alan Gardiner, responding to Parker's identification of the cynocephalus as an intercalary month, proposed instead that the figure on Amenhotep III's water clock and on the Ramesseum represented the five epagomenal days—and not Parker's intercalary lunar month.<sup>36</sup> Spalinger, however, notes that there is no indication of the five epagomenal days on the bottom register, on the inside of the clock, or on the rim where they might be expected between IV *šmw* and *ṯḥy*, this place being occupied by the spout.<sup>37</sup> He attributes the absence of the five days to a lack of exactitude on the part of the Egyptians, which, he says, should cause no surprise in view of the fact that a temple year is based on 360 days.<sup>38</sup> Spalinger sees the cynocephalus as a central divider between the conclusion and the re-commencement of the year.<sup>39</sup>

<sup>29</sup> Neugebauer and Parker, *Ancient Egyptian Astronomical Texts* III, 12.

<sup>30</sup> Spalinger, “Month Representations,” 114.

<sup>31</sup> *Ibid.*, 111.

<sup>32</sup> *Ibid.*, 115, 116.

<sup>33</sup> O. Neugebauer and Parker, *Egyptian Astronomical Texts*, 12.

<sup>34</sup> Spalinger, “Month Representations,” 116.

<sup>35</sup> *Ibid.*, 114.

<sup>36</sup> A.H. Gardiner, “The Problem of the Month-Names,” *Rd'É* 10 (1955) 23, 25-27.

<sup>37</sup> Spalinger, “Month Representations,” 111 n. 6, 113 and n. 14, 114, 115 and n. 24, 116, 119.

<sup>38</sup> *Ibid.*, 114.

<sup>39</sup> *Ibid.*, 115.



### Do Civil Month-Names Represent Deities?

Spalinger questions whether the deities on the bottom register of the Karnak water clock represent the civil month designations on the inside of the rim. He notes that if a month-name is not already that of a god or goddess, an appropriate deity is assigned to represent it. Thus, *wp rnt*, the name of the 12th month on the Senmut tomb ceiling, is neither a fetish nor a god but an *idea*, and is represented by the god Harachty (*R<sup>c</sup> hr 3hty*) on the water clock. Spalinger says that *wp rnpt* representing an idea “is connected to the beginning of the year—whence the well-known feast of *wp rnpt* on I 3ht 1.”<sup>40</sup>

According to Spalinger, the fact that Harachty was chosen as the god to represent the month of *wp rnpt* poses no problem because its later equivalent for the 12th month was *mswt R<sup>c</sup>*, that is, Mesore (the “birthday of Re”).<sup>41</sup> He notes that not only on the water clock but also at the Ramesseum and at Medinet Habu, and the late scene at Edfu, the expected month-names do not appear but instead are represented by the name of the god depicted (*R<sup>c</sup> hr 3hty*).

Thus II 3ht, *mnht* (Menche), is represented by the god Ptah; IV 3ht is represented by *k3 hr k3* (Kaherka) the goddess *shmt* (Sekhmet); and I *prt* (*sf bdt* Shef bedet) “the swelling of the emmer” (grain) is appropriately represented by the fertility god Min (*mn*).<sup>42</sup> Spalinger concludes that, “Each deity of a month is directly linked with a civil month.”<sup>43</sup> He does not believe that Ptah, Sekhmet, Min, or Harachty were month-names, but that the original names were *mnht*, *k hr k3*, *sf bdt*, and *wp rnpt*. Of these, Spalinger says the first three retained their month-names in the later Greek and Coptic designations, but *wp rnpt* was replaced by Re.<sup>44</sup>

The last comment raises several questions. Why does *wp rnpt*, the “opener of the year,” which is appropriately in first place in the Ebers calendar, appear as the 12th month in later calendar lists? Secondly, why was *wp rnpt* replaced by Re? Was *R<sup>c</sup> Hr 3hty* the name of a month or merely a god’s name representing the 12th month of *wp rnpt* as Spalinger proposes? What is the connection between *wp rnpt* and the month later to be known as *mswt R<sup>c</sup>* or Mesore?

The dislocation that places *thy* as the first month in Lower Egypt and *wp rnpt* as the final month of a 12-month cycle, a month behind the sequence in Upper Egypt, suggests that it is being assimilated to the Lower Egypt solar/agricultural calendar replacing the Upper Egypt calendar used at Thebes—Luxor. But this suggestion awaits further evidence.

### Ramesseum and Medinet Habu Astronomical Ceilings

The most significant festival calendar in the New Kingdom, of which little now remains, is that of Ramesses II at the Ramesseum of Thebes across the River Nile from Luxor. But it was copied by Ramesses III onto the walls of his temple at nearby Medinet Habu with a few alterations and additions.<sup>45</sup>

The mortuary Temple of Ramesses II, which dates from the 19th Dynasty, and the Medinet Habu temple from the reign of Ramesses III, which dates from the early

<sup>40</sup> Ibid., 120.

<sup>41</sup> Ibid., 119-20.

<sup>42</sup> Ibid., 120-22.

<sup>43</sup> Ibid., 114.

<sup>44</sup> Ibid., 122.

<sup>45</sup> El-Sabban, *Temple Festival Calendars*, 188; Spalinger, “Festival Calendars,” 125.

20th Dynasty (about 100 years later) show the same astronomical ceiling.<sup>46</sup> However the latter is also damaged and the only complete preserved month-names are *shmt*, *pth*, *thy*, and *ipt hmt*. Two fragmented names are *hwt hr* and *rkḥ nds*.<sup>47</sup> Since the latter ceiling is a copy of the former they can be discussed together.<sup>48</sup>

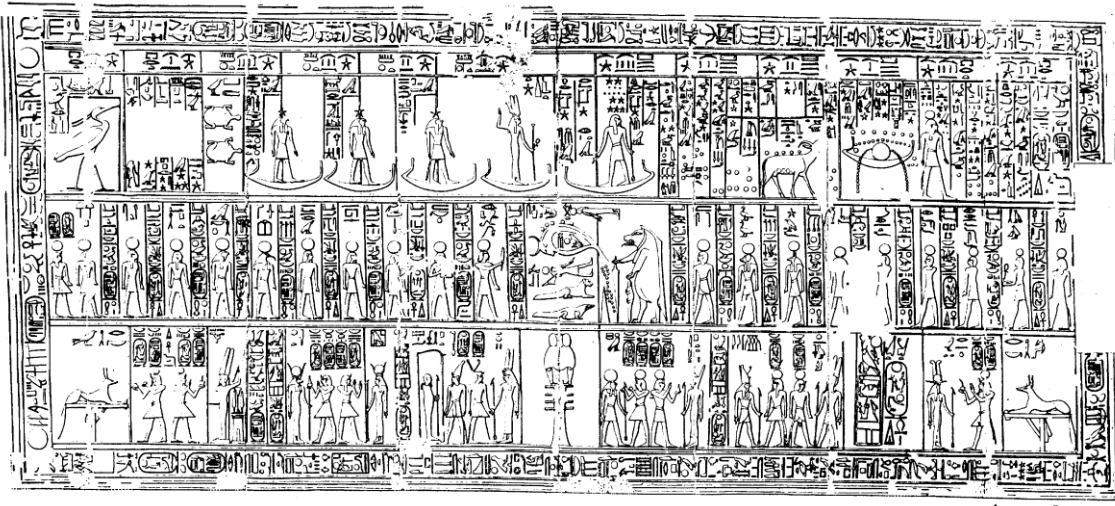


Figure 6.3: The astronomical ceiling in the Ramesseum at Thebes as depicted in Gardiner, *The Problem of Month-Names*.

The layout of the Ramesseum ceiling month designations and their month-names is shown schematically below in Table 6.2.<sup>49</sup>

Table 6.2: Ramesseum ceiling month designations and their month-names

II prt	I prt	IV 3ḥt	III 3ḥt	II 3ḥt	I 3ḥt	[blank]	IV šmw	III šmw	II šmw	I šmw	IV prt	III prt
<i>rkḥ wr</i>	<i>mn</i>	<i>shmt</i>	<i>hwt hr</i>	<i>pth</i>	<i>thy</i>	baboon	<i>R<sup>c</sup>-Ḥr-3ḥty</i>	<i>ipt- hmt</i>	<i>hnt ḥty</i>	<i>hnsu</i>	<i>mnwtt</i>	<i>rkḥ nds</i>

The ceiling (Figure 6.3) is divided into three horizontal registers or panels surrounded on each side by a border. The upper register has decans corresponding to those found in the southern half of the Senmut ceiling, but with a few additions. Above the register is a horizontal strip divided into 13 equal sections, in which the middle section is blank, the other 12 having the numerical designations of the 12 months of the three seasons.

Moving left from the central blank space, the first six months begin with I 3ḥt and go to II prt. The other six months start on the extreme right with III prt, and go left to the blank space ending in IV šmw. The month-names show the same arrangement on Amenhotep III’s water clock, except that here they are on a flat surface as if the clock had been spread out. The blank space between IV šmw and I 3ḥt corresponds in the bottom register to the figure of a cynocephalus, that is, the dog-headed baboon.

<sup>46</sup> See C.F. Nims, “Ramesseum Sources of Medinet Habu Reliefs,” *Studies in Honor of George R. Hughes January 12, 1977* (SAOC 39; Chicago IL: Chicago: Oriental Institute of the University of Chicago, 1976) 169-75, esp. 169, 175.

<sup>47</sup> Depuydt, *Civil Calendar*, 117.

<sup>48</sup> For representations and discussions, see Gardiner, “Problem of Month-Names,” 26-27; representation of ceiling between pp. 16 and 17; Parker, *Calendars*, 43 §§223-25 and pls. 1 and 2; idem, “The Problem of the Month-Names: A Reply,” *Rd’É* 11 (1957) 94-6; Spalinger, “Month Representations,” 110 and works cited in n. 1, 115-22.

<sup>49</sup> This is adapted from Parker, *Calendars*, 44.

The middle register depicts the same deities found on the lower section of the northern ceiling of Senmut's tomb below the 12 circles, with a few more deities added.<sup>50</sup>

On the bottom register the king is depicted making offerings to the deities arranged in pairs, whose names are written above each. The names of the deities representing months equate to the seasonal month designations (I *3ht*, II *3ht*, etc.) shown in the upper strip.

The names are the same as appear on the Ebers calendar except that *wp rnpt* heads that list and *R<sup>c</sup>-Hr-3hty* does not appear there as 12th month; that being occupied by *ipt-hmt* (Epiphi). Eight of the names on the Ramesseum ceiling are the same as those on the Senmut ceiling, while all 12 names are the same as those on the Karnak water clock.<sup>51</sup> (The two hippopotami of the water clock are represented instead by jackals for the months of *rkh wr* and *rkh nds* in the Ramesseum).<sup>52</sup> The four that are different to those of the Senmut ceiling and the Ebers calendar are *ptah*, *shmt*, *mn*, and *R<sup>c</sup>-Hr-3hty* as noted previously in our discussion of the Karnak water clock.

Most provocative is the question whether *R<sup>c</sup>-Hr-3hty* (Re Horakhty) was the original name for the 12th month or was the name of the god representing *wp rnpt* on pictorial representations, as Spalinger proposes. His idea seems premised on the view that there was only one Egyptian calendar. On the other hand, Wells understood that *R<sup>c</sup>-Hr-3hty* was the 12th month of a pre-dynastic calendar of Lower Egypt separate from that of Upper Egypt. This infers an original month-name.<sup>53</sup> We proceed to further calendar depictions.

#### Cairo Calendar 86637, verso XIV

A papyrus known as Cairo 86637 was published by Abd el-Mohsen Bakir in 1966.<sup>54</sup> The main text, labelled by Bakir as 'Book II' is known as "The Calendar of Lucky and Unlucky Days" due to its subject matter.<sup>55</sup> Spalinger states that the papyrus comes from the workmen's village of Deir el Medina.<sup>56</sup> He dates the papyrus to the reign of Ramesses III<sup>57</sup> (early 20th Dynasty), which he asserts is more accurate than previous dates.<sup>58</sup> The text is written in an "abominable" hieratic script, attributed to the copyists being unable to decipher the original cursive hieratic.<sup>59</sup> Spalinger points out that the original text on verso pages XII, XIII, and XIV was erased and written over. On page XIV, a table gives the daylight and night-time hours of each month of the civil year. A

<sup>50</sup> Parker, *Calendars*, 43 §224.

<sup>51</sup> Due to damage on the water clock the names *hnsu* and *hnt hty* are missing, but can be filled in by analogy to the Ramesseum ceiling.

<sup>52</sup> Spalinger, "Month Representations," 116.

<sup>53</sup> See chap. 3 pp. 47-8.

<sup>54</sup> A. Bakir, *The Cairo Calendar No. 86637* (Cairo: Government Printing Offices, 1966).

<sup>55</sup> A.J. Spalinger, "Calendars: Real and Ideal," *Essays in Egyptology in Honor of Hans Goedicke*, (eds. B.M. Bryan and D. Lorton; San Antonio, TX: Van Siclen, 1994) 297.

<sup>56</sup> *Ibid.*, 299.

<sup>57</sup> *Ibid.*, 298, 301.

<sup>58</sup> *Ibid.*, 298. Based on previous publications by Bakir, *Cairo Calendar*, 6, and C. Leitz, "Tagewählerei. Das buch h3t nhh ph wy dt und verwandte Texte," *ÄA* 55 (1994) 7-8, Jauhainen attributes the papyrus to the early 19th Dynasty ("Do not Celebrate Your Feast Without Your Neighbours": A study of References to Feasts and Festival in Non-Literary Documents from Ramesside Period Deir el-Medina [Publications of the Institute for Asian and African Studies 10; Helsinki: Helsinki University Print, 2009] e.g. 78, 82-83, 85-86, 103, 110).

<sup>59</sup> Spalinger, "Calendars: Real and Ideal," 299-300.

hieroglyphic representation is given in Figure 6.4,<sup>60</sup> followed by a translation (Table 6.3).

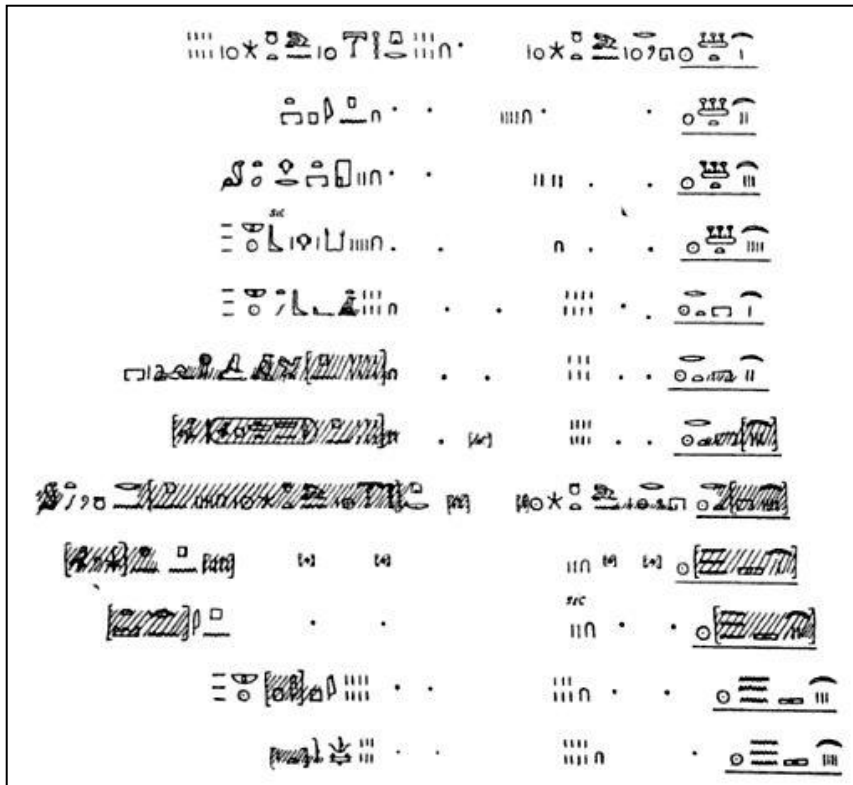


Figure 6.4: Table listing the lengths of day and night in Cairo Calendar 86637, C verso XIV.

Table 6.3: Translation of Cairo Calendar 86637, verso XIV

Month designation					Month-name
I <i>3ht</i>	Hours of daylight	16	Hours of darkness	8	
II <i>3ht</i>	"	14	"	10	Phaophi
III <i>3ht</i>	"	12	"	12	Hathor
IV <i>3ht</i>	"	10	"	14	Choiak
I <i>prt</i>	"	8	"	16	Tybi
II <i>prt</i>	"	6	"	18	Mechir
III <i>prt</i>	"	8	"	16	Phamenoth
IV <i>prt</i>	Hours of daylight	10	Hours of darkness	14	Pharmouthi
I <i>šmw</i>	"	12	"	12	Pachons
II <i>šmw</i>	"	12 [sic]	"	(blank)	[Payni]
III <i>šmw</i>	"	16	"	8	Epiphi
IV <i>šmw</i>	(blank)	18	"	6	Wp rnp̄t

The calendar consists of 12 rows. The top row has been added to assist in understanding the translation. In the original, the month designations are on the right side descending from I *3ht* down to IV *šmw*, but for our orientation they are given on the left in the translation above. Following the month designations, the hours of daylight are given for each month, beginning with 16 for I *3ht* then decreasing by two hours down to six for II *prt*, then ascending to 18 hours for IV *šmw*.<sup>61</sup> The next column gives the hours

<sup>60</sup> From Bakir, *Cairo Calendar*, pl. XLIV A; translation p. 54. For hieratic text see Clagett, *Ancient Egyptian Science*, Vol. II, fig. III.58a, and hieroglyphic transcription fig. III.58b; hieroglyphic text reprinted as Fig. 2 in Depuydt, *Civil Calendar*, 86 (with attributions).

<sup>61</sup> I *šmw* and II *šmw* are both given 12 hours indicating an error for II *šmw*.

of darkness in inverted order from the daylight hours. Though the hours add up to 24 for each day, it is more schematic than realistic.<sup>62</sup>

The last column gives the names of the months, though the name of the first month is missing—perhaps due to lack of space—as is the 10th, though here the name can be assigned to Payni as in other lists. Some of the month-names found on earlier lists have been replaced by later ones in the papyrus. The names are also found on documents from Deir el-Medina.<sup>63</sup> Accordingly, Depuydt assigns *dhwtj* (Thoth) to I *3ht* as its missing month-name. The later names correspond to those in the civil Greco–Roman calendar where II *3ht*, previously *mnht*, is replaced by *p n ipt* = Phaophi,<sup>64</sup> which refers to the important feast of Opet at Thebes. This took place in the second month at the time of the new Kingdom.<sup>65</sup> I *prt*, previously *šf bdt*, is replaced by *t3 ʿbt* = Tybi, apparently derived from “the banquet.”<sup>66</sup> II *prt*, previously *rkh wr*, is replaced by *p n p3mhr* = Mechir; III *prt*, previously *rkh nds*, is replaced by *p n jmn htp* = Phamenoth, in honor of Amenhotep I. II *šmw*, previously *hnt hty* is replaced by *p n int* = Payni, referring to the important Valley Feast held at Thebes.

On the nature of the Cairo calendar 86637 verso page XIV, Spalinger comments with regard to the entire Cairo papyrus, “This enormous literary composition runs through the entire *civil year*”<sup>67</sup> (emphasis his). He points out that the designations of I, II, III and IV *3ht* ... are civil.<sup>68</sup>

The Cairo papyrus calendar 86637 verso XIV can be seen to be the same civil calendar as represented in the earlier lists, notwithstanding a few changes to some of the month-names. These changes are found also in the late Greco–Roman calendar.<sup>69</sup>

### ***Wp rnt* is 12th Month in the Cairo Calendar**

The last month in the Cairo calendar is named *wp rnt*, previously noted as the 12th month in the Senmut ceiling calendar depiction. Thus, unlike the other replacement or new names shown in the Cairo and Greco–Roman calendar, *wp rnpt* retains its name given in the Ebers calendar as the first month in the first column, but in 12th place in subsequent lists. It seems to share this position with *R<sup>c</sup>-Hr-3hty*, the latter being represented on the Karnak water clock and on the ceilings of the Ramesseum and Medinet Habu mortuary temples. *Wp rnpt* was not superseded by *R<sup>c</sup>-Hr-3hty* as it continued to be used also in 12th position in later calendar depictions such as the Necho clock of ca. 600 BCE and in the Tanis Geographical papyrus from Roman times.<sup>70</sup>

### **Birthday of Re on I *3ht* 1**

The mystery of *wp rnpt*'s 12th month position deepens when we recognize that the Cairo papyrus witnesses to the fact that the “feast of Re” and “the birthday of Re” were celebrated not in the 12th month, as in the late Greco–Roman calendar with its name Mesore—“the birthday of Re”—but as the first day of the year, on I *3ht* 1!

<sup>62</sup> C. Leitz, *Studien zur ägyptischen Astronomie* (ÄA 49; Wiesbaden: Harrassowitz, 1989) 22-23; Clagett, *Ancient Egyptian Science*, Vol. 2, 100-01.

<sup>63</sup> Depuydt, *Civil Calendar*, 116, fig 15 n. 1; 128-29.

<sup>64</sup> *P n* means “the one of” or “the month/feast of.”

<sup>65</sup> A.J. Spalinger, “A Chronological Analysis of the Feast of *thy*,” *SAK* 20 (1993) 294.

<sup>66</sup> A.H. Gardiner, “Thutmosis III Returns Thanks to Amūn,” *JEA* 38 (1952) 23, citing J. Černý, “The Origins of the Name of the Month Tybi,” *Annales du Service des Antiquités de l’Égypte* 43 (1943) 173-81.

<sup>67</sup> Spalinger, “Calendars Real and Ideal,” 298.

<sup>68</sup> *Ibid.*, 298 n. 3.

<sup>69</sup> See Table 6.4 on p. 99 below.

<sup>70</sup> Depuydt, *Civil Calendar*, 116-17.

On a related subject of the Lucky and Unlucky days, Spalinger notes that Cairo papyrus 86637 (Book II) has the date of I *3ht* 1 attributed to a good day and the birth of Re-Harakhty.<sup>71</sup> The same papyrus (verso p. 21) has for I *3ht* 1 the “Feast of Re. Do not cross the river.” The same injunction appears in O. Turin 57304 recto, 2–3, where I *3ht* 1 is again designated the “Feast or Re.”<sup>72</sup> In the Cairo papyrus 86637 Book I, recto I, the feast of Re is connected with *wp rnpt*, where, however, it is the “Second feast of *wp rnpt* ... The Nehebkau Feast occurs on this day ...”<sup>73</sup> Since the Nehebkau feast is known to have occurred on I *prt* 1, why is it dated to I *3ht* 1? Spalinger reasons, “Nehebkau is associated with the new year, rejuvenation, and a renewal of kingship, and rather than I *prt* 1, I *3ht* 1 is understood, exactly as at Esna and in the Cairo papyrus.”<sup>74</sup> This seems plausible.

However, it requires us to reconsider the situation in which the feast of Re, presumed to be associated with *R<sup>c</sup>-Hr-3hty* the 12th month, is instead dated to I *3ht* 1 and associated with *wp rnpt* as the “opener of the year.” Parker wanted to equate *wp rnpt* firstly to the heliacal rising of Sothis (which he puts in the 12th month) and secondly to the first day of the civil year.<sup>75</sup> In view of the fact that *wp rnpt* occurs as the first month on the Ebers calendar, and the 12th month on the Senmut ceiling and on the calendar of Lucky and Unlucky days in the Cairo papyrus 86637, there is an overt connection to *wp rnpt* as a month, and not just the day of I *3ht* 1.

In the Cairo papyrus 86637 Book II the “birth of Re Harakhty” is associated with the rising of the Nile, and the papyrus is dated to the reign of Ramesses III.<sup>76</sup> Ramesses III has a *heliacal rising of Sothis* attributed to him on I *3ht*, but the day of the month and his regnal year are not supplied.<sup>77</sup> The date, which comes in the first 120 years of a Sothic cycle, indicates that the Nile was in flood at the beginning of the solar year coinciding with the beginning of a civil year. Since the rising of Sothis and the feast of Re both took place near to the time of the summer solstice, the occurrence of Re’s birth associated with I *3ht* 1 and *wp rnpt* as the first month at the time of the Sothic rising and Nile inundation is congruent. The question still remains: why was *wp rnpt* relegated to the 12th month position?

### Edfu Temple Frieze

Another depiction of month-names associated with their respective deities comes from the famous Horus Temple at Edfu, situated approximately halfway between Thebes and Elephantine. The building was begun by Ptolemy III Euergetes I in 237 BCE and the festival hall and sanctuary were later completed by his son, Ptolemy IV Philopator. The Hypostyle Hall with its astronomical ceiling was added by Ptolemy VII who reigned 145–116 BCE. The building was finally finished in 57 BCE under Ptolemy XI.

The frieze on the Hypostyle Hall has the best preserved of any depiction of the months of the Egyptian year.<sup>78</sup> Among the figures on the frieze, 12 represent calendar months. The month designations, according to the seasons of *3ht*, *prt*, and *šmw*,

<sup>71</sup> Spalinger, “Calendars Real and Ideal,” 302.

<sup>72</sup> Ibid., 301, 303.

<sup>73</sup> Ibid., 302.

<sup>74</sup> Ibid., 308.

<sup>75</sup> Parker, *Calendars*, 75 n. 37.

<sup>76</sup> Spalinger, “Calendars Real and Ideal,” 301.

<sup>77</sup> Idem, “Sothis and ‘Official’ Calendar Texts,” 176.

<sup>78</sup> For representation of the Edfu frieze, see Parker, *Calendars*, pls. IV and V. The 12 gods are shown in pl. V in the right half of the fourth row, and the left half of the fifth row. See also Depuydt, *Civil Calendar*, 115, fig. 14. For bibliography see Spalinger, “Month Representations,” 110 n. 1, and description pp. 118-19.

accompanied by the name of each month, are written vertically to the left of each deity. The calendar months are presented in two panels, each of six months (Figures 6.5a and 6.5b).

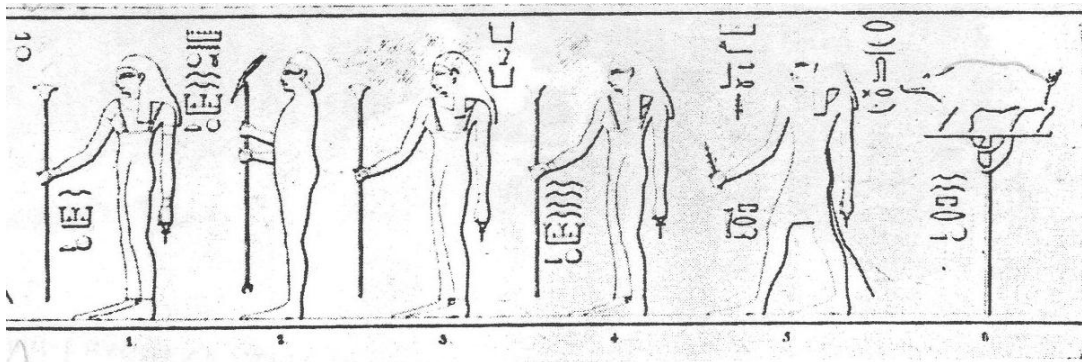


Figure 6.5a: Edfu Frieze (panel 1)

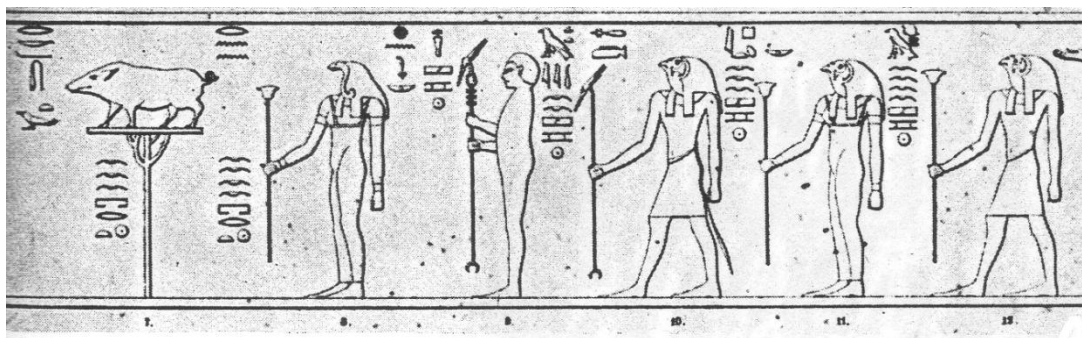


Figure 6.5b: Edfu Frieze (panel 2)

The deities begin with the month of *thy*, with figures proceeding to the right with their respective month-names. The deities have the same names as the month-names on the Senmut ceiling (above the 12 circles of 24 segments), except that the last month of the Edfu frieze is *R<sup>c</sup> Hr 3hty* not *wp rnpt*.<sup>79</sup> According to Spalinger, the civil month designations, *3ht*, *prt*, and *šmw*, given along with the month-names of the gods represented, identifies the Edfu frieze as consisting of civil, not lunar, month-names, with the five epagomenal days unaccounted for.<sup>80</sup>

Nevertheless, Parker sought to identify them with a *lunar* calendar, claiming that the 30 gods preceding the month-deities represented a lunar month of 30 days.<sup>81</sup> Equally, it could be a civil month of 30 days.

In the Edfu frieze the solar month of IV *šmw* is named *R<sup>c</sup> Hr 3hty* alongside its eponymous god Horus (= Re), the youthful sun-god.<sup>82</sup> This is the third occasion we have noted the name *R<sup>c</sup> Hr 3hty* appearing with the god Re, previously on the Karnak water clock and the Ramesseum ceiling (the Medinet Habu ceiling is damaged at this point and does not now bear the name).

In the two instances in which only the name (not the deity) of the 12th month appears, that is, on the Senmut ceiling and the Cairo papyrus 86637, it is *wp rnpt*. Spalinger assumed that the god Harakhty represented the month named *wp rnpt* because

<sup>79</sup> Spalinger, "Month Representations," 118.

<sup>80</sup> *Ibid.*, 118.

<sup>81</sup> Parker, *Calendars*, 43 §227.

<sup>82</sup> Spalinger, "Month Representations," 118.

he understands that *wp rnpt* was the original name of month 12.<sup>83</sup> However, he notes that later Greek and Coptic designations replaced *wp rnpt* with Re.<sup>84</sup>

Spalinger proposed that the deities *pth*, *shmt*, and *mn* depicted on the Karnak water clock and the Ramesseum and Medinet Habu temple ceilings were not the actual names of the months, but represented original or earlier ones of *mnht*, *k3 hr k3*, and *sf bdt*. The Edfu temple frieze has used these names for the gods of these months, but not the name of *wp rnpt* for the 12th month, making the latter an exception.

### ***R<sup>c</sup> Hr 3hty* Represents its Eponymous month**

If the three names of gods noted above actually refer to the month-names of *mnht*, *k3 hr k3*, and *sf bdt*, the use of *R<sup>c</sup> Hr 3hty* and not *wp rnpt* suggests that the god *R<sup>c</sup> Hr 3hty* may also be representing its eponymous month, as do the 11 other months in the Edfu frieze. This seems reasonable in view of the fact that it would not be expected that *wp rnpt*, “the opener,” would originally have been the 12th month. And this is reinforced by its position as the first month in the Ebers calendar. However, it is undeniable that *wp rnpt* is also used as the 12th month on the Senmut ceiling and the Cairo papyrus (and three fragments noted below) which proposes that *wp rnpt* may have been used interchangeably with *R<sup>c</sup> Hr 3hty*.

### **Are *R<sup>c</sup> Hr 3hty* and *wp rnpt* Interchangeable?**

That *R<sup>c</sup>-Hr-3hty* and *wp rnpt* were used interchangeably is illustrated by four dating formulas from the Temple of Edfu for the 28th year of the reign of Ptolemy VIII Euergetes II in 142 BC. The dating formulas all refer to the same dedication, one of which names *wp rnpt* as the fourth month of summer (IV *smw*).<sup>85</sup> So while the Edfu temple frieze does not use the month-name *wp rnpt*, it is used for the Edfu temple dedication.

### **The Twelfth Month has Two Names**

From this it is clear that both *R<sup>c</sup> Hr 3hty* and *wp rnpt* were used as names for the 12th month in the second century BCE. Is it permissible to infer from this that the use of the god’s name, *R<sup>c</sup> Hr 3hty*, on the earlier Karnak water clock and the Ramesseum was representative of the month-named *R<sup>c</sup> Hr 3hty* and not that of *wp rnpt*? Was the god Re used to represent the month-named *R<sup>c</sup> Hr 3hty* when a god was needed (as on the Karnak water clock, the Ramesseum ceiling, and the Edfu frieze), and on those occasions when a god was *not* needed to depict a month, the name *wp rnpt* was used (as on the Senmut ceiling, the Cairo papyrus calendar, and the three fragments noted below)?

If so, we have the situation in which the 12th month has two names; one, *wp rnpt*, “the opener” seems to be inappropriate, which leaves *R<sup>c</sup> Hr 3hty* as the other, and presumably original, name. This is not unexpected considering that Re is assumed to have been reborn annually and in the 12th month the main celebration of his birth was held.<sup>86</sup> The feast of Re was also dated to I *3ht* 1 in the 20th Dynasty,<sup>87</sup> noted above. But for the present discussion, it seems as though the month *wp rnpt* was relocated from its first position to share 12th position with *R<sup>c</sup> Hr 3hty*, seeming to be at variance with the dates of both feasts on I *3ht* 1.

<sup>83</sup> Ibid., 119-20, 122, and elsewhere.

<sup>84</sup> Ibid., 122.

<sup>85</sup> For further discussion see p. 100.

<sup>86</sup> R.A. Wells, “Re and the Calendars,” *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 22-23.

<sup>87</sup> Ibid., 22.



### Other Fragmentary Attestations of *wp rnpt* as Twelfth Month

*Wp rnpt* as a month-name is also found in 12th place on a fragment of a water clock dating from the reign of Necho II (610–595 BCE) of the 26th Egyptian Dynasty,<sup>88</sup> and on a water clock from the time of Philip Arrhidaeus (323–317 BCE),<sup>89</sup> (who was a mentally retarded half-brother of Alexander the Great), and on the Tanis Geographical Papyrus of Roman times.<sup>90</sup>

### The Greco–Roman Calendar

Of the calendars represented above, the Cairo Papyrus Calendar 86637 verso XIV shows the closest similarity in its month-names to those in the Greco–Roman calendar, though the latter does not differ substantially from the others discussed above. By Greco–Roman times (starting with the conquest of Egypt by Alexander the Great in 332 BCE) the month-names of the civil calendar had become Graecized as shown in the right-hand column in Table 6.4 below.

**Table 6.4: Civil calendar month-names in Greco–Roman Period**

Month designations	Earlier names	From ca. 20th Dyn.	Greco–Roman
I <i>3ht</i>	<i>thy</i> (Tekhy)	<i>Dḥwtyt/</i>	Toth
II <i>3ht</i>	<i>Mnḥt</i> (Menche)	p n 'Ipt	Phaophi
III <i>3ht</i>	<i>Ht- hr</i> (Hathor)	<i>Ht hr</i>	Hathor
IV <i>3ht</i>	<i>k3 hr k3</i> (Kaherka )	<i>k3 hr k3</i>	Choiak
I <i>prt</i>	<i>šf bdt</i> (Shef bedet)	<i>t3 °3bt</i>	Tybi
II <i>prt</i>	<i>rkh-wr</i> (Great Rokeh)	p n Mḥr	Mechir
III <i>prt</i>	<i>rkh nds</i> (Small Rokeh)	p n 'Imnḥtp	Phamenoth
IV <i>prt</i>	<i>Rnwtt</i> (Renutet)	p n Rnwtt	Pharmouthi
I <i>šmw</i>	<i>Hnsw</i> (Chons)	p n Hnsw	Pachons
II <i>šmw</i>	<i>Hnt-ḥty</i> (Khenty-kety)	p n int	Payni
III <i>šmw</i>	<i>'Ipt ḥmt</i> (Ipet hemet)	<i>Ipip</i>	Epiphi
IV <i>šmw</i>	<i>wp rnpt</i> (Wep renpet) <i>R°-hr-3ḥty</i> (Re Harakhty)	<i>wp rnpt/</i> <i>R° hr 3ḥty</i>	Mesore

Dyn = dynasty.

In the Greco–Roman calendar, the first month is Toth, apparently replacing *dḥwty* (Djehuty), otherwise *thy* in the earlier month-lists. Then follows Phaophi replacing the earlier *mnḥt* (otherwise *pth*) for II *3ht*; then come Hathor, Choiak, and Tybi (the latter replacing the earlier *šf bdt* (otherwise *mn*) for I *prt*); then Mechir and Phamenoth for earlier *rkh wr* and *rkh nds*, respectively, for II and III *prt*; then Pharmouthi replacing *rnwtt* for IV *prt*; then Payni for earlier *hnt ḥty* for II *šmw*; then Mesore for earlier *R°-Hr-3ḥty*.

Mesore, meaning “the birthday of Re” comes from Egyptian *mswt r°*, though its hieroglyphic equivalent is not given as a month-name in any of the above month-lists and Depuydt says it is “hardly attested as a designation of civil Month 12.”<sup>91</sup> Mesore, as a late derivative of *R°-Hr-3ḥty*, is not unexpected in the 12th month position since it has the Re component. Depuydt notes six instances in which *mswt r°* or its variants are designations for I *3ht* 1. He writes, “The only one dating to before the Ptolemaic period, concerns the longer variant *mswt r° hr 3ḥty* found in a New Kingdom ‘necropolis

<sup>88</sup> See Parker and Neugebauer, *Egyptian Astronomical Texts* III, 42–44. Fragment shown on p. 43, fig. 9; Parker, *Calendars*, 41, fig. 18; Depuydt, *Civil Calendar*, 88, fig. 3, 111, 116–17.

<sup>89</sup> Depuydt, *Civil Calendar*, 116–17, recorded in his fig. 15.

<sup>90</sup> Parker, *Calendars*, 41, fig. 18; Depuydt, *Civil Calendar*, 89, fig. 4, 113, 116–17. Depuydt notes that another fragment of the Turin papyrus has the names of *th*, *jp*, and *ḥwt hr* following each other horizontally (p. 117). These refer to the months of Toth, Phaophi, and Hathor (I, II and III *3ht*).

<sup>91</sup> Depuydt, *Civil Calendar*, 95.

journal’ transmitted in a Turin papyrus.”<sup>92</sup> This is a reference to I 3 $\dot{h}t$  1, birthday of Re-Harakhty in the 13th year of the reign of Ramesses IX.<sup>93</sup>

#### “Re Corresponds to Ancestral Feast of *Wp Rnpt*”

We also note that the feast of *wp rnpt* is found in an inscription from the festival calendar of Esna dating to about the first century CE. Referring to I 3 $\dot{h}t$  9 it notes, “Feast of Amun; feast of Re, corresponding to what the ancestors called the Feast of *Wp Rnpt*.”<sup>94</sup> In this statement the feast of Re has replaced the feast of *wp rnpt* of an earlier time.

The dating of the feast of *wp rnpt* to a day in I 3 $\dot{h}t$  in the time of the ancestors, points back to when *wp rnpt* “the opener” was the feast’s eponymous month, and we have an example of this in the Ebers calendar. It seems the memory of this feast on I 3 $\dot{h}t$  9 was still being celebrated in the Greco–Roman period.

A further reference from Esna, not connected to the calendar, refers to a ceremony that took place in the month of *R<sup>c</sup>-Hr-3 $\dot{h}ty$*  on day nine, referring to IV *šmw* 9, one month earlier than in the previous citation.<sup>95</sup>

#### Ostrakon British Museum 29560 (formerly 5639a)

To the above lists can be added names of months or monthly feasts derived from scattered groups of words as they appear in continuous text on an ostrakon from the workmen’s village in Deir el-Medina (20th Dynasty), now known as O. BM 29560, formerly 5639a. It refers to the giving of victuals by a lady Tadjepuhu to a woman Henutshe in certain months.<sup>96</sup> See Table 6.5, which is derived from the ostrakon.

**Table 6.5: Ostrakon British Museum 29560 (formerly 5639a)**

Line	Month/feast name	Translation
4	<i>p3 šmt n Hr</i>	“going forth of Horus”
8	<i>D<math>\dot{h}</math>wty</i>	Djehuty = Thoth
12	<i>Pn ipt</i>	Phaophi
15	<i>Hwt-Hr</i>	Hathor
18	<i>Kr-hr k3</i>	Choiak
Verso 4	<i>p3 hnw Mwt</i>	“periplous of Mut”
6	<i>Pn-p3-Mhyr</i>	Mechir
8	<i>Pn-’Imn-htp</i>	Phamenoht
–	[Not given]	[Pharmouthi]
–	[Not given]	[Pachons]
–13	[Not given]	[Payni]
	<i>Pn-ipt</i>	Epiphi

<sup>92</sup> Ibid., 96.

<sup>93</sup> A.H. Gardiner, “Mesore as First Month of the Egyptian Year,” *ZÄS* 43 (1906) 138-39; idem, “Problem of Month–Names,” 13.

<sup>94</sup> A.J. Spalinger, “*Wp Rnpt* in the Esna Festival Calendar,” *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 51-56. Later Spalinger said this overview is now obsolete. Idem “Calendars: Real and Ideal,” 306; idem. “From Esna to Ebers: An Attempt at Calendrical Archaeology,” *Studies in Honor of William Kelly Simpson*, (Vol. 2, Boston: Museum of Fine Arts, 1996) 759 n. 15.

<sup>95</sup> Idem, “Esna to Ebers,” 761.

<sup>96</sup> See Gardiner, “Mesore as First Month,” 140; R. van Walsem, “Month-Names and Feasts at Deir el-Medina,” *Gleanings from Deir el-Medina* (eds. R.J. Demaree and J.J. Janssen; Leiden: Nederlands instituut voor het Nabije Oosten, 215, 218-20, 233-34 n. 23, 242; J. von Beckerath, “Bemerkungen zum ägyptischen Kalender, Pt. 1: Zur Entstehung des 365-tätigen Kalenders; & Pt. 2: Zum Problem der Monatsnamen,” *ZÄS*, 120, 1, 1993, 7-22; Depuydt, *Civil Calendar*, 119 and fig. 18; Jauhainen, “Do not Celebrate,” 72; “Ostrakon 29560” in the British Museum’s online collection database.

The numbers in the left column refer to the lines of the ostrakon.<sup>97</sup> In line numbered 4, the *first* month/feast is “the going forth of Horus” (Re, the youthful sun-god), synonymous with *R<sup>c</sup>-Hr-3hty*, and regarded as being the name of the 12th month. The following month-names are in the usual order as given below. The right side column with the later names for the months is not part of the ostrakon. The recto of the ostrakon with its 18 lines of hieroglyphic text is shown on the right. The verso has 16 lines.

If the “going forth of Horus” refers to the first month or monthly feast of I *3ht*, then the last month/feast must be Epiphi or IV *šmw* as in the Ebers calendar. However, in Ebers, the first month is *wp rnpt*, not the “going forth of Horus”. As we have seen above, the months of *wp rnpt* and *R<sup>c</sup>-Hr-3hty* can both be month 12 or IV *šmw*, but their *feasts* have been dated to I *3ht* 1.

It is not certain whether the names on the ostrakon refer to months or monthly feasts, but Erman, Gardiner, van Walsem, and Depuydt<sup>98</sup> prefer to view them as names of *months*. Van Walsem, who published the O. BM 29560 along with another 11 partial lists from other ostraca,<sup>99</sup> suggested that the “going forth of Horus” was the *last* month of the year, and only put at the beginning of the ostrakon because the memorandum about the giving out of victuals started at the end of the year.

To support this proposal, van Walsem refers to O. BM 1088, which *starts* with the feast of Renenutet, IV *pṛt* in the Greco–Roman calendar, but he says this does not mean that the feast took place in I *3ht*.<sup>100</sup> Thus, by analogy, a text beginning with “the going forth of Horus” does not mean that that month was at the beginning of the calendar year. Van Walsem thought his explanation would resolve Gardiner’s perplexity at finding the month-feast held out of its eponymous month in the next month.

Van Walsem also pointed to another ostrakon from Deir el-Medina designated O. BM 1265 that began with the month of *dhwty* (Thoth) in first place giving its civil designation as I *3ht* in which the feast of Thoth was held. He notes, “This is the only ostrakon that gives the feast/month-names side-by-side with their correct month-numbers.”<sup>101</sup> The text is quite damaged and gives only seven names of months/feasts in 26 lines of text.<sup>102</sup> From the palaeographical features of the ostrakon, including paraphrases that became one word month-names, van Walsem assigns it to a period somewhat earlier than papyrus Cairo 86637 (discussed above). He uses this ostrakon to argue by analogy that the “going forth of Horus” on O. BM 29560 refers to IV *šmw* and not I *3ht*.<sup>103</sup>

The assumption is that the feast of the “birthday of Re” will be held in its eponymous month, in this case indicating that the first month of I *3ht* is named *mswt r<sup>c</sup>* synonymous with “the going forth of Horus” or *R<sup>c</sup>-Hr-3hty* “Re Horus of the Two Horizons”. If “going forth of Horus” is in the first month position in O. BM 29560, it replaces *wp rnpt* as shown in the Ebers calendar. These two lists of month-names are the only lists that do *not* start with *thy* or its synonyms *dhwty* or Thoth.

The “going forth of Horus” on the ostrakon cannot unequivocally be assigned to a month or a feast on I *3ht*, but nor can it be assigned to IV *šmw* on the present evidence. If

<sup>97</sup> Van Walsem, “Month-Names,” 242.

<sup>98</sup> A. Erman, “Monatsnamen aus dem Neuen Reich,” ZÄS 39 (1901) 128-30; Gardiner, “Mesore as First Month,” 140; Van Walsem, “Month-Names,” 218, 233-34 n. 23; Depuydt, *Civil Calendar*, 119-20.

<sup>99</sup> Van Walsem, “Month-Names,” 242-44.

<sup>100</sup> *Ibid.*, 234 n. 23; 242.

<sup>101</sup> *Ibid.*, 217.

<sup>102</sup> *Ibid.*, 216-17, 242.

<sup>103</sup> *Ibid.*, 217.

the “going forth of Horus” refers to a feast in I 3 $\dot{h}t$  why was it moved from  $R^c$ - $\dot{H}r$ -3 $\dot{h}ty$  (IV  $\dot{s}m\omega$ ), its eponymous 12th month? I return to O. BM 29560 in my review of Gardiner’s evidence of feasts held out of their eponymous months, and later seek to answer the above question.

### **A Calendar Conundrum Involving $wp\ rnpt$ and $R^c$ - $\dot{H}r$ -3 $\dot{h}ty$**

The above discussion highlights a problem concerning  $wp\ rnpt$  and  $R^c$ - $\dot{H}r$ -3 $\dot{h}ty$ , which are both attested as the 12th month in the preceding lists of month-names, while  $wp\ rnpt$  is also placed as the first month in the Ebers calendar. However, there is no corresponding attestation of  $R^c$ - $\dot{H}r$ -3 $\dot{h}ty$  as the *month* of I 3 $\dot{h}t$  in any of the lists unless it occurs in O. BM 29560 in the synonymous “going forth of Horus.” If  $R^c$ - $\dot{H}r$ -3 $\dot{h}ty$  was once understood as the first month, it infers a stage of calendric development such as a merging of calendars. This has already been suggested in the relegation of  $wp\ rnpt$  to the 12th month. Calendric “evolution” may explain why  $m\dot{s}wt\ r^c\ \dot{h}r3\dot{h}ty$  in the Turin necropolis journal, dating to the reign of Ramesses IX of the 20th Dynasty, fell on I 3 $\dot{h}t$  1.

The problems raised by the analysis of the calendars centered in Ebers having  $wp\ rnpt$  as the first month and  $\dot{i}pt\ hmt$  (Epiphi) as the last—while the others have  $\dot{t}hy$  (Thoth) first and  $wp\ rnpt$  or  $R^c$ - $\dot{H}r$ -3 $\dot{h}ty$  last—continues in the next chapter in a wider application.

## Chapter 7

### Revisiting Gardiner and Parker

We have surveyed calendar depictions and come to the conclusion that *wp rnpt* occupied the first month position as in the Ebers calendar, but in later calendars it is located as the 12th month interchangeably with *Rc-Hr-3hty*. I now tackle the reason that this repositioning occurred, and how Gardiner and Parker accounted for the change. If there were two calendars dating a month apart, as proposed by Gardiner, the entire chronology of Egypt must be reconfigured to the dates applying to each of the calendars.

Following the discussion of his later lunar calendar, which concludes his main thesis, Parker adds three excursuses. Excursus A, entitled “The Transfer of Feasts from the Lunar to the Civil Calendar” is relevant. Here Parker finally interacts with Gardiner’s article of 1906. He shows how his hypothesis responds to Gardiner’s “theory” of two civil calendars.

The next chapter will pursue the problem of feasts not being held in their eponymous months. This matter features significantly in these chapters and contributes to an eventual solution that paves the way to reconstruct the chronology of ancient Egypt.

#### Parker Objects to Gardiner’s Evidence of Two Civil Calendars

Parker summarized the six examples stated by Gardiner<sup>1</sup> for demonstrating that festivals were not held in their eponymous months according to the Greco–Roman calendar, but in the month that followed. Parker mistakenly thought that Gardiner’s theory was that feasts *had* to move out of their eponymous months into the following month. In order to disprove the theory, he observed the following:

1. The feast of Renenutet (dated to I *šmw* 1 on the 18th Dynasty tombs) never moved to IV *prt* 1.<sup>2</sup>

2. The date of the feast of Epiphi was IV *šmw* 2, not IV *šmw* 1, and therefore not the first day of the month as required by Gardiner’s theory.<sup>3</sup>

3. The feast of *m<sub>swt</sub> R<sup>c</sup>* never moved to IV *šmw* 1; it was always held on I *3ht*. The reason why the feast of *m<sub>swt</sub> R<sup>c</sup>* fell on I *3ht* 1 was because it was “the companion feast to *wp rnpt* and originally meant the day of the rising of Sothis; but when *wp rnpt* came to mean also the first day of the civil year, so too did *m<sub>swt</sub> R<sup>c</sup>*.”<sup>4</sup> But Parker did not see this as an example of a feast that had moved out of its eponymous month to day one of the next month.

<sup>1</sup> A.H. Gardiner, “Mesore as First Month of the Egyptian Year,” *ZÄS* 43 (1906) 136-44.

<sup>2</sup> R.A. Parker, *The Calendars of Ancient Egypt* (SAOC 26; Chicago, IL: Oriental Institute of the University of Chicago, 1950) 58 §286.

<sup>3</sup> *Ibid.*, 58 §286.

<sup>4</sup> *Ibid.*, 58 §288, cf. 47 §237.

4. The feast of Hathor at Edfu occupied the whole month of III *3ht*, and in the same calendar a special festival was held from III *3ht* 29 to IV *3ht* 1, inferring that it never moved from III *3ht* 1 to IV *3ht* 1.<sup>5</sup>

5. Gardiner had proposed that the feasts of *Nhb k3w* (Neheb-kau) and Khoiak were the same, with dates of I *pri* 1 and IV *3ht* 1. But Parker argued that they were not the same feasts.<sup>6</sup>

6. In 1906, Gardiner had proposed that *wp rnpt* (or Mesore as he called it) was the first month in the Ebers calendar, and all the month-names in the Ebers calendar stood exactly where they ought to have stood, and accounted for feasts falling a month ahead of those in the Greco–Roman calendar. But Parker writes, “The Ebers calendar is most satisfactorily explained as equating the original lunar calendar with the civil year, and the reason for the appearance of *wp rnpt* at its head is simply that that event (the rising of Sothis) controlled the lunar year.”<sup>7</sup> And because *wp rnpt* in Parker’s opinion was the 12th lunar month, and not the first, “The Ebers calendar cannot be regarded as proof ... of feasts falling on the first day of the month after that to which they give a name.”<sup>8</sup>

7. Having disposed of the feasts of *mswt R<sup>c</sup>*, Neheb-kau/Khoiak, and the Ebers calendar with *wp rnpt* in first position, Parker was still left with three feasts that he admitted fell out of their eponymous months in the Greco–Roman calendar: the festivals of Hathor, Renenutet (Renuet), and Epiphi. For these he sought an explanation involving his three calendars. Parker proposed that the feast of Hathor had fallen in “the third *lunar* month of the year and a feast of Renenutet in the eighth *lunar* month if for no other reason than the fact that each feast named its month”<sup>9</sup> (emphasis added).

Parker then had to explain why the Renenutet feast was dated to I *šmw* 1, the ninth month, as in the tombs of Khaemhet and Neferhotep. Parker writes:

The explanation lies, I believe, in the transfer of feasts from the lunar to the civil calendar. The feast of Renenutet in the lunar calendar was a full-moon feast. At the time when it was given a fixed day in the civil year we may suppose that IIII *pri* 15 lunar was the same day as I *šmw* 1 civ., or, as seems somewhat more likely, was near the latter date and that the first day of the month was adopted as a more significant and appropriate day.<sup>10</sup>

However, he had earlier stated in *Calendars* a refutation of an earlier Sethe–Weill theory:

But mere double-dating in the civil and later lunar calendars would never account for the feast of Renenutet falling *in every known instance from the 18th dynasty to the Roman period*, on I *šmw* 1. Moreover, the calendar of Medinet Habu differentiates between feasts determined by the moon and feasts fixed in the civil year and there is nothing to indicate that the feast of Renenutet on I *šmw* 1 was lunar<sup>11</sup> (emphasis his).

When confronted with Gardiner’s evidence that the feast of Renenutet was out of its eponymous month in I *šmw* 1, Parker changed his earlier view that the Renenutet feast was not determined by the lunar calendar to stating that it fell on or near the day of

<sup>5</sup> Ibid., 58 §286.

<sup>6</sup> Ibid., 58 §§286, 288.

<sup>7</sup> Ibid., 58 §286, cf. 42 §§217-18.

<sup>8</sup> Ibid., 58 §288.

<sup>9</sup> Ibid., 58 §290.

<sup>10</sup> Ibid., 58 §289.

<sup>11</sup> Ibid., 80 n. 12.

the full moon in the lunar calendar, and was transferred to fall on or near the date of I *šmw* 1 in the civil calendar.

Parker's explanation of the feast of Hathor being celebrated on IV *3ht* 1 instead of III *3ht* 1, where it named the month, is the same as for the feast of Renenutet, except that for Hathor he did not know what lunar day was involved.<sup>12</sup> To explain why these two feast dates had moved, he applied his hypothesis of the later lunar calendar. Parker writes,

It may very well have been that the fixed feasts actually supplanted their lunar prototypes while the original lunar year and the civil year were still running concurrently and that it was not until the civil year had moved away from nature and the later lunar calendar had been introduced as its companion that the lunar feasts of the original calendar were revived. From then on one might have two dates for each festival, one fixed to the civil year, the other determined by the lunar with varying dates in the civil calendar.<sup>13</sup>

Parker's assertion relies on the hypothesis of a lunar calendar, yet the passages from which the dates come *never differentiate between a lunar and a civil calendar*. The civil calendar, however, is accepted as fact. Parker's "explanation" does not account for the evidence Gardiner accrued for one festival having two dates set one month apart on the first day of each month; the examples usually came from widely separated time periods. *There is not a single example of the feasts described by Parker*; that is, one feast having a fixed date and another date set by a lunar calendar then transferred to varying days in the civil calendar. Parker's "explanation" *does not explain* feasts being held out of their eponymous months and, therefore, the problem of "the shift" remains.

The third feast noted in Parker's "objections,"<sup>14</sup> which Gardiner tentatively proposed had been held out of its eponymous month, is that of Epiphi.<sup>15</sup> Parker referred back to Gardiner's discussion of the third regnal year of Ramesses X when the workmen did not work on IV *šmw* 2. Gardiner also noted that the papyrus Boulak 19 also appears to have the date of an Epiphi feast dated to the 12th month, IV *šmw* 15,<sup>16</sup> though III *šmw* is also possible.<sup>17</sup> The month of Epiphi in the Greco-Roman calendar is III *šmw*.

Parker theorizes that the earlier name for Epiphi was *ipt hmt* in the *original* lunar calendar, and that *ipip* is used in the *later* lunar calendar for the month of III *šmw*. Parker supposes that the later lunar calendar had the same names as the months of the *civil* calendar, and that "if the [Epiphi] feast began on almost any day after the sixth lunar day, it would have been possible for it, in some year of the cycle to have fallen on IV *šmw* 2." He calls this "double-dating,"<sup>18</sup> which, for him, solves the problem of a feast being assigned to both III *šmw* and IV *šmw*.

<sup>12</sup> Ibid., 58 §289.

<sup>13</sup> Ibid., 58 §290.

<sup>14</sup> Ibid., 58 §§287-91.

<sup>15</sup> Gardiner, "Mesore as First Month," 137-39.

<sup>16</sup> R. van Walsem refers to this papyrus as "a journal of necropolis workmen," in "Month-Names and Feasts at Deir el-Medina," *Gleanings from Deir el-Medina* (ed. R.J. Demaree and J.J. Janssen; Leiden: NINO, 1982) 221. Papyrus Bulaq is equated with P Cairo CG 58096 verso 2 in Jauhiainen's index, but as she points out the latter refers "to a jeweller's account from Saqqara" in the reign of Ramesses II. See H. Jauhiainen "Do not Celebrate Your Feast Without Your Neighbours": *A Study of References to Feasts and Festival in Non-Literary Documents from Ramesside Period Deir el-Medina* (Publications of the Institute for Asian and African Studies 10; Helsinki: Helsinki University Print, 2009) 69 n. 11, 153 (quote from here), 155, 404 (index). On p. 155 Jauhiainen notes that the feast of Epiphi took place on IV *šmw* 16, a day later than in papyrus Bulaq 19. Clearly, they are not the same passages.

<sup>17</sup> Gardiner, "Mesore as First Month," 137-38; Parker, *Calendars*, 58-59 §291.

<sup>18</sup> Parker, *Calendars*, 59 §291.

But we observe that the dates given above for the Epiphi feast do not fall on IV *šmw* 1 and III *šmw* 1 indicating that Epiphi is not a fixed feast set on day one. Therefore, there must be a different explanation for the dates of the Epiphi feast falling in both III *šmw* and IV *šmw*. We discuss the Epiphi feast dates again in chapter 8.

Nothing that Parker has stated in his “objections” to Gardiner’s theory is evidence for his own hypothesis of two lunar calendars, with transference of lunar dates from a lunar calendar to a civil calendar.

### **Gardiner Responds in 1955 and Parker Replies in 1957**

Parker’s dismissal in 1950 of Gardiner’s “evidence” brought an indignant response from Gardiner in 1955. He wrote, “I was startled to find the contents of the said paper described as ‘theory,’ since I myself had always regarded them as statements of fact.”<sup>19</sup> By “statements of fact” he presumably refers to the feasts dated to *the month after their eponymous months* as in the Greco–Roman calendar, but not his theory about the Mesore- and Thoth-beginning calendars.

We now consider more examples adduced by Gardiner that festivals had once been held in their eponymous months but when applied to the Greco–Roman calendar are located in the next month, and how Parker sought to explain them according to his own calendar theory.

### **Gardiner and Parker on the Feast of Renenutet**

Contrary to Parker’s first “objection,” as previously discussed in connection with the 18th Dynasty tombs of Khaemhet and Neferhotep (that the feast of Renenutet had always been celebrated on I *šmw* 1) Gardiner was able to cite from Parker’s own *Calendars* a feast of Renenutet that was held on IV *pṛt* 1. An ostrakon from Deir el-Medina (No. 35, 14)<sup>20</sup> dating from the first half of the 20th Dynasty<sup>21</sup> recorded when palm dates and wood were delivered. According to Gardiner’s translation, it was on the “Fourth month of Winter, day 1, Pharmouthi,”<sup>22</sup> which Gardiner takes as the *month* of Pharmuthi.

However, Parker translated it to read, “IV *pṛt* 1, the one of Renenutet (Pharmuthi).”<sup>23</sup> Parker assumes “the one” of Renenutet/Pharmuthi to be the *month-name* of IV *pṛt*, since Pharmuthi is IV *pṛt* in the Greco–Roman calendar, but Parker attributed the *festival* of Renenutet/Pharmuthi to I *šmw*. He thought this interpretation explained Gardiner’s new evidence.

### **Gardiner on the Feast of Epiphi**

In 1950, Parker criticized Gardiner’s theory that feasts fell on Day One of the next month by pointing out that the feast of Epiphi was now known to have fallen on IV *šmw* 2, not IV *šmw* 1.<sup>24</sup> In 1955, Gardiner protested that he had never said that feasts *had to fall* on Day One of the next month. He referred to new evidence from an oracle inscription from Karnak<sup>25</sup> in which the feast of Epiphi started on III *šmw* 28 and finished

<sup>19</sup> A.H. Gardiner, “The Problem of the Month-Names,” *Rd’É* 10 (1955) 9.

<sup>20</sup> Parker, *Calendars*, 77 n. 95.

<sup>21</sup> This is now attributed to the reign of Ramesses III. See Jauhiainen, “*Do not Celebrate*,” 146 and n. 3.

<sup>22</sup> Gardiner, “The Problem of Month-Names,” 11.

<sup>23</sup> Parker, *Calendars*, 45 §229; Gardiner, “Problem of Month-Names,” 11; R. A. Parker, “The Problem of the Month-Names: A Reply,” *Rd’É* 11 (1957) 101 n. 1.

<sup>24</sup> *Ibid.*, 57-58 §286.

<sup>25</sup> The Nesamun oracle inscription found “on the outer face of the festival hall of Amenhotep II”; cited by Jauhiainen (“*Do not Celebrate*,” 155 n. 5) from C.F. Nims, “An Oracle Dated in ‘the Repeating of Births’,” *JNES* 7 (1948) 157-62.



on IV *šmw* 2 in the seventh year of the Renaissance, which was the 25th year of Ramesses XI.<sup>26</sup> Gardiner translates:

The “Renaissance. Year 7, Renewal of Births, third month of Summer, day 28, under the majesty of the King of Upper and Lower Egypt Menma<sup>c</sup>rē<sup>c</sup>-setapenamūn, etc., the day of the appearance of this august god Amen-Rē<sup>c</sup>, king of the gods [at ti]me of morning in his beautiful festival of *'Ipt-ḥmts*.”<sup>27</sup>

Furthermore, Gardiner assumed that the feast of Epiphi occurring in the third year of Ramesses X and dated to IV *šmw* 2 had taken place on the latter date, presumed to be more important because it came at the beginning of the month.<sup>28</sup> He thought it was almost impossible to give a reason for the dates of festivals, though he acknowledged that, “the dates were sometimes adjusted to suit lunar requirements.”<sup>29</sup>

He saw an analogy of the Epiphi feast with the feast of the Periplous (Sailing) of Mut, which in Greek times was held in Tybi or I *pṛt*, the fifth month.<sup>30</sup> He noted that in a Papyrus from Turin (68, col. 3, 1),<sup>31</sup> which refers to the 17th year of an unnamed king, whom Gardiner presumed to be Ramesses IX, the feast of Mut began on I *pṛt* 30, the last day of the fifth month—consistent with the Greco–Roman calendar.

However, he thought it unlikely that a feast typical for its month would be dated to the last day, and thought that it would have lasted for two days and really belonged to II *pṛt*, the sixth month.<sup>32</sup> He noted further support for the analogy from Papyrus Lansing, 13b, 7, where the feast of Tybi extended over into the sixth month.<sup>33</sup>

### Parker on the Festival of Epiphi

Responding in 1957, Parker disagreed that the festival of Epiphi would have lasted five days or would have given its name to the following month. He said instead that the Epiphi feast was, “a moveable feast, dated in one year to III *šmw* 28 and in another to IV *šmw* 2. This is precisely what we should expect in the case of a *lunar* feast of Epiphi.”<sup>34</sup>

Parker suggests both dates were probably full-moon dates, which would have fallen on lunar day 15. He reasons that the preceding new moons would have fallen in the *lunar* month named Epiphi on days 14 and 18, respectively, so that the full moons fell on *civil* III *šmw* 28 and IV *šmw* 2.<sup>35</sup> He also proposes that the Periplous of Mut could be dated to I *pṛt* 30 if it had fallen on a lunar day such as a full moon,<sup>36</sup> and therefore need not be dated to II *pṛt*.

<sup>26</sup> The “Renaissance” (*wḥm-mswt* literally “the repeating of birth”) refers to the division of Egypt into two provinces with their boundary at El Hibeḥ in the 19th year of Ramesses XI. The southern region was ruled by Herihor and the northern by Smendes, over which Ramesses XI reigned supreme; thus his 25th year was the 7th year of the Renaissance. See K. A. Kitchen, *The Third Intermediate Period in Egypt (1100-650 BC)* (Warminster: Aris and Phillips 1986) 248-54 §§209-12. Hereafter *TIP*.

<sup>27</sup> Gardiner, “Problem of Month-Names,” 12. Now P Turin Cat. 1898 + 1926 + 1937 + 2094 rt. V, 19; Jauhiainen, “Do not Celebrate,” 155 and n. 8.

<sup>28</sup> *Ibid.*, 12.

<sup>29</sup> *Ibid.*, 12-13.

<sup>30</sup> *Idem.*, “Mesore as First Month,” 140.

<sup>31</sup> P. Turin Cat. 2008 + 2016 rt. III, 1 (Jauhiainen, “Do not Celebrate,” 121 and n. 15).

<sup>32</sup> Gardiner, “Mesore as first Month,” 140.

<sup>33</sup> *Idem.*, “Problem of Month-Names,” 12. P. Lansing is now P. BM EA 9994. See Jauhiainen, “Do not Celebrate,” 122 and n. 3.

<sup>34</sup> Parker, “Problem of Month-Names: A Reply,” 102.

<sup>35</sup> *Ibid.*, 102-03; *idem.*, “The Length of Reign of Ramses X,” *Rd'É* 11 (1957) 163-64.

<sup>36</sup> Parker, “Problem of Month-Names: A Reply,” 103.

Another article, written by Parker and published in the same journal and issue as the above, also concerned the two dates for the Epiphi feasts in the reigns of Ramesses X (Year three, IV *šmw* 2), and Ramesses XI (Year 25, III *šmw* 28).<sup>37</sup> He writes, “The assumption is that the feast in each date falls on the same day of the lunar month of Epiphi (III *šmw*), probably full moon day, and therefore that the two feast-dates are separated by an integral number of lunar months.”<sup>38</sup> He checks out the dates using the 25-year cycle of the Carlsberg 9 papyrus and finds that IV *šmw* 2 falls in cycle year 6 and III *šmw* 28 falls in cycle year 12. He considers this a better result than III *šmw* 30 in cycle year 9, III *šmw* 26 in cycle year 15, or III *šmw* 29 in cycle year 23. The best results give him a difference of 31 years between the two dates.<sup>39</sup> Thus, Parker uses his assumption that the feasts fell in a *lunar month named Epiphi* to explain their different dates in the civil calendar.

The festival of the Periplous of Mut dated to I *prt* 30 in the 17th year of an unnamed king is incorrectly assigned to Ramesses IX by Gardiner. My chronology indicates it belonged to the reign of Ramesses VIII and the year 1217. The date appears in Caspersen’s table as a new moon.<sup>40</sup> The feast does not need to extend to II *prt* 1 as suggested by Gardiner.

The dates of IV *šmw* 2 and I *prt* 30 will not be recorded as evidence for feasts held out of their eponymous months in the tables that follow. We discuss these two Epiphi dates again when reconstructing our chronology for the reigns of Ramesses X and Ramesses XI in chapter 33.

### Parker on Texts from Edfu

In 1957, after discussing the two Epiphi feast dates above, Parker called attention to three other partly parallel texts from Edfu, the third of which has two dates. Parker attributes a *civil* calendar month of Epiphi to the first date, IV *šmw* 18, and a *lunar* month of Epiphi to the second date, III *šmw* 23, which he proposed fell on the same day, supposedly proving his point that there was a later lunar calendar running concurrently with a civil calendar. Later, Leo Depuydt also used these texts to argue for evidence of a civil and lunar calendar.<sup>41</sup> Can these dates finally prove the existence of a lunar calendar which is distinct from the civil calendar?

Previously in *Calendars*, Parker showed the hieroglyphic text for all three Edfu (Edfou) inscriptions,<sup>42</sup> but in his 1957 article, just the hieroglyphic text of (c) (as shown in the list below). Obvious breaks in the text are shown in (a) and (b) but not in (c). Parker does not indicate the length of the lacuna in each text. He provides the following translations.

(a) Edfu, VII, 7. “Year 28, day 18 of the 4th month of *šmw* (Mesore) under Ptolemy VIII Euergetes II ... making 95 years since the foundation to the feast of entering it.”

(b) Edfu IV, 8–9. “Year [28], day 18 of *wp rnpt* ... Ptolemy VIII Euergetes II ... making 95 years from the stretching-of-the-cord to the feast of entering it.”

<sup>37</sup> Idem, “Length of Reign,” 163-64.

<sup>38</sup> Ibid., 164.

<sup>39</sup> Based on the difference of 31 years Parker assigned six years to Ramesses X (giving him a reign of nine years) since the remaining 25 years fell in the reign of Ramesses XI (“Length of Reign,” 164).

<sup>40</sup> Table 33.11 in chapter 33, p. 459.

<sup>41</sup> L. Depuydt, *Civil Calendar and Lunar Calendar in Ancient Egypt* (Orientalis Lovaniensia Analecta 77; Leuven: Peeters, 1997) 161-63.

<sup>42</sup> Parker, *Calendars*, 42 §§214-16.

(c) Edfu, IV, 2. [line of hieroglyphs here] “Day 18 of the 4th month of *šmw* (Mesore), being day 23 of the 3rd (lunar) month of *šmw* (Epiphi), this beautiful day of the feast of entering it.”<sup>43</sup> Parker writes:

The event is the dedication of the original nucleus of the Temple of Edfu under Ptolemy VIII Euergetes II in 142 BC. From text (c) alone we learn, with absolute certainty, of the existence of lunar days (*dnit šn-nw*, “last quarter”), of lunar months (*3bd* III), and a lunar year (the season *šmw*), of the lag between lunar and civil months (lunar Epiphi begins on civil Epiphi 26 and runs to civil Mesore 25, with but five days in common between lunar and civil Epiphi), and of the importance throughout Egyptian history of certain lunar days as being especially proper for the celebration of certain feasts.<sup>44</sup>

These three texts are all dated to Year 28, IV *šmw* 18, though the year is missing in (c). Only (a) and (b) mention the name of Ptolemy VIII Euergetes II, and his name is separated from the second phrase in (a): “making 95 years since the foundation.” In (b) the name of Ptolemy is separated from both the preceding and succeeding phrases, indicating omissions in the text. The phrase in (a) “since the foundation” is made more explicit in (b) by the explanation “from the stretching-of-the-cord”.

In (c) where the name of Ptolemy is expected, but absent, we find a phrase not in the other two texts: “being day 23 of the 3rd month of *šmw*.” The word “(lunar)” is supplied by Parker but the parentheses show that it, and the word “(Epiphi)”, are not in the original. Text (c) does not mention the “95 years since the foundation” or “the stretching-of-the-cord”. Texts (a) and (b) finish with the words “the feast of entering it”, while (c) finishes with “this beautiful day of the feast of entering it.” In (c) there is no mention of the foundation or of the stretching-of-the-cord, so it appears that these phrases are missing after the initial date, as the ellipses in (a) and (b) after the name of Ptolemy suggest. (See Table 7.1.)

**Table 7.1: Actual sections of the text separated by the ellipses in (a) and (b), and apparently by unmarked omission in the case of (c)**

List item	Text
(a), (b), and (c)	“Year 28, day 18 of the 4th month of <i>šmw</i> ( <i>wp rnpt</i> ) ...
(a) and (b)	under Ptolemy VIII Euergetes II ...
(a) and (b)	making 95 years since the foundation/from the stretching-of-the-cord
(c)	being day 23 of the 3rd month of <i>šmw</i>
(a), (b), and (c)	to/of this [beautiful day of] the feast of entering it”

Reinstating the text of (a) and (b) after the first date in (c) and before the second date, gives the following sense:

Year 28, day 18 of the 4th month of *šmw* (*wp rnpt*) ... under Ptolemy VIII Euergetes II ... making 95 years since the foundation from the stretching-of-the-cord, being day 23 of the 3rd third month of *šmw*, to/of this beautiful day of the feast of entering it.

The first phrase in (a), (b), and (c) is separated from the second phrase by missing text, but the IV *šmw* 18 date comes *before* the date of III *šmw* 23 inferring that they do not apply to the same event. The 28th year of Ptolemy VIII Euergetes II is reliably set on 142 BCE, and 95 years before that is 237 BCE, which is reliably dated to the 10th year

<sup>43</sup> Parker, “Problem of Month-Names: A Reply,” 103. Shown also in Parker, *Calendars*, 42 §§214-16.

<sup>44</sup> *Ibid.*, 103-04. Day 23 is understood from the words *dnit šn-nw*, meaning last quarter.

of the reign of Ptolemy III Euergetes I.<sup>45</sup> In this year, the foundations of the Edfu temple, including the important stretching-of-the-cord ceremony, was celebrated. The date is not given in the texts above. However, two other texts from Edfu, which immediately precede texts (a) and (b), do record the date. According to Edfu texts VII, 5, and IV, 7, cited by Parker, Year 10 of Ptolemy III Euergetes I records a date of III *šmw* 7, where III *šmw* is indicated by the month-name Epiphi, and equated with the sixth lunar day. The year is 237 BCE.<sup>46</sup> Parker writes”

On this particular date [III *šmw* 7] the cord was stretched to lay out the foundations of the present temple at Edfu, an indication of the importance of *šnt* [6th day] as a building day. *Pšdntyw* is III *šmw* 2.<sup>47</sup>

*Pšdntyw* is generally understood to refer to the day of the new moon, being the first day of the lunar month. Parker equated *pšdntyw* with III *šmw* 2 in the year 237 BCE, which was the sixth day from III *šmw* 7 (Epiphi 7). However, in Table 7.2, supplied by Casperson, it is conjunction that fell on III *šmw* 2 (–23 in the 0 column) with the first day of invisibility, that of the new moon, on III *šmw* 1 indicated by the number 88 (being lower than 100) in the –1 column. In this instance, *pšdntyw* appears to refer to the day of conjunction.<sup>48</sup>

**Table 7.2: Ptolemy III Euergetes I’s 10th year in –236**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–236	7	19	–236	7	15	2546	10	2	1	14:51	5:03	273	5:03	132	5:03	25
<b>–236</b>	<b>8</b>	<b>18</b>	–236	8	14	2546	<b>11</b>	<b>2</b>	3	1:14	5:22	206	5:23	<b>88</b>	5:23	<b>–23</b>
–236	9	16	–236	9	12	2546	11	1	4	11:18	5:48	266	5:49	145	5:50	28

DoW = day of week; ToD = time of day.

For a further check of Casperson’s date for the new moon in 237 BCE, we note the table provided by Fred Espenak (Table 7.3), which also attributes the new moon to 17 August –236 BCE,<sup>49</sup> which confirms the new moon on III *šmw* 1. *Pšdntyw* on III *šmw* 2 equates to the Julian date of 18 August 237 BCE (–236). The stretching-of-the-cord ceremonies always started in the evening so that the axis of the temple could be aligned with a star in the constellation of the Great Bear by which true north was located.<sup>50</sup>

<sup>45</sup> Ptolemy III Euergetes I was the third king of Egypt’s Ptolemaic Dynasty, reigning from 246 to 222 BCE. In 238 BCE, the Decree of Canopus was instituted adding an extra day every fourth year to the civil calendar. The Edfu temple foundations were laid the following year in 237. The main buildings were finished in 231 but the temple was not formally opened until 142 BCE. See J. Dunn, “Ptolemy III Euergetes: The Third King of Egypt’s Ptolemaic Dynasty,”

<http://www.touregypt.net/featurestories/ptolemyiii.htm>

<sup>46</sup> Parker, *Calendars*, 21 §102, 73 n. 74.

<sup>47</sup> *Ibid.*, 21 §103.

<sup>48</sup> Other examples of *pšdntyw* falling on the day of conjunction rather than on the first day of invisibility, are recognized in subsequent discussions.

<sup>49</sup> Fred Espenak, “Six Millennium Catalog of Phases of the Moon: Moon phases from -1999 to +4000 (20000 BCE to 4000)” <http://eclipse.gsfc.nasa.gov/phase/phasecat.html> His observations are taken from Greenwich in England.

<sup>50</sup> D. Greenwell, “Ancient Egyptian Temples: The Foundation Ceremony and Foundation Deposits,” *The Ostrakon* 16 (Summer, 2005) 3.

**Table 7.3: New moon for August –236**

Year	New moon, time	First quarter, time	Full moon, time	Last quarter, time	ΔT
-236		Jan 2, 03:59	Jan 9, 19:18	Jan 16, 14:06	03h41m
	Jan 23, 20:41	Feb 1, 00:42	Feb 8, 06:53	Feb 14, 22:30	
	Feb 22, 13:16	Mar 1, 18:01	Mar 8, 16:31, t	Mar 15, 07:58	
	Mar 23, 06:15, P	Mar 31, 07:19	Apr 7, 00:40	Apr 13, 19:11	
	Apr 21, 22:26	Apr 29, 16:59	May 6, 07:58	May 13, 08:38	
	May 21, 12:55	May 28, 23:54	Jun 4, 15:20	Jun 12, 00:19	
	Jun 20, 01:33	Jun 27, 05:09	Jul 4, 00:00	Jul 11, 17:41	
	Jul 19, 12:44	Jul 26, 09:59	Aug 2, 11:06	Aug 10, 11:50	
	<b>Aug 17, 23:06</b>	Aug 24, 15:48	Sep 1, 01:23, p	Sep 9, 05:44	
	Sep 16, 09:11, T	Sep 23, 00:01	Sep 30, 18:38	Oct 8, 22:29	
	Oct 15, 19:19	Oct 22, 11:52	Oct 30, 13:43	Nov 7, 13:15	
	Nov 14, 05:44	Nov 21, 03:49	Nov 29, 08:59	Dec 7, 01:28	
	Dec 13, 16:45	Dec 20, 23:10	Dec 29, 02:55		

When the foundation of the building was celebrated 95 years later on III *šmw* 23 in 142 BCE, it would have been dated to the same calendar as the one that recorded the temple's foundation rites. On what lunar day then did the date of III *šmw* 23 fall in the year 142 (–141) BCE?

According to Casperson's table below (Table 7.4), III *šmw* 23 was the day before the new moon, which fell on the day of conjunction on III *šmw* 24 (11 24 in the Egyptian column and the number 89 in the –0 column).

**Table 7.4: Ptolemy VIII Euergetes II's 28th year in -141 (new moon listing from –141)**

Heliopolis; Lat. 30.1, Long. 31.3; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–141	7	19	–141	7	16	2641	10	25	7	15:04	5:05	341	5:06	163	5:06	42
<b>–141</b>	<b>8</b>	<b>17</b>	–141	8	14	2641	<b>11</b>	<b>24</b>	1	23:11	5:23	359	5:23	211	5:24	<b>89</b>
–141	9	16	–141	9	13	2641	12	24	3	8:58	5:48	252	5:49	135	5:50	19

DoW = day of week; ToD = time of day.

Ninety-five years after the foundations of the Edfu temple were laid in 237 BCE on III *šmw* 1, the event was celebrated again on III *šmw* 23 in 142 BCE. The dates of III *šmw* 1 and III *šmw* 23 both come from the civil calendar of Greco–Roman times. The date of IV *šmw* 18, referring to some unnamed event (due to lacunae as shown by the ellipsis) in the 28th year of Ptolemy III Euergetes I, must also derive from the same civil calendar. IV *šmw* 18 does not equate to III *šmw* 23 in a hypothetical lunar calendar.<sup>51</sup> Furthermore, it is not the date of the initial laying of the temple's foundations.

Parker proposed that the date of III *šmw* 23 came from a *lunar* calendar, and the date of IV *šmw* 18 from a *civil* calendar. The analysis of the Edfu texts and the dates of the new moons coming 95 years apart show irrefutably that there was no lunar *calendar* running concurrently with the civil calendar associated with these dates. I conclude that the Edfu texts show no evidence of a lunar calendar.

### Depuydt on Ptolemy VIII's 30th year

Backing Parker's efforts, Leo Depuydt also discussed evidence for the existence for what he termed his "civil-based lunar calendar."<sup>52</sup> Depuydt proposed three "double dates"<sup>53</sup> one of these being text (c) from the 28th year of Ptolemy VIII Euergetes II

<sup>51</sup> Depuydt makes the equation which he refers to as a "double date," *Civil Calendar*, 222.

<sup>52</sup> Depuydt, *Civil Calendar*, 163, cf. 223, 229; idem, "Sothic Chronology and the Old Kingdom," *JARCE* 37 (2000) 180; idem, "The Two Problems of the Month-names," *Rd'É* 50 (1999) 117.

<sup>53</sup> *Ibid.*, 161–63.

discussed above.<sup>54</sup> Depuydt's second "double date" also comes from the reign of Ptolemy VIII Euergetes II, this time in his 30th year, in 140 BCE.<sup>55</sup> Parker said of both these dates that they "name the lunar month as well as the civil month."<sup>56</sup> Parker wrote: "Ptolemy VIII Euergetes II. Year 30, II *šmw* (Payni) 9 (July 2, 140 BC) = 6th day of lunar Payni."<sup>57</sup> The month is expressed in hieroglyphs as *hb int*—the earlier name for II *šmw*. Parker adds the word "lunar" to the month of Payni to infer a lunar calendar.<sup>58</sup>

Depuydt saw this text as having a "double date," which he hoped might support the existence of his proposed civil-based lunar calendar. He wrote, "There is only one instance in which a non-seasonal name denotes a lunar month at Edfu. The name is *hb jnt* (*CivLun*, p. 163). An event is dated to both II *šmw* 9 and *hb jnt* 6. The lunar month called *hb jnt* therefore began on Day 4 of II *šmw*, civil Month 10. Lunar *hb jnt* is therefore the lunar twin of civil Month 10."<sup>59</sup>

In the lunar table below supplied by Casperson (Table 7.5), the 58 in the 0 column indicates the day of the new moon that fell on 10 4, that is, the fourth day of II *šmw* as Parker stated. This means that the sixth day of the lunar month fell on II *šmw* 9, the date given in the text. There is nothing here to indicate that the lunar day was from a lunar calendar with the month-name *hb jnt* (*hb int*). It was the sixth day of a lunar month dated to a civil calendar having a month named *hb jnt*, that is, II *šmw*, which was later known as Payni in the Greco-Roman calendar.

**Table 7.5: Ptolemy VIII Euergete II's 30th year –139 (new moon listing for –139)**

Alexandria; Lat. 31.2, Long. 29.9; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-139	5	29	-139	5	26	2643	9	5	1	9:23	5:10	183	5:09	72	5:09	-1
-139	6	27	-139	6	24	2643	10	4	2	20:57	4:58	314	4:58	155	4:58	58
-139	7	27	-139	7	24	2643	11	4	4	7:09	5:07	233	5:07	120	5:08	18

DoW = day of week; ToD = time of day.

The text would appear to have meant: "Edfu. Ptolemy VIII Euergetes II. Year 30, II *šmw* 9 = 6th lunar day in the month of *hb jnt*." Since the sixth day after the foundation ceremony of the Edfu temple was the first significant building day, the sixth day of an event two years later also points to a similar event.

My conclusion is that the sixth lunar day in the month of *Payni* in Ptolemy VIII Euergetes II's 30th year is not evidence of a lunar calendar.

### Parker and Depuydt on Amasis' 12th Year

A further text was described by Parker as a "double date" in another 1957 article,<sup>60</sup> and subsequently adopted 40 years later by Leo Depuydt in 1997 as evidence for his own "civil-based lunar calendar."<sup>61</sup> The purpose of Parker's article was to show that the 12th year of Amasis, fifth ruler of the 26th Saite Dynasty, was 559 not 558 BCE. The text he used for the revision comes from Louvre papyrus 7848 lines 4–5, dating to I *šmw* 21 in the 12th year of Amasis. Written in abnormal hieratic, the lines refer to an

<sup>54</sup> Ibid., 123, 161, 175, 222-23.

<sup>55</sup> Ibid., 161, 223, 229-31.

<sup>56</sup> Parker, *Calendars*, 26 §124.

<sup>57</sup> Ibid., 19 §83.

<sup>58</sup> Ibid., 19 §84.

<sup>59</sup> Depuydt, "Two Problems," 117.

<sup>60</sup> R.A. Parker, "The Length of Reign of Amasis and the beginning of the Twenty-Sixth Dynasty," *MDAIK* 15 (1957) 208-12, see p. 211.

<sup>61</sup> Depuydt, *Civil Calendar*, 161-63, 175, 223; idem, "Sothic Chronology," 180.

oath that was about to be taken.<sup>62</sup> Parker translates, “Before Khonshu ... in Year 12, II *šmw* 13, being the 15th lunar day of (lunar) I *šmw*.”<sup>63</sup>

The word “lunar” in parentheses is not in the text but inserted by Parker and shows that he interpreted the date to be from a lunar *calendar*. Later Parker writes:

If Amasis had 43 full years then his Year 12 was 558 BCE. If he had 44 full years then it was 559 BCE. In both 559 and 558 BCE, II *šmw* 13 was October 19. From our text we know that II *šmw* 13 was also the 15th day of the lunar month which must have begun on I *šmw* 29, or October 5.<sup>64</sup>

Parker finds that in the year 559 BCE “a lunar month did begin on October 5, or I *šmw* 29, and its 15th day did fall on October 19, or II *šmw* 13.”<sup>65</sup> But the second date of 558, in which the lunar month began on September 24, was “a result impossible of reconciliation with the given date.”<sup>66</sup> Therefore, 559 was Amasis’s 12th regnal year, leading to the conclusion that he reigned 44 full years and died in his 45th year.<sup>67</sup>

However, there is an error in assigning II *šmw* 13 to the 15th day of the lunar month, an equation accepted by Depuydt. He wrote: “CIVIL II *šmw* 13 = LUNAR I *šmw* 15 (19 October 559 BCE).”<sup>68</sup> These dates can be checked from tables provided by Casperson (Tables 7.6 and 7.7).

The full moon in –558 (559) appeared on II *šmw* 15 in Amasis’ 12th year and not on II *šmw* 13 as Louvre papyrus 7848 lines 4–5 states.

**Table 7.6: Full moon table for Amasis’s 12th year in 559 (–558) (full moon listing from –558)**

Alexandria; Lat. 31.2, Long. 29.9; visibility coefficients: c1 = 11.5, c2 = 0.008												
Julian			Gregorian			Egyptian			ToD			
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D	DoW	Full moon	Sunrise	Sunset
–558	9	22	–558	9	16	2224	9	16	6	0:35	5:53	18:53
<b>–558</b>	<b>10</b>	<b>21</b>	–558	10	15	2224	<b>10</b>	<b>15</b>	7	11:56	6:21	17:21
–558	11	19	–558	11	13	2224	11	14	1	22:59	6:46	17:46

DoW = day of week; ToD = time of day.

The new moon prior to the full moon date occurred on I *šmw* 29, seen in Table 7.7. Therefore, there were 15 days between new moon and full moon, which could not have been the case with a date of II *šmw* 13. Both dates of II *šmw* 15 and I *šmw* 29 are from a civil calendar.

**Table 7.7: New moon table for Amasis’s 12th year in –558 (new moon listing from –558 to –557)**

Alexandria; Lat. 31.2, Long. 29.9; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–558	9	6	–558	8	31	2224	8	30	4	11:21	5:36	248	5:37	130	5:37	19
<b>–558</b>	<b>10</b>	<b>6</b>	–558	9	30	2224	<b>9</b>	<b>30</b>	6	1:58	6:04	188	6:05	<b>79</b>	6:06	<b>–23</b>
–558	11	4	–558	10	29	2224	10	29	7	19:34	6:32	257	6:33	144	6:34	44

DoW = day of week; ToD = time of day.

<sup>62</sup> For more background to the text see Depuydt, *Civil Calendar*, 161-62.

<sup>63</sup> Parker, “Length of Reign,” 210-11.

<sup>64</sup> *Ibid.*, 211.

<sup>65</sup> *Ibid.*, 212.

<sup>66</sup> *Ibid.*

<sup>67</sup> *Ibid.*

<sup>68</sup> Depuydt, *Civil Calendar*, 223.

The three “double dates” proposed by Parker and Depuydt are not evidence for a lunar calendar with month-names. Therefore, Parker’s attempts to explain feasts held out of their eponymous months by appropriating a lunar calendar have no factual basis.

Gardiner cites further evidence for feasts held outside their eponymous months in the Greco–Roman calendar. Parker attempts to explain the anomaly by his lunar calendar.

### **Gardiner on the Birthday of Re on I 3 $\dot{h}t$ 1**

In 1906, Gardiner cited from a Necropolis (Theban) diary of Ramesses IX’s 13th year, an instance of *Mswt R<sup>c</sup> ḥr 3ḥty* (“the birthday of Re Horakhty”) as the first day of the first month, which he attributed to the true location of Mesore. He assumed Mesore’s earlier equivalent to be *wṗ rnpt*, indicating that it was secondarily placed as the 12th month.<sup>69</sup>

In 1955, Gardiner cited a further fragmentary reference from a Necropolis journal in which I 3 $\dot{h}t$  1 is followed by *Mswt R<sup>c</sup> ḥr 3ḥty*, writing, “Recently I found another reference in the fragment of a Necropolis journal written on the verso of one of the portions of a papyrus duplicate to P. Anastasi I published by Farina.”<sup>70</sup> He notes that the designation of I 3 $\dot{h}t$  1 appears, but the month-name is partly broken away in the line in question, yet it is confirmed from the previous broken line as being *Mswt R<sup>c</sup>*.<sup>71</sup> This entry is now dated to the 15th year of Ramesses IX (two years after the above).<sup>72</sup>

Gardiner also mentions an ostrakon from Turin that identifies I 3 $\dot{h}t$  1 as “the feast of Re.”<sup>73</sup> Gardiner proposed the above inscriptions as evidence for a civil calendar having Mesore as first month, since Re’s birthday fell on I 3 $\dot{h}t$  1. (For Gardiner, Mesore is synonymous with the month of *wṗ rnpt*.) Parker, on the other hand, saw *wṗ rnpt*’s original place as the 12th *lunar* month, taken over as the designation of the 12th *civil* month, with a secondary application to I 3 $\dot{h}t$  1—the day also known as *Mswt R<sup>c</sup> ḥr 3ḥty* in the early 20th Dynasty.<sup>74</sup>

### **Gardiner on the Feasts of Khoiak, Hathor and šf bdt**

In 1906, Gardiner had noted that the feast of the “uniting of the *kas*” was dated to I *pṛt* in an Illahun papyrus recording the attendance of singers, dating from the 35th year of an unnamed king, but identified as Amenemhet III of the 12th Dynasty.<sup>75</sup>

Gardiner also reports that in a number of inscriptions from the New Kingdom the feast of Neḥeb-kau (*Nḥb k3w*) was held on I *pṛt* 1, the month of *k3 ḥr k3* (*ka* upon *ka*). The words “*ka* upon *ka*” suggested to Gardiner that this and the previous inscription

<sup>69</sup> Gardiner, “Mesore as First Month,” 138-39, citing *Papyrus de Turin*, 152-153. This is now P. Turin Cat 1999 +2009 verso I, 12 (Jauhiainen, “Do not Celebrate,” 79 n. 14).

<sup>70</sup> Gardiner, “Problem of Month-Names,” 13 and n. 3.

<sup>71</sup> *Ibid.*, 13.

<sup>72</sup> Jauhiainen writes, “P. Turin Cat. 1884 + P. Turin Cat. 2067 + P. Turin Cat. 2071 + P. Turin Cat. 2015 rt. I. 4, (year 15 of Ramesses IX), I 3 $\dot{h}t$  1 is referred to as the ‘Birth of Re-Horakhty, i.e. the day may have been designated a feast day,” in “Do Not Celebrate,” 79-80, and n. 1. For the date attributed (p. 80 n. 2) Jauhiainen cites *KRI IV* (1983) 644-50; W. Helck, *Die datierten und datierbaren Ostraka, Papyri und Graffiti von Deir el-Medineh* (Bearbeitet von Adelheid Schlott; ÄA 63; Weisbaden, 2002), 511-14.

<sup>73</sup> Gardiner, “Problem of Month-Names,” 13 n. 3. See also Depuydt, *Civil Calendar*, 97. This ostrakon is now O. Turin N 57034. See also A. J. Spalinger, “Calendars: Real and Ideal,” *Essays in Egyptology in honour of Hans Goedicke* (eds. B. N. Bryan and D. Lorton; San Antonio, TX: Van Siclen, 1994) 297 and n. 1.

<sup>74</sup> Parker, *Calendars*, 47 §236. For further references to the feast of Re attributed to I 3 $\dot{h}t$  1 see chapter 6, pp. 95ff.

<sup>75</sup> Gardiner, “Mesore as First Month,” 139. This papyrus is now known as UC 32191. See:

[www.digitalegypt.ucl.ac.uk/lahun/festivallistmk.html](http://www.digitalegypt.ucl.ac.uk/lahun/festivallistmk.html)



from the Middle Kingdom were dated to the calendar with Mesore as the first month. Noting that a calendar of Greco–Roman times would have had the feast of Neḥeb-kau on IV 3 $\dot{h}t$  1, in the month of Khoiak, he suggested that the feast of Khoiak and the feast of Neḥeb-kau were the same.<sup>76</sup>

The alternative date, IV 3 $\dot{h}t$  1, was mentioned by Gardiner in 1955, when referring to a text supplied by Parker, mentioning a stela from Karnak.<sup>77</sup> The first line records gifts made by King Amosis (or Ahmose), first king of the 18th Dynasty, to his wife Queen Nefretari (or Nefertari), in an unknown year, dated to the fourth month of Inundation (IV 3 $\dot{h}t$ ) day seven. At the end of the text the transfer of property occurs beside the shrine of Amun in the festival of Khoiak, suggesting that it too took place in IV 3 $\dot{h}t$ . Thus Gardiner adduced two dates for the feast of Khoiak/Nehebkau: I *prt* 1 in the 12th Dynasty, and IV 3 $\dot{h}t$  1 in the early 18th Dynasty.

Prior to 1953 Parker had noted on an obscure magical text (date not attributed) that the Khoiak feast lasted seven days in the 19th and 20th Dynasties, a fact that was transmitted to Gardiner prior to his 1955 article.<sup>78</sup> Parker proposed that the feast also lasted seven days in the 18th Dynasty from IV 3 $\dot{h}t$  1 to IV 3 $\dot{h}t$  7, though he says that IV 3 $\dot{h}t$  7 to IV 3 $\dot{h}t$  13 is possible.<sup>79</sup> Gardiner accepted that the feast lasted seven days on the evidence cited by Parker.<sup>80</sup> Since Parker knew only of feasts of *Nḥb k3w* dated to I *prt* he concluded that the feasts of Khoiak and *Nḥb k3w* were not identical. However, he identifies one exception in which the goddess Hathor celebrated a *Nḥb k3w* feast from IV 3 $\dot{h}t$  29-30 in a late Edfu calendar (Edfu V, 350, 9-10),<sup>81</sup> that is, in the month known as Khoiak, suggesting that *Nḥb k3w* and Khoiak were the same feast.

Several supporting arguments that the feasts of Khoiak and *Nḥb k3w* were the same and held on I *prt* 1 were given by Gardiner in 1955. Gardiner also reports from an 18th Dynasty papyrus, that chapter 42 of *The Book of the Dead* seems to set the festival of Khoiak in the fifth month (I *prt*), saying “perhaps even explicitly to equate it with the festival of *Nḥb k3w*.” Gardiner translates: “being first month of Winter, day 4, in making the Choiak-feast as first (day?) of Neḥeb-kau(?)...”<sup>82</sup> In this translation, the Khoiak feast seems to be in its fourth day in the month of I *prt*, but its equation with the “first (day?) of Neḥeb-kau” is uncertain. Parker rendered the passage differently from Gardiner to give: “...being I *prt* 1, the fourth day of celebrating the Khoiak-feast and the first of *Nḥb k3w*...”<sup>83</sup> On this interpretation the Khoiak feast began on IV 3 $\dot{h}t$  28 and ended on I *prt* 4 when *Nḥb k3w* began. Parker concluded, “Clearly, the two feasts cannot be identical.”<sup>84</sup>

Parker knew that the inscription from the reign of Amosis I (Ahmose) dated the Khoiak feast to IV 3 $\dot{h}t$  7 (noted above). Since the feast of Khoiak lasted seven days he

<sup>76</sup> Ibid., 139.

<sup>77</sup> Parker, “Problem of Month-Names: A Reply,” 104-5, citing Drioton, *Bull. Soc. Fr. Eg.* 12 (1953); Gardiner, “Problem of Month-Names,” 15. A. Spalinger refers to this as the Ahmose-Nofretari Donations Stela in “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; *Alter Orient und Altes Testament* 297; Münster: Ugarit, 2002) 398 and n. 115.

<sup>78</sup> Gardiner, “Problem of Month-Names,” 15 and n. 3; Parker, “Problem of Month-Names: A Reply,” 104 and n. 1, 105 and n. 1. Gardiner references the text to Posener, *Ostraca Hiératiques littéraires* I, no. 1059 [1938], (O. DeM 1059, pl. 32).

<sup>79</sup> Parker, “Problem of Month-Names: A Reply,” 105 and n. 1.

<sup>80</sup> Gardiner, “Problem of Month-Names,” 15 and n. 3.

<sup>81</sup> Parker, “Problem of Month-Names: A Reply,” 105.

<sup>82</sup> Gardiner, “Problem of Month-Names,” 15.

<sup>83</sup> Parker, “Problem of Month-Names: A Reply,” 105.

<sup>84</sup> Ibid., 105.

said it could have lasted from IV *3ht* 1 to IV *3ht* 7, or IV *3ht* 7 to IV *3ht* 13.<sup>85</sup> However, these dates conflict with his assumption that the Khoiak feast referred to in *The Book of the Dead* lasted from IV *prt* 28 to I *prt* 4. In view of the dates proposed by Gardiner (see further below), the Khoiak feast would have been celebrated from IV *3ht* 1 to IV *3ht* 7 (not 7–13) in Gardiner’s “Thoth” calendar, but if celebrated in the month of *k3 hr k3* on I *prt* 1 to I *prt* 7, it would have been held at the beginning of the first month of winter, its eponymous month in the “Mesore” calendar. Thus the feast “moved” from I *prt* 1–7 to IV *3ht* 1–7.

In 1955, in a postscript to his article, Gardiner also mentioned the Berlin ostrakon P. 12635 “which contains references to month-names from the Ramesside period, in which a ‘restaurateur’ recorded what someone ate. Lines 9-10 (recto) and read: ‘Again, first month of Winter, day 2, in the Khoiak feast, he ate 1 large cake (*s<sup>c</sup>b*) and 2 (pieces of) dressed (*dr*) meat’.”<sup>86</sup> This was further confirmation for Gardiner that the feast of Khoiak was celebrated in I *prt* in Ramesside times, and not in IV *3ht* as in the Greco–Roman calendar.

Parker replied in 1957, “All we have is a memorandum of what someone ate on ‘I *prt* 2, in the Khoiak feast’. There is no mention of *Nhb k3w* at all, and the day could be one of the seven days of the feast.”<sup>87</sup> Then Parker seeks to explain why the feast of Khoiak was being celebrated on I *prt* 2 and not in IV *3ht*. He writes, “The Khoiak feast was lunar and moveable. It seems likely that it began on the first day of its lunar month, but this is not certain. ... When it began late in the civil month of Khoiak it would run over into civil Tybi. This is the simple explanation that solves all Gardiner’s problems.”<sup>88</sup>

Parker introduces the idea of the Khoiak feast being determined by a new moon in a *lunar calendar*, in order to maintain that the Khoiak feast could have started late in the month of Khoiak and extended into the month of I *prt*. This is in accord with his translation of the passage from *The Book of the Dead*, in which he proposes that the feast of Khoiak began on IV *3ht* 28 and lasted through to I *prt* 4 when the feast of Neheb-kau began. Parker’s assumption of a *lunar calendar* to explain the feast of Khoiak falling in civil IV *3ht* and I *prt* is introduced as a counter-argument to Gardiner’s theory of two civil calendars, but he provides no evidence of Khoiak’s supposed lunar origin.

Gardiner notes that the late, fragmentary, Geographical Papyrus of Tanis fragment 38, explicitly dates the feast of Khoiak to I *prt* 1.<sup>89</sup> This papyrus also related to two other examples as follows. In fragment 36 of the Geographical Papyrus of Tanis the feast of Hathor is dated to IV *3ht* 1, not III *3ht* as in the Greco–Roman calendar.<sup>90</sup> And, in fragment 37 of the Geographical Papyrus of Tanis the feast of *šf bdt*, forerunner to Tybi, is dated to II *prt* the sixth month of the year, not to the fifth month.<sup>91</sup>

Referring to the above fragments, Parker agreed that, “A Khoiak feast is listed under I *prt* 1, but the right half of the name rectangle is missing. *K3 hr k3* is preserved on

<sup>85</sup> Ibid., 104-5 and n. 1; Gardiner, “Problem of Month-Names,” 15 and n. 3.

<sup>86</sup> Gardiner, “Problem of Month-Names,” 30-31. This is also mentioned by Jauhiainen, “Do not Celebrate,” 112 n. 4. She cites Manfred Gutgesell’s attribution of the inscription to the reign of Ramesses IV in *Die Datierung der Ostraka und papyri aus Deir el-Medineh und ihre ökonomische Interpretation I Die 20. Dynastie*. Band 1-2. (HÄB 37; Hildesheim: Gerstenberg, 1983) 354-55.

<sup>87</sup> Parker, “Problem of Month-Names: A Reply,” 105.

<sup>88</sup> Ibid., 105-6.

<sup>89</sup> Gardiner, “Problem of Month-Names,” 31.

<sup>90</sup> Ibid., 31.

<sup>91</sup> Ibid.

only the left half and one can but guess at what was originally on the right half.”<sup>92</sup> He says it could have been “last day of” and a missing date for “the beginning of the Khoiak feast” though he doesn’t insist that it was. He notes that under II *pṛt* is listed “The Periplous of Anubis” and on the right side the letters *šfd* are preserved in a vertical order, which might be the month *šf bdt*, possibly associated with the goddess Hathor mentioned on the left half. Since *šf bdt* is I *pṛt*, the later Tybi in the Greco–Roman calendar, it reinforces Gardiner’s claim of a calendar beginning with “Mesore.”

Referring to the feast of Anubis in the month of *šf bdt*, Parker asserts: “Again just as with the feasts of Hathor and Khoiak, the simplest explanation is that we have a lunar feast, the one which gave its name to I *pṛt* in the original lunar calendar, given a date (perhaps even a fixed date) in the civil year on II *pṛt* 1.”<sup>93</sup>

### Gardiner and Parker on the Ebers Calendar

Previously, we noted that the Ebers calendar (see chapter 3) was understood by Gardiner to represent in its first column his earlier civil calendar where he saw *wp rnpt* as the prototype of Mesore in the first place. Parker, on the other hand, saw the first column as evidence of his original lunar calendar and explained *wp rnpt* at the head of the list because its eponymous feast determined the following year, and it was kept in 12th place by the intercalation of a 13th lunar month when necessary.<sup>94</sup>

In 1955, Gardiner continued to argue against Parker’s two lunar calendars. He reiterated two passages written in 1906, reaffirming his position regarding the Ebers calendar, which he thought Parker had ignored or misrepresented in 1950. He increased his objection to Parker’s original lunar calendar because of the theory of an intercalary month. Not even *one day* was known to have been intercalated until the Decree of Canopus instituted a day on every fourth year in 238 BCE, let alone the intercalation of one month.<sup>95</sup>

Parker’s dismissal of the Ebers calendar as an example of a civil calendar having Mesore (*wp rnpt*) at its head drew an indignant response from Gardiner, who writes:

Obsessed by his conviction that the final arrangement of the month-names, having at its head Thoth, represents the original state of affairs, he imagines the true position of *Wpt-rnpt* “Opening of the Year” and its admitted (*Cal.*, § 213-7) equivalent *Mswt R<sup>c</sup>* (Mesorē, “Birthday of Rē”) to have been in the twelfth and last month (§ 218) where it is obviously out of place, and regards as secondary (*ibid.*) its excellently attested position as first day of the civil year, where it is obviously in place. Is it possible to conceive of a contention more irrational?<sup>96</sup>

Further on Gardiner writes:

I myself am puzzled to understand why, if the Ebers Calendar really represents a comparison between the merely postulated lunar year and the civil calendar, the intervals between the months are not of alternating lengths as in the Illahûn papyrus, and why the number of months named is not thirteen so as to include the intercalary month. Parker simply tells us that from the starting date of III *šmw* 9 ‘was projected a schematic lunar calendar of full months of 30 days’.<sup>97</sup>

<sup>92</sup> Parker, “Problem of Month-Names: A Reply,” 107.

<sup>93</sup> *Ibid.*, 107.

<sup>94</sup> Parker, *Calendars*, 42 §218.

<sup>95</sup> Gardiner, “Problem of Month-Names,” 22.

<sup>96</sup> *Ibid.*, 23.

<sup>97</sup> *Ibid.*, 24.

In 1957, Parker replied heatedly to Gardiner's criticism of his theory of lunar calendars.<sup>98</sup> He wrote:

Sir Alan is a master of all the tricks of debate ... from an opening surprise to find me referring to his paper as 'theory'... to a rousing climax in which he uses the terms 'irrational' and 'obsessed', so that one may well conclude that for him an upholder of an Egyptian lunar calendar and a lunatic are almost equivalent.<sup>99</sup>

But Parker did not have anything further to add to the Ebers calendar debate. He wrote, "We have already dealt with this in our review of the original calendar. I continue to affirm that my theory offers a better explanation of it than does Gardiner's."<sup>100</sup>

### **Gardiner and Parker on the Feast of *w3gy***

In 1955, Gardiner did not refer to the feast of Thoth again, which in 1906 had puzzled him because it appeared *always* to have been held on the 19th day of the month of Thoth, the first month of the calendar, though *thy* (the earlier name for the month of Thoth) was the second month in the Ebers calendar.

However, Thoth had a companion feast that fell on I *3ht* 18 and a moveable feast set on varying days in the civil calendar. In 1955 Gardiner disputed an earlier explanation by Borchardt and Parker that a lunar calendar was involved, but he himself was at a loss to explain them.<sup>101</sup>

Parker replied in 1957 that his theory of the construction of the lunar calendar "and its rule of intercalation gives a very clear and simple explanation to the moveable *w3g*-feast."<sup>102</sup> We discuss the *w3gy* feast again later, but suffice it here to say that it too does not provide any proof of Parker's idea of an original lunar calendar on which his rule of intercalation depends for its existence.

### **Gardiner Reiterates His Two Civil Calendars Proposal**

At the end of his 1957 paper, Gardiner elaborated on his theory of two civil calendars and sought to assign their origin to two schools of different theological thought: one school attributing the invention of the year to the sun-god Re, and the other to the moon-god Thoth. The original calendar had Mesore ("birthday of Re") as its first month, but after the god Thoth (mythically) invented the five epagomenal days in the year, this somehow displaced Mesore who was relegated to 12th position.<sup>103</sup> Gardiner writes, "I strongly suspect that the substitution of the month-name Thoth for the month-name *wpt mpt* or Mesore as the name of the first calendar month had its root in the strange and anomalous status of the epagomenal days. The Ramesseum ceiling bears testimony to this hypothesis."<sup>104</sup>

<sup>98</sup> Parker, "Problem of Month-Names: A Reply," 85-107.

<sup>99</sup> *Ibid.*, 85.

<sup>100</sup> *Ibid.*, 106.

<sup>101</sup> Gardiner, "Problem of Month-Names," 21 n. 4.

<sup>102</sup> Parker, "Problem of Month-Names: A Reply," 98.

<sup>103</sup> Gardiner, "Problem of Month-Names," 26-27, 30.

<sup>104</sup> *Ibid.*, 26.

## Chapter 8

### Recovering a Calendar with *Wep Renpet* as the First Month

*Wep Renpet* (*wp rnpt*) means “opener of the year”. Gardiner and Parker were unable to accept the other’s viewpoint concerning the original calendars of ancient Egypt, and the subject lay unresolved. However, discussion about the anomaly of the feasts dated out of their eponymous months continues up to recent times in the writings of other Egyptologists, including Anthony Spalinger and Leo Depuydt.

The feasts discussed below are mostly annual feasts set on the first day of a civil month such as *wp rnpt*, Hathor, Choiak, and Renenutet. The month to which each applies depends on the calendar each derives from. The Medinet Habu Festival Calendar gives a range of feasts set in chronological order, of which three are associated with the new moon. *The quest remains to fix annual dates to the Egyptian dating system with sufficient certainty to propose an Egyptian Chronology.*

This chapter concludes with two tables showing the data gathered, with *wp rnpt* originally first as displayed in the Ebers calendar. The discussion below substantiates this positioning while also acknowledging variances. This chapter leads towards chapter 9 and the place of the Ebers calendar in Upper Egypt’s initial observation of months and feasts, and towards the subsequent chapters that account for later variants.

#### Thomas James on *rkh wr*

In 1955, T.G.H. James noted from a Middle Kingdom Illahun papyrus, Berlin 10069, col. 1, line 1, the words, “Regnal year 3, 3rd month of Winter, day 1, the Great Burning ...” where the “Great Burning” is *rkh wr*.<sup>1</sup> This date refers to the third month of *peret* dated in the Middle Kingdom to the calendar used at Illahun; that is, the seventh month, whereas in the New Kingdom *rkh wr* is II *prt* as in the Greco–Roman calendar, the sixth month. James writes, “... fixing the ‘Great Burning’ on the first day of the seventh month of the year, lends additional support to Gardiner’s contention that there was a shift in the position of the month-names in later times.”

James queries whether *rkh wr* used in the date is a month-name, but he points also to, “a certain case of *rkh ...?* used in an account among Hekanakhte Letters (VII, 15).” He translates: “‘Nefersebau begins with the rations in Rokeh ....’”<sup>2</sup> It seems clear that *rkh [wr]* is a month-name and not a festival. See further in echapter 24.

#### Ulrich Luft on *rkh wr* and *rkh nds*

In 1986, Ulrich Luft refers not only to *rkh wr*, but also to *rkh nds* (“Little Burning”) dated to IV *prt* 1, the eighth month, also from Illahun papyrus Berlin 10069 as above, where it is found in recto 5, line 2.<sup>3</sup> This date would otherwise be III *prt* in the

<sup>1</sup> T.G.H. James, “The Date of the Month *rkh wr*,” *JEA* 41 (1955) 123.

<sup>2</sup> *Ibid.*, 123. See A.J. Spalinger, “Calendrical Evidence and Hekanakhte,” *ZÄS* 123 (1996) 90.

<sup>3</sup> U. Luft, “Noch Einmal zum Ebers-Kalender,” *GM* 92 (1986) 71, 76 n. 25.

New Kingdom. In 1992, Luft translated the “Great Burning” passage as “Year 3, III *prt* 1, the Great Burning, the web-priest on the phyle, Sobek-snofru.”<sup>4</sup>

The two examples of *rkh wr* and *rkh nds* from Illahun dating to III *prt* and IV *prt* respectively, whereas in the later New Kingdom the same months date to II *prt* and III *prt*, is further evidence that feasts in two consecutive months appear to be dated out of their eponymous months in the original calendar.

### **Anthony Spalinger on *wp rnpt***

In 1992, Anthony Spalinger pointed out that an inscription dating to the reign of Thutmose III has two different meanings for the term *wp rnpt*, the second of which, he writes, “is explicitly connected to I 3*ht* 1 with respect to a feast of Amun.”<sup>5</sup> He continues, “The fragmentary Karnak Festival calendar of the same king likewise denotes the first day of the civil year as *wp<rnpt>* ... and Hatshepsut, as is well known, more than once indicates her interest in the New Year (*wp rnpt* and I 3*ht* 1).”<sup>6</sup>

In his opinion, “Hatshepsut’s famous Deir el Bahri inscription which links I 3*ht* 1 with *wp rnpt* must be viewed in either an idealizing framework, or more explicitly, in a religious-traditional setting.”<sup>7</sup> Though Spalinger, in this context, is talking about the lack of occurrences of *wp rnpt* together with *Spdt* until the Late Period, he nevertheless provides examples of dates in the early 18th Dynasty in which *wp rnpt* is connected to the first day of the year, and not to the 12th month. He notes, “In all our calendrically associated texts before the New Kingdom *wp rnpt* refers solely to day one of the civil year if it is the associated feast or else indicated month 1 (civil or lunar).”<sup>8</sup>

Previously, we noted that the “birthday of Re Harakhty” could be dated to I 3*ht* 1, and the above references demonstrate that the same also applies to the feast of *wp rnpt*. A feast of *wp rnpt* held on I 3*ht* 1 is entirely consistent with *wp rnpt* being the first month of the year as in the Ebers calendar. That I 3*ht* 1 can also apply to the “birthday of Re Harakhty,” (though Re Harakhty (as Mesore) is the last month of the year in the Greco–Roman calendar, which it shares with *wp rnpt*), illustrates that the feast of Re appears to have moved to a later month; that is, from IV *šmw* to I 3*ht*. On the other hand, the month of *wp rnpt* appears to have moved from I 3*ht* to IV *šmw*—in the opposite direction! This contradictory data requires explanation.

### **Anthony Spalinger on “the birth of Re Harakhty”**

As referred to earlier in chapter 6, p. 93, Spalinger noted that Book II of the Cairo Papyrus 86637 recto III, 3–5 refers to I 3*ht* 1, being a good day, followed by “The birth of Re Harakhty.”<sup>9</sup> The papyrus dates to the reign of Ramesses III and was composed by the workmen of Deir el Medina.<sup>10</sup>

<sup>4</sup> Idem, “Remarks of a Philologist on Egyptian Chronology,” *Ä & L* 3 (1992) 110, 17.

<sup>5</sup> A.J. Spalinger, “Canopus Stela,” *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 46. According to Jauhiainen, during the reign of Thutmose III the *wp rnpt* feast began on I 3*ht* 1 and lasted 3 days, according to the Feast List of Amon of Elephantine. (“Do not Celebrate Your Feast Without Your Neighbours”: A study of References to Feasts and Festivals in Non-Literary Documents from Ramesside Period Deir el-Medina [Publications of the Institute for Asian and African Studies 10; Helsinki: Helsinki University Print, 2009] 73 n. 1, 79 n. 9).

<sup>6</sup> Ibid., 46–47.

<sup>7</sup> Ibid., 45. Spalinger set the “ideal coronation day of Hatshepsut “on I 3*ht* 1, which, he says, “may also reflect Middle Kingdom tradition,” in “A Remark on Renewal,” *SAK* 17 (1990) 293 n. 9.

<sup>8</sup> Ibid., 50.

<sup>9</sup> Idem, “Calendars: Real and Ideal,” *Essays in Egyptology in Honor of Hans Goedicke*, (eds. B.M. Bryan and D. Lorton, San Antonio, TX: Van Siclen, 1994) 301–2.

<sup>10</sup> Ibid., 298, 299, 301.

He notes also that “Cairo papyrus 86637 verso 21 dates the “feast of Re” to I *3ht* 1, as does the recto of the Turin ostrakon 57304, both with the added injunction, “Do not cross the river on this day”.<sup>11</sup> These two latter texts and Cairo papyrus 88637 recto pages 1–2 have a tradition “closer to the Middle Kingdom,”<sup>12</sup> which may infer that the “feast of Re” was also known on I *3ht* 1 at that earlier time.

### **Anthony Spalinger: Feast of Re on I *3ht* 9**

In the Esna calendar, written on the walls of the Esna temple dating to the Greco-Roman period, the date of I *3ht* 9 is attributed to the “feast of Amun, feast of Re, corresponding to what the ancestors called the feast of *wp rnpt*.”<sup>13</sup> Spalinger described the text as a “thorn in the side of virtually any scholar interested in the calendrics of Egypt, if only as the same calendar presents one as well with the ‘normal’ *wp rnpt* located on I *3ht* 1.”<sup>14</sup> Other Esna inscriptions cite the ceremony of the “Union with the Disk” referring to a rebirth and a new year dated to day nine of the month of Re-Horakhty, assumed to be IV *šmw* 9.<sup>15</sup> This seems to be the identical feast to *wp rnpt*. Spalinger was disinclined to explain the equation by resorting to Gardiner’s hypothesis of two civil calendars one month apart.<sup>16</sup>

In the same article, Spalinger had proposed that the feast of *thy* (later the feast of Thoth), which was known to have been held on I *3ht* 20, was celebrated on this day because it was the beginning of a new year. He explained that 13 lunar months of 384 days fell on civil Thoth 19 with the New Year on Thoth 20. Or, if one was to subtract 11 days from civil Thoth 20, the lunar year would begin on civil Thoth 9. Or to put it another way, Spalinger writes, “Civil *thy*, set on day 20 of the first month of the civil year, has its lunar homologue located on Thoth 9. Hence both are identical ... The conclusion is clear in any case: since the first day of *thy* is a *wp rnpt*, Thoth 9 can be a *wp rnpt*. QED.”<sup>17</sup>

Having come to this conclusion, he then sought to make a connection with the Ebers calendar where the month *thy* in the first column is on the same line as IV *šmw* 9 in the second column. He regards *thy* as the *first* civil month in the Ebers calendar, and the feast of *wp rnpt* on I *3ht* 9 is viewed as the “old commencement of the New Year.”<sup>18</sup> Spalinger asserts that the IV *šmw* 9 date is the partner of the *wp rnpt* set on I *3ht* 9. He concludes: “Nothing could be more simple: Esna and Ebers coincide.”

It is not that simple. *Thy* is the *second* month in Ebers. In order to make the equation *thy* has to become the *first* month, to be a *wp rnpt*, an “opener of the year.” It is only in later calendars that *thy* occupies first place.

Spalinger’s recourse to coincide *thy* with the beginning of a new year, and its supposed equation with IV *šmw* 9 is invalid because *wp rnpt* is *first* month in the Ebers calendar and is not aligned with IV *šmw* 9, but with the previous month III *šmw* 9.

<sup>11</sup> Ibid., 301-2.

<sup>12</sup> Ibid., 298.

<sup>13</sup> Idem, “From Esna to Ebers: An Attempt at Calendrical Archaeology,” *Studies in Honor of William Kelly Simpson*, Vol. 2; Boston: Museum of Fine Arts, 1966) 759. See

[http://www.gizapyramids.org/pdf%20library/festschrift\\_simpson/59\\_Spalinger.pdf](http://www.gizapyramids.org/pdf%20library/festschrift_simpson/59_Spalinger.pdf) In “Calendars Real and Ideal,” Spalinger writes, “I *3ht* 9 has ‘Feast of Amun. Feast of Re, corresponding to what the ancestors called ‘Feast of the Opening of the Year’,” (p. 306).

<sup>14</sup> Ibid., 759.

<sup>15</sup> Ibid., 761-62.

<sup>16</sup> Ibid., 761.

<sup>17</sup> Ibid., 760.

<sup>18</sup> Ibid., 759.

The citation from the Esna calendar placing the “feast of Amun, feast of Re” on I 3 $\dot{h}t$  9, “what the ancestors called the feast of *wp rnpt*” concurs with *wp rnpt*’s position as first month in the Ebers calendar. The citations concerning the ceremony of the “Union with the Disk” mentioning the date of IV *šmw* 9, is in 12th position in later calendars. The two dates for the one event may be viewed as further evidence for feasts being held out of their eponymous months in the Greco–Roman calendar.

### Heidi Jauhiainen on *wp rnpt* on I 3 $\dot{h}t$ 1

Heidi Jauhiainen’s 2009 thesis discusses references to feasts and festivals at Deir el-Medina in non-literary documents from the Ramesside period.<sup>19</sup> Some of the feasts she attributes to having being held out of their eponymous month, in the following month.

Since Gardiner wrote his articles in 1906 and 1955, the Deir el-Medina ostraca and papyri have been catalogued and posted to a website. Those referred to by Gardiner or Parker can be identified from the database. These new references and others are supplied by Jauhiainen in an appendix. Throughout the thesis she cites several authors for the attribution of a dynasty or a king’s regnal year for many of the inscriptions. Her citations are used here.

Jauhiainen often notes that many of the workmen at Deir el-Medina had work-free days at the end of one month, which carried through to days at the beginning of the next month. Thus it is not always clear when a feast started, since feast days usually involved work-free days. Nevertheless, the following instances appear to be feast days out of their eponymous month in the Greco–Roman calendar.

Jauhiainen notes that the feast of *wp rnpt* took place on I 3 $\dot{h}t$  1 during the Middle Kingdom according to P. Berlin P 10007 recto 22.<sup>20</sup> In Greco–Roman calendars, *wp rnpt* is the 12th month, IV *šmw*.

On O. DeM 209 verso 20, the New Year feast is specifically dated to I 3 $\dot{h}t$  1–3, with the work-gang being absent in *wp rnpt*.<sup>21</sup> The ostrakon is attributed to the reign of Amenmesse or Seti II (late 19th Dynasty).<sup>22</sup>

### Heidi Jauhiainen on Hathor Celebrated in IV 3 $\dot{h}t$ not III 3 $\dot{h}t$ .

P. Berlin P 10282 recto 2 cites a feast of Hathor being held on IV 3 $\dot{h}t$  1.<sup>23</sup> This date is attributed to the Middle Kingdom.<sup>24</sup> A graffito from the Temple of Thutmose III

<sup>19</sup> H. Jauhiainen, “Do not Celebrate Your Feast Without Your Neighbours”: *A study of References to Feasts and Festivals in Non-Literary Documents from Ramesside Period Deir el-Medina* (Publications of the Institute for Asian and African Studies 10; Helsinki: Helsinki University Print, 2009).

<sup>20</sup> *Ibid.*, 73 n. 1, 79 and n. 8.

<sup>21</sup> R. van Walsem, “Month-Names and Feasts at Deir el-Medina,” *Gleanings from Deir el-Medina* (eds. R. J. Demarée and J.J. Janssen; Leiden: Nederlands Instituut voor het Nabije Oosten, 1982) 223; Jauhiainen, “Do not Celebrate,” 79 and nn. 11-12.

<sup>22</sup> Jauhiainen, “Do not Celebrate”, 79 n. 13, citing, J. Janssen, “Two Personalities” *Gleanings from Deir el-Medina*, 112 (Amenmesse or Seti II); *KRI IV* (1982) 217-19; R. Krauss, *Sothis- und Monddaten: Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985), 130 (year 2 of Seti II); W. Helck, *Die datierten und datierbaren Ostraka, Papyri und Graffiti von Deir el-Medineh* (Bearbeitet von Adelheid Schlott; ÄA 63; Weisbaden: 2000), 103-105 (year 2 of Amenmesse).

<sup>23</sup> *Ibid.*, 73 n. 2, 108 n. 7.

<sup>24</sup> *Ibid.*, 108 n. 7, citing U. Luft, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992) 116 note d; S. Schott, *Altägyptische Festdaten* (Akademie der Wissenschaften und der Literatur in Mainz, Wiesbaden, 1950) 89.



at Deir el-Bahri dates the procession of Hathor to IV *3ht* 4.<sup>25</sup> The Medinet Habu Festival Calendar List 40 (line 917) attributed to the reign of Ramesses II,<sup>26</sup> gives IV *3ht* 1 as the date for the feast of Hathor.<sup>27</sup> O. Michaelides 33 recto 9 refers to a procession of Hathor on IV *3ht* 1 during which workmen were freed from the work on the Royal Tomb, which extended into IV *3ht* 2.<sup>28</sup> The date is attributed to the first half of the 20th Dynasty.<sup>29</sup>

Jauhiainen notes that in the Greco–Roman period the feast of Hathor was celebrated at the Temple of Dendera during the whole month of III *3ht*, with processions taking place on III *3ht* 29 to IV *3ht* 1, and at Kom Ombo from III *3ht* 28 to IV *3ht* 5, but at Esna only on III *3ht* 29.<sup>30</sup> However, Jauhiainen writes that *in the 19th and 20th Dynasties*, “The first and second day of IV *3ht*, might, indeed have been annually occurring work-free days at Deir el-Medina.”<sup>31</sup> Jauhiainen cites O. Cairo CG 25515, dated to Year 6 of Seti II,<sup>32</sup> and O. Cairo CG 25545 + JE 72454, the date also attributed to Seti II,<sup>33</sup> that the crew was work-free from III *3ht* 29 to IV *3ht* 2. Also, in O. Turin N. 57047 recto 6–7, in Year 22 of Ramesses III, the men were freed from work on the Royal Tomb from III *3ht* 28 to IV *3ht* 6.<sup>34</sup> Jauhiainen mentions other similar instances of work-free days, as well as working days at the end of III *3ht* through to the first few days of IV *3ht* in the Ramesside period.<sup>35</sup> However, she does not note the above-mentioned work-free days as being specifically related to the feast of Hathor, though this is implied. It would seem that the feast of Hathor took place on IV *3ht* 1–2 within the period of the work-free days at the end of the third month/beginning of the fourth month.<sup>36</sup> If so, the instances cited are further evidence for a calendar beginning with the month of *wp rnpt*, as in the Ebers calendar. The feast dates given by the Medinet Habu Festival calendar are discussed further below.

<sup>25</sup> Ibid., 107 and n. 10, 108 and n. 8.

<sup>26</sup> Ibid., 108 n. 10 citing H. H. Nelson, “The Calendar of Feasts and Offerings at Medinet Habu,” *Work in Western Thebes 1931-33* (eds. H.H. Nelson and U. Hölscher; OIC 18; Chicago, IL: Chicago Oriental Institute (1934) 25-29; A.J. Spalinger, “Sovereignty and Theology in New Kingdom Egypt: Some Cases of Tradition,” *Saeculum* 47 (1996) 226; B.J.J. Haring, *Divine Households: Administrative and Economic Aspects of the New Kingdom Royal Memorial Temples in Western Thebes* (EgUit 12; Leiden: NINO, 1997) 53-55.

<sup>27</sup> Van Walsem, *Temple Festival Calendars*, 103; “Do not Celebrate,” 73 n. 2; 108 and n. 9 citing, Kitchen, *KRI V* (1983) 159.

<sup>28</sup> Jauhiainen, “Do not Celebrate,” 104, 108-9.

<sup>29</sup> Ibid., 108 and n. 2, citing H. Goedicke and E.F. Wente, *Ostraca Michaelides* (Wiesbaden: Harrassowitz 1962) 20, (Ramesses III); *KRI V* (1983) 612-13 (Ramesses III); Helck, *Die datierten* 374-75 (year 2 of Ramesses IV).

<sup>30</sup> Ibid., 108, nn. 11, 12, 13.

<sup>31</sup> Ibid., 109.

<sup>32</sup> O. Cairo CG 25515 recto VII, 14-17, Jauhiainen, “Do not Celebrate”, 109 and n. 4 citing J. Černý, *Ostraca Hiératiques Nos 25501-25832: Catalogue general des antiquités égyptiennes due Musée due Daire* (Le Caire: L’Institut Français d’Archéologie Orientale (1935) 7; Kitchen, *KRI IV* (1982) 322-27, 382-84; Helck, *Die datierten* (2002) 141-47, 160-63.

<sup>33</sup> O. Cairo CG 25545 + JE 72454; Jauhiainen, “Do not Celebrate”, 109. For the date attributed Jauhiainen cites Helck, *Die datierten* (2002) 146-47; D. van Heel and K. and B.J.J. Haring, *Writing in a Workmen’s Village: Scribal Practice in Ramesside Deir el-Medina* (EgUit 16; Leiden: Instituut voor het Nabije Oosten (2003) 34 (Jauhiainen, “Do not Celebrate”, 109 n. 6).

<sup>34</sup> Jauhiainen, “Do not Celebrate”, 109 and nn. 7 and 8. For the date attributed, Jauhiainen cites J. López, *Ostraca ieratici N 57001-57092: Catalogue del Museo Egizio di Torino. Serie seconda – Collezioni*, 3, Fascicolo 1; Milano: Istituto Editoriale Cisalpino-La Goliardica (1978) 32; Kitchen, *KRI V* (1983) 483; Helck, *Die datierten* (2002) 246-47 in Jauhiainen, “Do not Celebrate”, 109 n. 8.

<sup>35</sup> Ibid., 109-10.

<sup>36</sup> Ibid., 110.

### Heidi Jauhiainen on Khoiak

Concerning the feast of Khoiak, Jauhiainen writes, “The festival [of Khoiak] normally seems to have been celebrated during the month of IV *3ht* and to have culminated in the feast of Lifting the *Djed*-pillar on IV *3ht* 30.”<sup>37</sup> But she also writes, “At Deir el-Medina, *Khoiak* (*k3 hr k3*) seems to have been the name of a feast at the beginning of I *prt* ... an eponymous feast at the beginning of the subsequent month after the one named after it.”<sup>38</sup>

Jauhiainen notes an example of a Khoiak feast held at the beginning of I *prt* (not noted here previously). From Graffito 2087, 1–3, she notes that the work crew at Deir el-Medina brought *k3 hr k3* to Meretseger on I *prt* 5 in the reign of Ramesses V.<sup>39</sup> The *k3 hr k3* may have been a ritual vessel associated with the feast of *k3 hr k3*/Khoiak.<sup>40</sup> The magical literary text O. DeM 1059 recto 7-8 (no date) cites the feast as lasting seven days,<sup>41</sup> so I *prt* 5 may have been the fifth day of the feast. Putting these two citations together it seems probable that the feast of Khoiak began on I *prt* 1. Jauhiainen’s analysis of the Khoiak feast dates, led her to say, “... the royal artisans may, in general, have celebrated the feast of *k3 hr k3* for two days on I *prt* 1–2.”<sup>42</sup>

Jauhiainen then associates the Khoiak feast dates with those of work-free days. In O. Cairo CG 25542, a lamp account dated to Year 5 of Seti II, cites work-free days on IV *3ht* 29, which lasted to I *prt* 3.<sup>43</sup> Also, in Seti I’s sixth year (O. Cairo CG 25515) the workmen were free from IV *3ht* 29 to I *prt* 4. Jauhiainen cites a similar document from the first year of the reign of Siptah,<sup>44</sup> successor to Seti II. She also notes from O. Cairo CG 25536 verso that the wicks for the lamps were brought out of storage on I *prt* 4, seeming to indicate the first working day of the month.<sup>45</sup> She concludes, “Thus, it appears, that, at least during the 19th Dynasty, the work-free period due to the feast of *k3 hr k3* at Deir el-Medina may have started on IV *3ht* 29 and ended on I *prt* 2 or 3.”<sup>46</sup> Since the work-free days are not attested as celebrating the Khoiak feast, but can be attributed to the workmen having “days off” at the end of each month, the celebrating of the feast of Khoiak beginning on I *prt* 1 is a natural continuation of the work-free days. As such, the feast is out of its eponymous month in the Greco–Roman calendar.

Jauhiainen notes from O. Demarée H 6, 1–2, 8, attributed to Year 3 of Seti I,<sup>47</sup> “the crew received deliveries of wood and pottery on IV *3ht* 30. Among the containers were 40 *k3 hr k3* vessels, the name of which seems to derive from the *Khoiak* Festival.”<sup>48</sup> This suggests they were for the feast of Khoiak starting the next day on I *prt* 1.

Regarding the feast of *nḥb k3w*, which Parker had proposed as being separate from *Khoiak*, Jauhiainen writes, “According to various sources from the Middle and the

<sup>37</sup> Ibid., 113-14 and n. 1.

<sup>38</sup> Ibid., 114.

<sup>39</sup> Ibid., 114 and n. 4, and in n. 5 citing the date attributed by Kitchen, *KRI* VI (1983) 271; Helck, *Die datierten* (2002) 420.

<sup>40</sup> Ibid., 116.

<sup>41</sup> Ibid., 115 and n. 10.

<sup>42</sup> Ibid., 114.

<sup>43</sup> Ibid., 114 and n. 11, citing the date attributed by Kitchen, *KRI* IV (1982) 305-9; Helck, *Die datierten*, 137-39.

<sup>44</sup> Ibid., 114-15 and n. 1; from O. Cairo CG 25521 recto 4-5.

<sup>45</sup> Ibid., 115 and n. 4; from O. Cairo CG 25536 verso 1-2.

<sup>46</sup> Ibid., 115.

<sup>47</sup> Ibid., 116, and n. 2 citing the date attributed by Kitchen, *KRI* VII (1989) 30.

<sup>48</sup> Ibid., 116.

New Kingdom, I *prt* 1 was, in fact, dedicated to a feast of the god *nḥb k3w*.<sup>49</sup> She explains the celebration of the feast of *nḥb k3w* at the time of the feast of *k3 ḥr k3* at Deir el-Medina as *nḥb k3w* being an extension of *k3 ḥr k3*.<sup>50</sup> She writes, “The Khoiak Festival ended in the resurrection of Osiris while the feast of *nḥb k3w* celebrated the accession of his son Horus as the King of Egypt.”<sup>51</sup> She notes from an inscription from the tomb of Amenmose (TT9) attributed to the reign of Ramesses II, “the name of the deceased is said ‘not to be forgotten in the morning of *nḥb k3w*’.” She also observes that, “In the tomb of the official Nakhtamon (TT341), reign of Ramesses II, I *prt* 2 is called the ‘morning of *nḥb k3w*’.”<sup>52</sup> Thus the feast of Neḥeb-Kau was already being celebrated on I *prt* 2, a date also attributed to the feast of Khoiak, and presumably started on I *prt* 1.

Noting that the feast of Neḥeb-Kau was held in the month of *k3 ḥr k3* at the time of Ramesses II on I *prt* 1, but by the time of Ramesses IV the feast was called Khoiak,<sup>53</sup> Jauhiainen suggests that the name of the feast changed from *nḥb k3w* to *k3 ḥr k3* (Khoiak) between the reigns of Ramesses II and Ramesses IV.<sup>54</sup> However, the feast of Khoiak was also dated to IV *3ḥt* in the 20th Dynasty as a number of inscriptions attest,<sup>55</sup> this being its position in the Greco–Roman calendar. Thus the feast is out of its eponymous month in IV *3ḥt*.

Jauhiainen notes that O. Ashmolean Museum 70, recto 9, records the work gang having a *wp* feast on I *prt* 1.<sup>56</sup> Since *wp*, and not *ḥb* (the usual word for feast), is used it implies an association of *wp rnpt* as the first day of the new year (I *3ḥt* 1) and I *prt* 1 as the first day of the Neḥeb-Kau feast.<sup>57</sup> I *prt* 1 can be viewed as a secondary New Year with the death of Osiris and the accession of Horus.<sup>58</sup> The inscription is attributed to the mid-20th Dynasty, possibly to the reign of Ramesses VI.<sup>59</sup>

Parker’s attempt to translate the passage from *The Book of the Dead* so that the feast of Neḥeb-Kau began on I *prt* 4, after the feast of Khoiak had ended on I *prt* 3, is not corroborated by the above texts. Also, as with the feast of Renenutet, work-free days at the end of the previous month seem to have extended into work-free days at the beginning of the next month; that is, from the end of IV *3ḥt* into the beginning of I *prt*, incorporating the feast of *nḥb k3w/k3 ḥr k3*.

### Heidi Jauhiainen and Renenutet on IV *prt*

Previously, I noted that the feast of Renenutet (*rnwtt*) was dated specifically to I *šmw* 1 on the tombs of Khaemhet and Neferhotep of the 18th Dynasty. As Jauhiainen notes, in various Theban tombs the feast of Renenutet is dated to I *šmw* 1.<sup>60</sup> This is wholly explicable as the Renenutet festival celebrates the beginning of the harvest season; that is, *šmw*. In the Ebers calendar, Renenutet is the month of I *šmw*. But the feast and month of Renenutet is IV *prt* in the Cairo Calendar (P. Cairo JE 86637 verso

<sup>49</sup> Ibid., 116; for bibliography see n. 7.

<sup>50</sup> Ibid., 116; for bibliography see n. 13.

<sup>51</sup> Ibid., 116 and n. 14.

<sup>52</sup> Ibid., 117.

<sup>53</sup> Ibid., 112-18.

<sup>54</sup> Ibid., 117.

<sup>55</sup> O. BM EA 29560, O. DeM 1265, O Berlin P 14214, cited in Jauhiainen, “Do not Celebrate,” 118, nn. 10-14.

<sup>56</sup> Jauhiainen, “Do not Celebrate,” 118 and n. 1.

<sup>57</sup> Ibid., 118. See Spalinger, “Calendars Real and Ideal,” 302-08.

<sup>58</sup> Ibid., 116; Spalinger, “Calendars Real and Ideal,” 307.

<sup>59</sup> Ibid., 118 and n. 2.

<sup>60</sup> Ibid., 144.

XIV, 8).<sup>61</sup> (The month is later known as Pharmuthi in the Greco–Roman calendar). Jauhiainen notes there are further references from Deir el-Medina for this feast falling on IV *prt*.<sup>62</sup> In the Greco–Roman calendar, the month of Renenutet is also IV *prt*.

But, Jauhiainen writes, “From the New Kingdom on, the Feast of Renenutet occurred at the beginning of I *šmw* 1.”<sup>63</sup> She notes a feast of Khnum dated to I *šmw* 1 in the Festival Calendar of the Temple of Esna (1st century CE), where, however, the feast day is also called the feast of Renenutet.<sup>64</sup> Therefore, the feast of Renenutet falling on IV *prt* is out of its eponymous month.

### Medinet Habu Festival Calendar Lists Renenutet on I *šmw* 1

The feast of Renenutet is also attributed to I *šmw* 1 in the Medinet Habu Festival calendar in List 64.<sup>65</sup> Sherif el-Sabban, who published the list in 2000, translates this passage.

(Line 1402 reads, First month of Summer, day 1; day of the *Renenutet* festival; offerings for Amon-Re, and the portable image of King of Upper and Lower Egypt, *Wosermaatre Meriamon*, [Ramesses III] in this day of festival.<sup>66</sup>

It is assumed by scholars that the name of Ramesses III has replaced the original name of Ramesses II (Usermaatre-Setepenre) as the Medinet Habu calendar is a copy from the Ramesseum. However, it is quite clear that the text assigns the feast of Renenutet to I *šmw* 1 where it is applicable at the beginning of the harvest but not to IV *prt* 1.

### The First Month Must Be *wp rnpt* as in the Ebers Calendar

The dating of Renenutet to IV *prt* 1 cannot be attributed to a mistake, as the numeration of the preceding and following lists of dated months and feasts are in chronological order. This indicates that the other feasts listed at Medinet Habu also derive from the same calendar as List 64 having the feast of Renenutet on I *šmw* 1. The first month must then be *wp rnpt* as in the Ebers calendar. There are three feasts dated to the new moon listed in the Medinet Habu Festival calendar. We discuss these now.

New moon festivals at Medinet Habu preceding List 64 (discussed above) is List 63 where the heading is damaged and only “Feast of [..]k[.]” is legible.

Line 1388 reads, “4th month of winter, 1st day; day [of] the festival of [..]k[ ] it is the new moon which brings it,” etc.<sup>67</sup>

Because the name of the feast is missing we come back to this after discussing the two remaining texts associated with the moon. List 66 is headed “The Processional Festival of Min.”

Line 1430 reads, “1st month of summer, 11th day; day of Min’s procession to the terrace when the new moon is in the morning; offerings for Amon and the portable image of *Wosermaatre Meriamon*, in this day.”<sup>68</sup>

<sup>61</sup> Ibid., 145 and n. 14; A. Bakir, *The Cairo Calendar No. 86637* (Cairo: Antiquities Department of Egypt, Government Printing Offices, 1966) 54.

<sup>62</sup> Ibid., 145-46.

<sup>63</sup> Ibid., 144.

<sup>64</sup> Ibid.

<sup>65</sup> Ibid.

<sup>66</sup> S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies; Liverpool: Liverpool University Press, 2000) 126. The heading is followed by lines 1403-1415 giving an inventory of the offerings for the feast.

<sup>67</sup> Ibid., 125.

The date for the new moon is I *šmw* 12, being the day after the procession.

Spalinger applies the Medinet Habu Festival calendar to a year early in the reign of Ramesses II.<sup>69</sup> He notes that a decree for new offerings on II *pṛt* in Year 4 means that the list must have been commenced later than that date.<sup>70</sup> In my chronology, Ramesses II's sixth year is 1384 (–1383). A new moon fell on I *šmw* 12 (9 12) in –1383 as shown in Casperson's table (Table 8.1).

**Table 8.1: Ramesses II's sixth year –1383: Medinet Habu feasts (new moon listing from –1386 to –1381)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1383	2	13	–1383	2	1	1398	7	14	7	5:50	6:36	233	6:35	64	6:34	–34
–1383	3	14	–1383	3	2	1398	8	13	1	14:13	6:16	355	6:15	94	6:14	–2
–1383	4	12	–1383	3	31	1398	9	12	2	22:42	5:54	606	5:54	143	5:53	36
–1383	5	12	–1383	4	30	1398	10	12	4	8:05	5:33	217	5:32	87	5:32	11
–1383	6	10	–1383	5	29	1398	11	11	5	19:03	5:17	299	5:17	149	5:16	60

DoW = day of week; ToD = time of day.

However, Casperson's table (Table 8.1) is dated to a calendar beginning with *thy* (or Thoth) as in the Greco–Roman calendar, which means that the month name of I *šmw* is Khonshu, not Renenutet, that being the previous month. But in the Medinet Habu calendar, in List 64, the feast of Renenutet is dated to I *šmw* 1, and because the feast of Min is also dated to I *šmw* it must also refer to the month of Renenutet not the month of Khonshu (later Pachons). The date of the new moon fell on I *šmw* 12 in a calendar beginning with *wṗ rnpt*. This means that IV *pṛt* 12 in the table above converts to I *šmw* 12.

The third feast associated with the new moon is that of List 67, which has the heading “The Processional Feast of Amon.”

Line 1451 reads, “First month of summer, the new moon's festival of Amon-Re, in his first festival of the first month of summer, when this god goes out on the 4th occasion of the new moon's festival,” etc.<sup>71</sup>

This inscription refers back to the preceding list in which the new moon fell on I *šmw* 12. Four days later, still in the first festival of I *šmw*, Amun-Re received offerings. This also refers to the month of Renenutet.

To return to List 63, with the damaged heading and lost month name we note that the new moon fell in the fourth month of winter. Since the following month was I *šmw* (in Lists 64, 66, and 67) attributed to the month of Renenutet, the preceding month must be *rokeḥ nds* (“Little Burning”) or IV *pṛt*. The name *rkḥ* incorporates the “k” seen in the inscription,<sup>72</sup> thus concurring with the identification.

In the table above, the new moon fell on IV *pṛt* 12, which, in the Greco–Roman calendar, is the month of Pharmuthi, but when converted to a calendar beginning with *wṗ rnpt*, the month is *rokeḥ nds*, otherwise IV *pṛt*. In List 63, the day date is given as IV

<sup>68</sup> Ibid., 127–28. For more about the Medinet Habu Calendar and the Feast of Min, see A.J. Spalinger, “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; Alter Orient und Altes Testament; Münster: Ugarit, 2002) 384–87.

<sup>69</sup> Spalinger, “Egyptian Festival Dating,” 386.

<sup>70</sup> Idem, “Sothis and ‘Official’ Calendar Texts,” VA 10/2–3 (1995) 182.

<sup>71</sup> El-Sabban, *Temple Festival Calendars*, 129.

<sup>72</sup> El-Sabban had suggested that the feast was named Sokar (ibid, 125), but this feast was celebrated on or around IV *šḥt* 25–26 (Jauhiainen, “Do not Celebrate,” 165–66).

*prt* 1. This is a damaged entry, and is in conflict with the preceding heading for List 62 in which the “Feast of Chewing Onions for Bast” fell on IV *prt* 4. Thus List 63 must be dated to some day after the fourth, and the new moon date reveals this to be IV *prt* 12. The heading (line 1388) may now be emended to “4th month of winter 12th day; day of the festival of *rkḥ nds*; it is the new moon which brings it; offerings for Amon-Re with his ennead in this day of festival.”<sup>73</sup> In the lunar table, the month is represented by III *prt* 12.

### **Medinet Habu Festival Lists are based on a Calendar Beginning with *wp rnpt***

The conclusion is that the Medinet Habu festival lists are based on a calendar that began with *wp rnpt* as attested by IV *prt* being the month of *rokeḥ nds*, and I *šmw* being the month of Renenutet, This infers that the other months in this section of the calendar also derive from a calendar beginning with *wp rnpt*.

This is borne out by further investigation. List 52 refers to the feast of Neḥeb-Kau on I *prt* 1,<sup>74</sup> not IV *3ḥt* 1. List 59, the Festival of the Navigation of Anubis was held on II *prt* 1, followed a month later by (List 60) the “Feast of Lifting up the Sky,” which was held on three consecutive days: II *prt* [2]9, II *prt* 30, and III *prt* 1. This was, itself, followed a month later by (List 61) the “Feast of Entering the Sky,” which was also held on three consecutive days, III *prt* 29, III *prt* 30, and IV *prt* 1. Then follows (List 62) the “Feast of Chewing Onions for Bast,” which was held on IV *prt* 4. This feast precedes that of List 63, the just discussed “Feast of *rokeḥ nds*,” which was held on IV *prt* 12. If the fourth month of winter is *rokeḥ nds*, then working backward, the third month (List 61) is *rokeḥ wr* (“great burning”), and the second month (Lists 59 and 60) is *šf bdt* (Shef bedet). In List 65, the “Feast of Clothing Anubis” held on I *šmw* 10, is in the same month as List 64; therefore, it must also refer to Renenutet.

Jauhiainen comments that the feast of “Lifting Up the Sky” (List 60) held on III *prt* 1, was a variant for the Memphite feast of Ptah, held on II *prt* 29-III *prt* 1,<sup>75</sup> the name by which the feast was known during the New Kingdom and also in Greco-Roman temples.<sup>76</sup> The feast of Ptah was held on III *prt* 4, attributed to the second year of the reign of Ramesses IV,<sup>77</sup> and held on III *prt* 1 in the third year of the reign of Ramesses X.<sup>78</sup> Various inscriptions from Deir el-Medina indicate that the feast of Ptah lasted at least four days.<sup>79</sup> Thus the feast of Lifting Up the Sky equated with the feast of Ptah fell on III *prt* 1 in the month of *rkḥ wr* in the Medinet Habu Festival Calendar, but in the Ramesseum and Medinet Habu temple ceilings the month of *rkḥ wr* is II *prt*, as in the Greco-Roman calendar. The Medinet Habu calendar dates for the feast of Ptah/Lifting Up the Sky held on II *prt* 29-III *prt* 1 applied to the months of *šf bdt* and *rkḥ wr* give another example of a feast held out of its eponymous month in the Greco-Roman calendar.

Referred to above is List 52, another example of the date for the month of Neḥeb-Kau.

<sup>73</sup> Ibid., 125.

<sup>74</sup> Ibid., 115.

<sup>75</sup> Jauhiainen, “Do not Celebrate,” 170.

<sup>76</sup> Ibid., 127.

<sup>77</sup> Ibid., 170; O. DeM 401 rt. 1-5; see nn. 7 and 8. The date probably implies the fourth day of the festival (see p. 171).

<sup>78</sup> Ibid., 170; P. Turin Cat. 1898 + 1926 + 1937 + 2094 recto I, 5.

<sup>79</sup> Ibid., 170-71.

Line 1191 reads, “First month of winter, 1st day; day of the Neḥeb-Kau festival of the royal appearance of the king of Lower Egypt Wosermaatre Meriamon.”<sup>80</sup>

The first month of winter in the Greco–Roman calendar is IV *pṛt*, thus its attribution to Neḥeb-Kau, also known as Khoiak, is out of its eponymous month. This reinforces the conclusion of the previous discussion concerning the feast of Khoiak/Neḥeb-Kau: that it was once dated to I *pṛt* 1.

The above examples of months in the Medinet Habu Festival calendar demonstrate a calendar beginning with the month of *wṗ rnpt*, while also having a second designation a month later out of its eponymous month in other contexts. These indicate the presence and simultaneous use of two calendars in the early 19th Dynasty (reign of Ramesses II), a situation also pertaining to the 18th Dynasty attested in the Ebers calendar with the alternative calendar depiction in the tomb of Senmut among other examples.

### Month Names from Other Calendars *One Month Before the Greco–Roman Calendar*

Other evidence not yet discussed arises from the Hekanakhte Letters pertaining to the 12th Dynasty. Months named *ḥnt-ḥty-pṛty*, *šf-bdt* and *rkḥ* appear to derive from a calendar beginning a month earlier than in the Greco–Roman calendar. The Hekanakhte Letters will be discussed in chapter 24 in the context of its associated dynasty.

Also, in chapter 13, I will discuss the *w3gy* feast dates of the 12th Dynasty provided by Ulrich Luft.<sup>81</sup> Spalinger understood from Luft that the *w3gy* feast date changed from day 18 of the second *lunar* month to day 18 of the *first civil* month, which he assumed to be another example of a feast held out of its eponymous month.<sup>82</sup> My investigation points otherwise and leads to the recognition of an early date for a heliacal rising of Sothis, which, in turn, supports my chronology.

In the preceding discussion I have brought together evidence gleaned by Gardiner and other scholars for feasts apparently held out of their eponymous months as in the Greco–Roman calendar. There may be other examples that have not come to my attention. Table 8.2 lists the evidence discussed in this and previous chapters ordered as far as possible by the time period. Table 8.3 gives the dates according to their position in a calendar beginning with the month of *wṗ rnpt*, as in the Ebers calendar.

<sup>80</sup> El-Sabban, *Temple Festival Calendars*, 115.

<sup>81</sup> U. Luft, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992).

<sup>82</sup> A. J. Spalinger, “Notes on the Ancient Egyptian Calendars,” *Orientalia* 64 (1995) 23.

**Table 8.2: Chronological tabling of festivals, lists, or months that suggest a calendar starting one month earlier than the Greco–Roman calendar**

	Source of festivals/lists/months	Period	Feast/list/month	Date given
1	Old Kingdom <i>mastabas</i>	4th–5th Dyn.	<i>Wp rnpt</i> first in lists of feasts	I 3 <sub>ht</sub> 1
2	P. Berlin P 10007 rt. 22	Middle Kingdom	Feast of <i>wp rnpt</i>	I 3 <sub>ht</sub> 1
3	Illahun Berlin Papyrus 10069 rt. col. 1, line 1; col. 5, line 2	12th Dyn.	Month <i>rkh wr</i> Month <i>rkh nds</i>	III <i>prt</i> 1 IV <i>prt</i> 1
4	P. Berlin P 10282 rt. 2	Middle Kingdom	Feast of Hathor	IV 3 <sub>ht</sub> 1
5	Illahun Papyrus UC 32191	35th yr Amenemhet III, 12th Dyn.	Feast of Hathor Feast of <i>k3 hr k3</i>	IV 3 <sub>ht</sub> 1; I <i>prt</i> 1
6	Ebers papyrus calendar	9th yr Amenhotep I, early 18th Dyn.	<i>Wp rnpt</i> heads the list of month-names, ending in Epiphi	I 3 <sub>ht</sub> to IV <i>šmw</i>
7	Deir el-Bahri inscription of Hatshepsut	Hatshepsut, early 18th Dyn.	New Year's day is <i>wp rnpt</i>	I 3 <sub>ht</sub> 1
8	Karnak Festival calendar	Thutmose III, early 18th Dyn.	Feast of <i>wp rnpt</i>	I 3 <sub>ht</sub> 1
9	Feast List of Amon of Elephantine	Thutmose III.	Feast of <i>wp-rnpt</i>	I 3 <sub>ht</sub> 1
10	Graffito from Thutmose III's Deir el-Bahri temple	Thutmose III	Procession of Hathor	IV 3 <sub>ht</sub> 4
11	Tomb of Khaemhet (TT57)	Tomb dated to 30th yr of Amenhotep III, mid 18th Dyn.	Harvest festival: Renenutet = Pharmouthi	I <i>šmw</i> 1
12	Book of the Dead, ch. 42	18th Dyn.	Khoiak feast	I <i>prt</i> 1
13	Tomb of Neferhotep (TT50)	Reign of Horemheb, late 18th Dyn.	Harvest festival: Renenutet = Pharmouthi	I <i>šmw</i> 1
14	O. Demarée H 6, 1, 2–8	Year 3 Seti I, early 19th Dyn.	Delivery of wood, pottery, and 40 <i>k3 hr k3</i> vessels	On IV 3 <sub>ht</sub> 30, for <i>k3 hr k3</i> feast on I <i>prt</i> 1?
15	Tomb of Nakhtamon (TT341)	Ramesses II, early 19th Dyn.	“morning of <i>nhb k3w</i> ” (Neheb-Kau)	I <i>prt</i> 2
16	Medinet Habu Festival calendar, list 40	[6th yr] Ramesses II	Feast of Hathor	IV 3 <sub>ht</sub> 1
17	Medinet Habu Festival calendar, list 52	[6th yr] Ramesses II	Feast of Neheb-Kau	I <i>prt</i> 1
18	Medinet Habu Festival calendar, list 60	[6th yr] Ramesses II	Feast of Lifting Up the Sky = Feast of Ptah in <i>rkh wr</i>	III <i>prt</i> 1
19	Medinet Habu Festival calendar, List 63.	[6th yr] Ramesses II	Feast of “[ k[ ]” = <i>rkh nds</i> on new moon IV <i>prt</i> 1[2]	IV <i>prt</i> 12
20	Medinet Habu Festival calendar, List 64	[6th yr] Ramesses II	Feast of Renenutet	I <i>šmw</i> 1
21	Medinet Habu Festival calendar, list 66	[6th yr] Ramesses II	Procession of Min Feast of Min on new moon	I <i>šmw</i> 11 I <i>šmw</i> 12
22	On O. DeM 209 vs. 20.	Late 19th Dyn.	Feast of <i>wp-rnpt</i>	I 3 <sub>ht</sub> 1–3
23	Cairo Calendar Papyrus 86637 rt. III, 3–5	Early 20th Dyn.	“Birthday of Re-Harakhty”	I 3 <sub>ht</sub> 1
24	O. Berlin P 12635 vs. 9	Ramesses IV, 20th Dyn.	Feast of Khoiak	I <i>prt</i> 2
25	O. DeM 401 rt. 1–5	2nd yr Ram IV	Feast of Ptah = Feast of <i>rkh wr</i>	III <i>prt</i> 1
26	Graffito 2087, 1–3 with O. DeM 1059 rt. 7–8	Ramesses V, 20th Dyn. no date	“ <i>k3 hr k3</i> taken to Meretseger” feast lasted 7 days	I <i>prt</i> 5 I <i>prt</i> 1–5?
27	O. Ashmolean Museum 70 rt. 9	Mid-20th Dyn., Ramesses VI?	<i>wp</i> feast	I <i>prt</i> 1
28	Necropolis journal, P. Turin Cat 1999 + 2009	13th yr Ramesses IX, 20th Dyn.	“Birthday of Re-Horakhty” follows last epagomenal day	I 3 <sub>ht</sub> 1
29	Necropolis journal, P. Turin Cat. 1884 + 2067 + 2071 + 2015	15th yr Ramesses IX	“Birthday of Re-Horakhty”	I 3 <sub>ht</sub> 1
30	P. Turin Cat. 1898 + 1926 + 1937 + 2094 rt. I, 5	3rd yr Ramesses X	Feast of Ptah = Feast of <i>rkh wr</i>	IV <i>prt</i> 1
31	Ramesseid ostracon BM	20th Dyn.	“Going forth of Horus”	“Going forth of



	29560			Horus” is first month cited = I 3 $\dot{h}t$ ?
32	Cairo Calendar Papyrus 86637 vs. 21	20th Dyn.	“Feast of Re”	I 3 $\dot{h}t$ 1
33	O. Turin 57304	20th Dyn.	“Feast of Re”	I 3 $\dot{h}t$ 1
34	Medinet Habu Festival calendar, list 60	20th Dyn.	Feast of Lifting up the Sky =	III <i>prt</i> 1
35	O. Michaelides 33 rt. 9	20th Dyn.	Procession of Hathor	IV 3 $\dot{h}t$ 1
36	Tanis Geographical Papyrus	1st century CE, Roman period	Feast of Hathor	IV 3 $\dot{h}t$ 1
37	Tanis Geographical Papyrus	1st century CE, Roman period	Feast of Khoiak ( <i>k3 hr k3</i> )	I <i>prt</i> 1
38	Tanis Geographical Papyrus	1st century CE, Roman period	Feast of <i>šf bdt</i> (uncertain)	II <i>prt</i> 1
39	Esna Temple calendar	1st century CE, Roman period	“Feast of Re ... feast of <i>wp rnpt</i> ”	I 3 $\dot{h}t$ 9 = IV <i>šmw</i> 9
40	Esna, Edfu & Dendera Temples	1st century CE, Roman period	Feast of Ptah = Feast of Lifting up the Sky	III <i>prt</i> 1
41	Esna Temple calendar	1st century CE, Roman period	Feast of Knum = Feast of Renenutet	I <i>šmw</i> 1

ch. = chapter; col. = column; Dyn. = dynasty; rt. = recto; vs. = verso.

The table shows that at least from the time of the Old Kingdom *mastabas* of the 4th and 5th Dynasties, if not before, *wp rnpt* was known as the name of the first month or feast of the year. Since *wp rnpt* means “the opener of the year” it is very appropriate as the first name in the first column of the Ebers calendar, dating to the early 18th Dynasty. Attestations of other months dated a month earlier than in the Greco–Roman calendar witness to a calendar having *wp rnpt* at its head. These examples are found in the 12th Dynasty from the Berlin papyri, then from the 18th Dynasty in the Ebers calendar, and in the 19th Dynasty in the Medinet Habu Festival calendar dating to the reign of Ramesses II, and various inscriptions from the 20th Dynasty. Perhaps significantly, there are no further attestations of feasts out of their eponymously named months after the end of the 20th Dynasty until the late Roman period is reached—the latter in the Tanis Geographical papyrus. The latter is explained by scholars as an archaizing tendency. The absence of such feast dates after the 20th Dynasty suggests that the calendar used to date them might have become obsolete; a perception pursued in later discussion of the Era of Menophres.

Table 8.3 arranges the month and day dates for the examples cited above showing *wp rnpt* as the first month with its feast on I 3 $\dot{h}t$  1.

**Table 8.3: Month and day dates with *wp rnpt* as the first month with its feast on I 3 $\dot{h}t$  1 (arranged by calendar date in the last column)**

	Source of festival/list/month	Period	Festival/list/month	Date shown
1	Old Kingdom <i>mastabas</i>	4th–5th Dyn.	<i>Wp rnpt</i> first in lists of feasts	I 3 $\dot{h}t$ 1
2	P. Berlin P 10007 rt. 22	Middle Kingdom	Feast of <i>wp rnpt</i>	I 3 $\dot{h}t$ 1
3	Ebers Papyrus calendar	9th yr Amenhotep I, 18th Dyn.	<i>Wp rnpt</i> heads the list of month-names, ending in Epiphi	I 3 $\dot{h}t$ to IV <i>šmw</i>
4	Deir el-Bahri inscription of Hatshepsut	Early 18th Dyn.	New Year’s day = <i>wp rnpt</i>	I 3 $\dot{h}t$ 1
5	Karnak Festival calendar	Thutmose III, early 18th Dyn.	Feast of <i>wp rnpt</i>	I 3 $\dot{h}t$ 1
6	Feast List of Amon of Elephantine	Thutmose III	Feast of <i>wp-rnpt</i>	I 3 $\dot{h}t$ 1
7	Cairo Calendar Papyrus 86637 rt III, 3–5	Ramesses III; 20th Dyn.	“Birthday of Re-Harakhty”	I 3 $\dot{h}t$ I
8	Necropolis journal: P Turin Cat. 1999 + 2009	13th yr Ramesses IX. 20th Dyn.	“Birthday of Re-Horakhty follows last epagomenal day	I 3 $\dot{h}t$ 1
9	P. Turin Cat. 1884 + 2067 + 2071 + 2015	15th yr Ramesses IX	“Birth of Re Harakhty”	I 3 $\dot{h}t$ 1

10	Ramesseid ostracon: BM 29560	20th Dyn.	“Going forth of Horus”	First month cited = I 3 <sup>ht</sup> ?
11	Cairo Calendar Papyrus 86637 vs. 21	20th Dyn.	Feast of Re	I 3 <sup>ht</sup> 1
12	O. Turin 57034	20th Dyn.	Feast of Re	I 3 <sup>ht</sup> 1
13	O. DeM 209 vs. 20	Late 19th Dynasty	Feast of <i>wp-rnpt</i>	I 3 <sup>ht</sup> 1–3
14	Esna Temple calendar	1st century CE, Roman period	“Feast of Re ... feast of <i>wp-rnpt</i> ”	I 3 <sup>ht</sup> 9 = IV <i>šmw</i> 9
15	P. Berlin P 10007 rt. 22	Middle Kingdom	Feast of Hathor	IV 3 <sup>ht</sup> 1
16	P. Berlin P 10282 rt. 2	Middle Kingdom	Feast of Hathor	IV 3 <sup>ht</sup> 1
17	Papyrus UC 32191	35th yr Amenemhet III, 12th Dyn.	Feast of Hathor	IV 3 <sup>ht</sup> 1
18	O. Michaelides 33 rt. 9	20th Dyn.	Procession of Hathor	IV 3 <sup>ht</sup> 1
19	Tanis Geographical Papyrus	1st century CE, Roman period	Hathor	IV 3 <sup>ht</sup> 1
20	Graffito from Thutmose III’s Deir el-Bahri temple	Thutmose III, early 18th Dyn.	Procession of Hathor	IV 3 <sup>ht</sup> 4
21	O. Demarée H 6, 1, 2–8	Year 3 Seti I, early 19th Dyn.	Delivery of wood, pottery, 40 <i>k3 hr k3</i> vessels	On IV 3 <sup>ht</sup> 30 for <i>k3 hr k3</i> feast on I <i>prt</i> 1?
22	Medinet Habu Festival calendar, list 40	Ramesses II, 19th Dyn.	Feast of Hathor Feast of <i>k3 hr k3</i>	IV 3 <sup>ht</sup> 1 I <i>prt</i> 1
23	Illahun Papyrus UC 32191	35th yr Amenemhet III, 12th Dyn.	Feast of <i>k3 hr k3</i>	I <i>prt</i> 1
24	Book of the Dead, ch. 42	18th Dynasty	Khoiak	I <i>prt</i> 1
25	Medinet Habu Festival calendar, list 52	Ramesses II	Feast of Neheb Kau	I <i>prt</i> 1
26	Tomb of Nakhtamon (TT341)	Ramesses II, early 19th Dyn.	“Morning of <i>nhb k3w</i> ” (Neheb-Kau)	I <i>prt</i> 2
27	O. Berlin P 12635 vs. 9	Ramesses IV, 20th Dyn.	Feast of Khoiak	I <i>prt</i> 2
28	O. Ashmolean Museum 70 rt. 9	mid-20th Dyn., Ramesses VI?	<i>wp</i> feast	I <i>prt</i> 1
29	Tanis Geographical Papyrus	Roman period	Feast of Khoiak ( <i>k3 hr k3</i> )	I <i>prt</i> 1
30	Graffito 2087 1–3, with O. DeM 1059 rt. 7–8	Ramesses V (no date)	“ <i>k3 hr k3</i> given to Meretseger”. Feast lasted 7 days	I <i>prt</i> 5 I <i>prt</i> 1-7?
31	Tanis Geographical Papyrus	Roman period	Feast of <i>šf bdt</i> (uncertain)	II <i>prt</i> 1
32	Illahun Berlin Papyrus 10069, col. 1, line 1	Middle Kingdom	<i>rkh wr</i>	III <i>prt</i> 1
33	Medinet Habu Festival calendar, list 60, lines 1350, 1368–1369	[6th yr] Ramesses II	Feast of Lifting Up the Sky = Feast of Thoth	III <i>prt</i> 1
34	Esna, Edfu & Dendera Temples	1st century CE, Roman period	Feast of Ptah = Feast of Lifting Up the Sky	III <i>prt</i> 1
35	O. Dem 401 rt 1–5	2nd yr Ramesses IV	Feast of Ptah = Feast of <i>rkh wr</i>	III <i>prt</i> 1
36	P. Turin Cat. 1898 + 1926 + 1937 + 2094 rt. I, 5	3rd yr Ramesses X	Feast of Ptah = Feast of <i>rkh wr</i>	IV <i>prt</i> 1
37	Illahun Berlin Papyrus 10069, col. 5, line 2	Middle Kingdom	<i>rkh nds</i>	IV <i>prt</i> 1
38	Medinet Habu Festival calendar, list 63, line 1388	[6th yr] Ramesses II	Feast of “[ ]k[ ]” = <i>rkh nds</i> on new moon IV <i>prt</i> 1[ ]	IV <i>prt</i> 12?
39	Tomb of Khaemhet (TT57)	Tomb dated to 30th yr of Amenhotep III, mid 18th Dyn.	Harvest: <i>Rnnwtt</i>	I <i>šmw</i> 1
40	Tomb of Neferhotep (TT50)	Reign of Horemheb, late 18th Dyn.	Harvest: <i>Rnnwtt</i>	I <i>šmw</i> 1
41	Medinet Habu Festival calendar, list 64, line 1402	[6th yr] Ramesses II	Feast of Renenutet	I <i>šmw</i> 1
42	Medinet Habu Festival calendar, list 66, line 1430	[6th yr] Ramesses II	Procession of Min (Feast of Min on new moon)	I <i>šmw</i> 11 I <i>šmw</i> 12
43	Esna Temple Festival calendar	1st century CE, Roman period	Feast of Khnum = Feast of Renenutet	I <i>šmw</i> 1

ch. = chapter; col. = column; Dyn. = dynasty; rt. = recto; vs. = verso.

From Table 8.3 we note that the feast of *wp rnpt* is dated to I 3<sup>ht</sup> 1 down to the 18th Dynasty, but in the 20th Dynasty the feast has become the “Feast of Re” or the

“birthday of Re” and possibly synonymous with the “going forth of Horus.” The 1st century BCE Esna Temple Festival calendar attests that the Feast of Re is what the ancestors called *wp rnpt*, and its celebration is dated to IV *šmw* 9. It appears that the month of *wp rnpt* has moved from 1st position to 12th position. The subsequent months must then also automatically follow. The three seasons are represented in Table 8.3 with the first month of each dominating the feasts held out of their eponymous month in the Greco–Roman calendar. What could have caused this phenomenon?

Gardiner suggested that theological differences between a “Re school” and a “Thoth school” might account for calendars beginning with the months of Re (Mesore) and Thoth, but this is not convincing. On the other hand, we have not found any evidence for Parker’s three-calendar hypothesis of two lunar calendars and a civil calendar to account for the transfer of feast dates. So the question remains—Gardiner’s old conundrum—what situation caused feasts set on the first day of a month to have two different designations one month apart?



## Chapter 9

### Exploring the Ebers Calendar

The previous chapters listed evidence of feasts apparently held out of their eponymous months in the Greco–Roman calendar, discussed by Gardiner in 1906 and 1955, and by recent scholars. We now review the opinions held by scholars since the 1980s on how to interpret the Ebers calendar and the conundrum of the out-of-place feasts.

The two topics are intrinsically related because the first column of the Ebers calendar (Table 9.1) is a prime example of a calendar that begins with *wp rnpt* and not *thy*. In the Ebers calendar, the various feasts all appear in their eponymous months. An understanding of the Ebers calendar can resolve the problem of why some feasts are out of their eponymous months in the Greco–Roman calendar.

**Table 9.1: The Ebers Calendar**

Year 9 under the majesty of the king of Upper and Lower Egypt <i>Dsr-k3-R<sup>c</sup></i> may he live forever			
<i>wp rnpt</i>	III <i>šmw</i>	day9	going up of Sothis
<i>thy</i>	IV	day9	•
<i>mnht</i>	I <i>3ht</i>	day9	•
<i>hwt hr</i>	II	day9	•
<i>k3 hr k3</i>	III	day9	•
<i>šf bdt</i>	IV	day9	•
<i>rkḥ wr</i>	I <i>prt</i>	day9	•
<i>rkḥ nds</i>	II	day9	•
<i>rnnwtt</i>	III	day9	•
<i>ḥnsw</i>	IV	day9	•
<i>ḥnt ḥt</i>	I <i>šmw</i>	day9	•
<i>ipt ḥmt</i>	II	day9	•

• = ditto.

#### Problems Associated with the Ebers Calendar

Scholars recognize that the first column of the Ebers calendar with its 12 month-names corresponds in some way with the civil calendar of the second column shown by its seasonal designations. The first column starts with the month of *wp rnpt*, which means “the opener,” but this month is reckoned by almost all scholars to be the 12th month. In what way then does *wp rnpt* in the Ebers calendar correspond with the second column of civil month designations? It begins with III *šmw*, the 11th month in the Greco–Roman calendar, and adjacent to “day9” in the third column. This date, III *šmw* 9, is the date for the “going up of Sothis” in the fourth column.

How can scholars justify *wp rnpt* as a 12th *lunar* month or a 12th *civil* month?

Furthermore, those who attribute the first column to a *lunar* calendar have a problem in correlating it with the civil calendar because the repetition of “day9” in the third column for all 12 months suggests that each month consists of 30 days, not 29 or 30 as in a lunar calendar.<sup>1</sup>

Scholars also point out that the five epagomenals (at the end of the year) are omitted, so that the year has only 360 days, but after the 12th month “day 9” should advance to day 14. Furthermore, the ditto marks under the “going up of Sothis” in the fourth column for all 12 months seem to suggest a monthly rising of Sothis on day 9 of every month. But the “going up of Sothis” is an *annual* event.

These are some of the problems associated with understanding the Ebers calendar. Now, what answers have scholars proposed?

Many Egyptologists support Parker’s theory of lunar calendars and have applied his original lunar calendar to the first column of the Ebers calendar.<sup>2</sup> Others, such as Winfried Barta in 1983, followed by Jürgen von Beckerath in 1993, have applied the first column to Parker’s later lunar calendar.<sup>3</sup>

However, there are other Egyptologists who regard the first column of the Ebers calendar as a civil calendar, such as Christian Leitz, Ulrich Luft, Marshall Clagett, and Anthony Spalinger.

Gardiner’s novel idea of *two* civil calendars has lacked general scholarly support because it is not understood how feasts could “shift” from one month back to the previous month.

### Scholars Views on the Ebers Calendar

In 1983, Wolfgang Helck suggested that the Ebers calendar date of III *šmw* 9 was not a specific Sothic date, but that Sothis rose sometime between III *šmw* 9 and IV *šmw* 8.<sup>4</sup> Subsequently, in 1986, Franz-Jürgen Schmitz, recommended what was previously suggested by Donald B. Redford in 1966,<sup>5</sup> namely, that two feasts that fell in the reign of Amenhotep I, on III *šmw* 11 and 13 mentioned on a Turin papyrus and a British Museum ostrakon, respectively, should be applied to the accession feast of Amenhotep I lasting several days.<sup>6</sup> Schmitz then proposed that the feast lasted five days beginning on III *šmw* 9, Amenhotep I’s alleged accession day, which coincided both with the rising of Sothis in his ninth regnal year and the day of a new moon.<sup>7</sup> The idea that “day 9” was the first day of a regnal year and that each regnal month began on day nine of the civil year was

<sup>1</sup> See depictions in chap.3, pp 50-51, Figures 3.1 and 3.2 and discussion.

<sup>2</sup> For literature on earlier views, see C. Leitz, “Studien zur ägyptischen Astronomie,” *Ägyptologische Abhandlungen* 49 (1989) 28-34; M. Clagett, *Ancient Egyptian Science Vol 2: Calendars, Clocks, and Astronomy* (Philadelphia, PA: American Philosophical Society, 1995) 193-200; L. Depuydt, “The Function of the Ebers Calendar Concordance,” *Orientalia* 65 (1996) 74-77.

<sup>3</sup> W. Barta, “Zur Entwiklung des ägyptischen Kalenderwesens,” *ZÄS* 110 (1983) 21-22; J. von Beckerath, “Bemerkungen zum ägyptischen Kalender: I. Zur Entstehung des 365-tägigen Kalenders,” *ZÄS* 120 (1993) 20; “Bemerkungen zum ägyptischen Kalender: III. “Zum Kalendarium des Papyrus Ebers,” *ZÄS* 120 (1993) 131-36.

<sup>4</sup> Discussed by W. Helck, “Schwachstellen der Chronologie-Diskussion,” *GM* 67 (1983) 49.

<sup>5</sup> D.B. Redford, “On the Chronology of the Egyptian Eighteenth Dynasty,” *JNES* 25 (1966) 115-16.

<sup>6</sup> F-J. Schmitz, *Amenophis I* (HÄB 6; Hildesheim: Gerstenberg, 1978) 27-29.

<sup>7</sup> Schmitz, *Amenophis I*, 29.

accepted by various scholars, such as Rolf Krauss in 1986,<sup>8</sup> and Ulrich Luft also in 1986, and reiterated by the latter in 1989.<sup>9</sup>

### Jürgen von Beckerath

However, in 1987, Jürgen von Beckerath rejected the view held by Helck and Luft that the Ebers calendar did not contain a Sothic date,<sup>10</sup> and the idea of Schmitz and Luft that a regnal year was portrayed by “day 9,” because he found no evidence for a regnal calendar.<sup>11</sup> Instead, Von Beckerath proposed that the first column of Ebers represented *feasts of lunar months*; the lunar month of *wp rnpt* being equated with the third *šmw* month of the civil calendar, and day nine being the rising of Sothis.<sup>12</sup> Helck responded in 1988 to von Beckerath’s rejection of his and Luft’s view that the Ebers calendar did not have a Sothic date, by trying to reconstruct the chronology of the 18th Dynasty from the known regnal years of its kings and alleged dates, and whether or not a Sothic date of III *šmw* 9 could be proven for Amenhotep I’s ninth year. On his dates he found it was not possible! He reiterated III *šmw* 9 as the accession day of the king.<sup>13</sup>

### Wolfgang Helck

In 1989, Helck followed Parker’s proposal that the rising of Sothis had to happen in the first *lunar* month and that it was not connected to a specific date. Thus Helck suggested that Sothis rose heliacally sometime in the month III *šmw* 9 and IV *šmw* 8. He asserted, “We are not allowed to use this entry for chronological calculations.”<sup>14</sup>

### Winfried Barta

Winfried Barta, in his article of 1988,<sup>15</sup> understood the first column of the Ebers calendar to represent a lunar calendar with *wp rnpt* being the last month and the date of III *šmw* 9 being the ninth lunar day,<sup>16</sup> and the day of Amenhotep I’s accession, rather than the day of the heliacal rising of Sothis. He reasoned that the “day9” refers to the beginning of each regnal year since it cannot refer to the annual heliacal rising of Sothis, which he thinks may have occurred any time between III *šmw* 9 and IV *šmw* 8 of the civil year.<sup>17</sup>

### Christian Leitz

In 1989, three years after Luft’s 1986 article, Leitz proposed a different interpretation of the Ebers calendar.<sup>18</sup> He noted that *wp rnpt* was in the 12th month

<sup>8</sup> R. Krauss, *Sothis- und Monddaten: Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 115-16.

<sup>9</sup> U. Luft, “Noch Einmal zum Ebers-Kalender,” *GM* 92 (1986) 70; idem, “Illahunstudien IV: Zur chronologischen Verwertbarkeit des Sothisdatums,” *SAK* 16 (1989) 223.

<sup>10</sup> J. von Beckerath, “Das Kalendarium des Papyrus Ebers und das Sothisdatum vom 9. Jahr Amenophis’ I.,” *SAK* 14 (1987) 27.

<sup>11</sup> *Ibid.*, 29-30.

<sup>12</sup> *Ibid.*, 28-29.

<sup>13</sup> W. Helck, “Erneut das Angebliche Sothis-Datum des Pap. Ebers und die Chronologie der 18. Dynastie,” *SAK* 15 (1988) 163-64.

<sup>14</sup> From discussion reported in *High, Middle or Low? Acts of an International Colloquium on Chronology held at the University of Gothenburg 20th–22nd August, 1987* (ed. P. Åström; Gothenburg: Paul Åströms Förlag; Part 3, 1989) 40-41.

<sup>15</sup> W. Barta, “Das Kalendarium des Papyrus Ebers mit der Notiz eines Sothisaufgangs,” *GM* 101 (1988) 7-12.

<sup>16</sup> *Ibid.*, 7-8.

<sup>17</sup> *Ibid.*, 8-11.

<sup>18</sup> C. Leitz, *Studien zur ägyptischen Astronomie* (ÄA 49; Wiesbaden: Harrassowitz, 1989) 22-30.

position in the Cairo Papyrus 86637 where it had the highest number of daylight hours, indicating the summer solstice month; whereas, in the Ebers calendar, *wp rnpt* was in first month position.<sup>19</sup> He was not convinced that the first column of Ebers was a schematic lunar calendar having 30 days to each month with *wp rnpt* as its last month. He considered Gardiner's rejection of a lunar calendar valid.<sup>20</sup> He proposed two calendars: a solar one in the first column with the month of *wp rnpt* identical to the month of III *šmw*, with the summer solstice falling on III *šmw* 1,<sup>21</sup> and another calendar in the second column starting with the "going up of Sothis" on III *šmw* 9 where it had shifted eight days in relation to the solar year.

The dots under the "going up of Sothis" in the third column indicated the beginning of each successive month starting on the ninth day.<sup>22</sup> He particularly disagreed with the idea that the Ebers calendar represented regnal years in its second and third columns with the assumed accession of Amenhotep I on III *šmw* 9.<sup>23</sup>

### Anthony Spalinger

In 1989/1990, Anthony Spalinger rejected Parker's view that the first column in Ebers was a list of lunar months, proposing instead that they were the names of civil months, whose numerical designations appear in the second column beginning with III *šmw* 9. He recognized III *šmw* 9 either as the date of *prt Spdt* beginning a new civil year,<sup>24</sup> or the accession date of Amenophis I (Amenhotep I).<sup>25</sup> However, he viewed *wp rnpt* at the head of the first column as the 12th month of the civil year. He gives two explanations for this "odd" order.<sup>26</sup>

(1) *Wp rnpt* can be seen as the feast day for the rising of Sothis on III *šmw* 9 equated with I *3ht* 1, which leaves the remaining months in the order of 1 through 12.

(2) *Wp rnpt* is 12th month at the head of the first column, followed by *thy* as month 1, *mnht* month 2, and so on; this arrangement being described as idealized and schematic, but linked with the *real* civil date of III *šmw* 9.<sup>27</sup>

The repetition of "day9" in the third column, referring to day nine of the going up of Sothis, shows that each month had 30 days, illustrating the schematic nature of the calendar,<sup>28</sup> which is also shown by the omission of the epagomenal days.<sup>29</sup>

Gardiner's evidence for feasts held in the month after their eponymous month is explained as "the transference of month-names from the older [lunar] calendar to the newer [civil] one,"<sup>30</sup> thus Spalinger recognizes an original lunar calendar—but not in the first column of Ebers.

In 1992, in the context of asserting that the equation of *wp rnpt* as the first day of the civil year with *prt Spdt* is rare until the Late Period, Spalinger wrote, "Ebers, with its remarkable month orientation, offers more problems than solutions and I prefer to follow

<sup>19</sup> Ibid., 24.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid., 25, 28, 34.

<sup>22</sup> Ibid., 28.

<sup>23</sup> Ibid., 31-34.

<sup>24</sup> A.J. Spalinger, "A Return to Papyrus Ebers," *BES* 10 (1989/90) 139.

<sup>25</sup> Ibid., 141.

<sup>26</sup> See lists in "Return to Papyrus Ebers," 143; idem, "A Chronological Analysis of the Feast of *thy*," *SAK* 20 (1993) 293.

<sup>27</sup> Idem, "Return to Papyrus Ebers," 140.

<sup>28</sup> Ibid., 142.

<sup>29</sup> Ibid., 140-42.

<sup>30</sup> Ibid., 143.



the present scholarly interpretations by considering it to be more of an intellectual product than a true source for chronology.”<sup>31</sup>

### Ulrich Luft

In 1992, Luft registered strong doubts concerning the existence of a lunar calendar. He writes:

The weak position of the lunar calendar in general lessens the possibility of explaining the month-names of the Ebers calendar as lunar ones ... The so-called lunar month-names known since the Middle Kingdom are only alleged lunar ones with the exception of the Dressing of the God’s Statue (*mnh.t*) that was moving in the second lunar cycle after the beginning of the Civil Year. In the Illahun archives the Opener of the Year (*wp-rmp.t*), Before the Plummet (*tp-<sup>c</sup> thj*), Hathor (*hw.t hrw*), the two Burnings (*rkh*) are fixed in the Civil Year in the same order as in the Ebers calendar or in the Tomb of Senenmut. The *wp-rmp.t*, the two *rkh*, probably the *hn.t hw.t-hrw* (Navigation of Hathor), and the *nhb-k3w*, as the possible predecessors of the *hw.t-hrw* and *k3-hr-k3*, the later Khoiak, fall on the first day of a month. This fact could support Gardiner’s thesis that the eponyms fell on the first day of the month following the month it gave its name to, but I concede that this argument is valid in the Illahun material only for the mentioned feasts.<sup>32</sup>

Further on, Luft concluded, “The Ebers calendar is an aborted experiment to substitute the Regnal Year for the Civil Year. The Egyptians did not put into use this totally unsuitable idea.”<sup>33</sup>

### Spalinger Speculating and Soul-searching

In 1993, Spalinger reiterated the evidence collected by Gardiner concerning feasts held out of their eponymous months in the Greco–Roman calendar.<sup>34</sup> He noted that Gardiner was unable to appreciate “Parker’s hypothesis of lunar determined feasts,” citing in particular the lunar base of the Epiphi feasts. Spalinger continued:

Gardiner and Parker both, in fact, became more than a tad outraged when neither could accept the other’s pronouncements concerning the calendrical reasons for various religious events. In particular, their controversy centred on the names of the months in the (final) Civil Calendar and their relation to key feasts.<sup>35</sup>

In 1993, von Beckerath recounted Gardiner’s examples of 1906 and his assumption that feasts had been shifted out of their eponymous months, an assumption that von Beckerath found impossible to accept.<sup>36</sup> Instead, he agrees with Parker that the explanation lies in the transfer of feasts from the later lunar calendar to the civil calendar.<sup>37</sup>

In 1994, a doubt about how feasts were originally dated enters Spalinger’s discussion. He writes:

By and large without ample textual data of a chronological sort it is impossible to determine the reasons why certain events were set on specific days in the civil calendar.

<sup>31</sup> Idem, “The Canopus Stela,” *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 47.

<sup>32</sup> U. Luft, “Remarks of a Philologist on Egyptian Chronology,” *Ä und L* 3 (1992) 111-12 and n. 31.

<sup>33</sup> Ibid., 113.

<sup>34</sup> Spalinger, “Chronological Analysis,” 293.

<sup>35</sup> Ibid., 292.

<sup>36</sup> Von Beckerath, “Bemerkungen zum ägyptischen Kalender,” Part 1, 20.

<sup>37</sup> Ibid., 21.

That they were originally lunar-based goes without saying ... it is fair to state that the dates of virtually all civilly-set feasts are still hard to fathom. Indeed, I doubt that all of the known festivities can be solved by assuming a day in the lunar calendar equivalent to the same in the civil calendar, the months remaining the same.<sup>38</sup>

In 1995, in the context of discussing the origin of civil month-names, Spalinger returns to the problem of feasts being held out of their eponymous months and Gardiner's explanation of his Mesore and Thoth years. Spalinger writes:

Parker rejected Gardiner's hypothesis of a "Mesore year" with great efficiency although the latter tried to maintain his earlier position in a very strongly worded presentation in 1955. For Parker, it was necessary to examine the original lunar-based calendrical system of the Egyptians, the one in which names of the months were always given (e.g. *Hnsw*) instead of any numerical arrangement (*I šmw*). From this position it emerged that no alteration in the civil arrangement ever took place even though the calendrical discontinuity between a month and its identically-named feast occurring in the following civil month still remained. Nevertheless, Gardiner persisted in defending his viewpoint in an [*sic*] rather extreme fashion. His convenient, if inaccurately-labelled statement, that his 1906 work produced "statements of fact" rather than hypotheses, may be seen by many to be a telling example how deeply upset one can become when earlier cherished hypotheses are demolished.<sup>39</sup>

Of course, Gardiner *did* produce "statements of fact" in gathering evidence that some feasts were dated to the first day of two consecutive months widely separated in time. His suggestion as to why this came about remains a hypothesis. From the point of view that the original lunar and later lunar calendars are merely hypotheses of Parker's—for which no evidence has been produced—it is not surprising that Gardiner was upset at the attempted demolition.

Spalinger picks up on Luft's statement that months fall in the same order in the Ebers calendar as in the Senenmut tomb ceiling, and uses this to argue that:

No alteration in month names occurred with a hypothetical 'Mesore Year' standing side-by-side with a 'Thoth Year', the latter having displaced the former by moving New Year's Day ahead by one month. Quite to the contrary, the Egyptian civil year always began with the *wp rnpt* feast, itself set on I *3ht* I. The first month of *3ht* was originally designated *thy* but later was called Thoth, in honor of the lunar deity.<sup>40</sup>

Luft, followed by Spalinger, ignores *wp rnpt*'s position as the first month in the Ebers calendar, viewing it as the 12th month. Therefore, they can say the order is the same as in Senenmut's tomb calendar. But, on this assumption, Spalinger can only recognize *wp rnpt* as the *feast* of I *3ht* 1 set in the month of *thy* (how odd is that?!) and assumes that no alteration to month-names and positions ever occurred. By not attributing *wp rnpt* to a first month he was able to dispense with Gardiner's two civil calendars hypothesis.

Continuing with his theme, Spalinger reiterates the problem of feasts being held on the first day of the month following the one to which they had given their name (which he says was from a lunar-based calendar).<sup>41</sup> And he says, "Unless we want to

<sup>38</sup> A.J. Spalinger, "Thoth and the Calendars," *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 52.

<sup>39</sup> Idem, "Notes on the Ancient Egyptian Calendars," *Orientalia* 64 (1995) 19.

<sup>40</sup> Ibid., 20.

<sup>41</sup> Ibid.

return to the position of Month XII = earlier month I, month I = earlier month II, and so forth, it is clear that some resolution ... must be advocated."<sup>42</sup>

Spalinger then turns to Ebers again to point out that Parker's lunar interpretation of the calendar was jettisoned by Luft's civilly based one. Luft, in company with earlier scholars, thought that the Ebers calendar showed regnal years starting with the accession of Amenhotep I on III *šmw* 9, but which as we noted, he regarded as an "aborted experiment."<sup>43</sup> Spalinger agreed with Luft, though he thought the word "aborted" was far too strong.<sup>44</sup> Luft's evaluation of Ebers as a civilly based calendar led to "much soul-searching" among scholars: Helck, Krauss, Leitz, von Beckerath, and Spalinger himself.<sup>45</sup>

Spalinger sums up his view regarding Ebers:

This calendar has to be seen from a viewpoint that is not solely concerned with Sothis. In other words, the Ebers insert is one of the rare documents that reveals ancient Egyptian intellectual thought trying to grasp a very complicated pattern. With Luft (and later Leitz), I cannot but maintain that a civil interpretation has to be placed upon the whole document and recent attempts to provide a counter-example to this perspective have in my opinion so far failed. (Whether or not one wants to consider the heliacal rising of Sothis, which is listed for all twelve months, as valid is another matter.) Nevertheless, since Ebers has proved to be a major thorn in the side of modern calendrical experts if not chronologists themselves, then it may be best to place this document to the side and to return to the apparently more sober problem of the feasts themselves.<sup>46</sup>

In summing up, Spalinger refers to "the clear-cut difference of 'minus one month' when the later civil system is compared to the earlier lunar one," and "we moderns must take into consideration the 'décalage' between the civil month-names and their identically-named feasts ... one that is based on the situation at the time that the civil year came into existence."<sup>47</sup> Thus he follows Parker in thinking that the problem of the months is to be resolved in a transfer of earlier lunar month-names and feasts to a later civil calendar.

Also, in 1995, Spalinger refuted Parker's idea that the month-lists on the ceiling of Senmut's tomb, the Ramesseum ceiling and its copy in the Medinet Habu temple, the Karnak water clock from the time of Amenhotep III, and the later Edfu frieze, were lunar. As noted previously, Spalinger concluded that all the month-lists were of a civil nature.<sup>48</sup> The Ebers calendar was not part of this discussion.

Another of Spalinger's articles of a different nature to the above, though still relevant, was also published in 1995. Summing up this article about the lunar system in festival calendars with reference to new moon days, Spalinger writes:

The official festival calendars reflected a system in which only human sight was utilized; no detailed papyrus rolls of lunar + civil correlation were needed. Hence, it did not matter what lunar month occurred in which a certain feast was to take place; the importance of civil I *3ht* 1 for the determination of the lunar year—I am now referring to Parker's hypothetical second lunar calendar—was nil. Likewise, the heliacal rising of Sothis as a benchmark for the new lunar year played no role at all. The presence or absence of a (lunar) intercalary month similarly can be dismissed if this hypothesis is

<sup>42</sup> Ibid., 21.

<sup>43</sup> Luft, "Remarks of a Philologist," 113; Spalinger, "Notes on," 22.

<sup>44</sup> Spalinger, "Notes on," 22. Also in 1995, Spalinger regarded the king's accession date to equate with the heliacal rising of Sothis ("Sothis and 'Official' Calendar Texts," VA 10/2-3 (1995) 180.

<sup>45</sup> Idem, "Notes on," 20.

<sup>46</sup> Ibid., 22.

<sup>47</sup> Ibid., 32.

<sup>48</sup> Idem, "Month Representations," Cd'É 70 (1995) 110-22.

followed. All ... that was necessary for the priests was to see the moon and to find when their lunar date took place within a given civil month.<sup>49</sup>

This view was reiterated later in 2002,<sup>50</sup> which we note below.

### Marshall Clagett

In 1997 Spalinger critiqued a volume by Marshall Clagett published in 1995.<sup>51</sup> Clagett covered a wide range of Egyptian oriented subjects: calendars, clocks, and astronomy. Concerning the subject of months, Clagett's view was that "feast days were celebrated in the months following those to which the feast days gave their names."<sup>52</sup>

This explains for him why *wp rnpt* is at the beginning of the Ebers calendar even though later it is a month-name in 12th place.<sup>53</sup> He viewed all 12 months in the first column of the Ebers calendar as eponymous feast days rather than months.<sup>54</sup>

Concerning Parker's description of the old lunar calendar, Clagett writes, "He has given us an account that is only barely possible and is quite speculative in detail and not convincing in its over-all argument."<sup>55</sup> Clagett, himself, viewed the first column of Ebers as "an ad hoc correlation of (1) twelve feast days (30 days apart) marking a fixed Sothic year beginning with the Feast of New Year's Day determined by the heliacal rising of Sirius with (2) the corresponding days of the civil year extending from III Shemu 9 in civil year 9 of Amenhotep I's reign to II Shemu 9 in civil year 10 of that reign,"<sup>56</sup> and that it was, "a correlation needed when seasonal dates have to be converted to civil dates."<sup>57</sup>

Spalinger's critique of Clagett's book appeared in 1997.<sup>58</sup> Spalinger noted that it was written by an "outsider" and was out of date because Clagett had not mentioned the contributions of scholars virtually since 1989, such as those of Leitz, Wells, Luft, von Beckerath, and Spalinger himself.<sup>59</sup> But Spalinger concedes this was probably due to the completion date of the manuscript.<sup>60</sup> Nevertheless, Spalinger writes of Clagett, "His discussion of P. Ebers (page 47 and Document III 2) is close to that of myself and Luft-Leitz."<sup>61</sup>

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<sup>49</sup> Idem, "The Lunar System in Festival Calendars: From the New Kingdom Onwards," *BSÉG* 19 (1995)

40.

<sup>50</sup> Idem, "Ancient Egyptian Calendars: How Many Were There?" *JARCE* 39 (2002) 249.

<sup>51</sup> M. Clagett, *Ancient Egyptian Science Vol 2: Calendars, Clocks, and Astronomy* (Philadelphia: American Philosophical Society, 1995).

<sup>52</sup> *Ibid.*, 14.

<sup>53</sup> *Ibid.*, 14-15.

<sup>54</sup> *Ibid.*, 46.

<sup>55</sup> *Ibid.*, 21.

<sup>56</sup> *Ibid.*, 200, similarly 15.

<sup>57</sup> *Ibid.*, 15.

<sup>58</sup> A.J. Spalinger, "Review of Marshall Clagett's *Ancient Egyptian Science Vol 2: Calendars, Clocks, and Astronomy*" *BibOr* 54 (1997) 677-84; and a review by Leo Depuydt in *JAOS* 118 (1998) 75.

<sup>59</sup> Spalinger, "Review of *Ancient Egyptian Science*," 677.

<sup>60</sup> *Ibid.*, 682.

<sup>61</sup> *Ibid.*

### Spalinger's "From Esna to Ebers"

In 1996, Spalinger's article "From Esna to Ebers" appeared<sup>62</sup> in which he sought to make a connection between the date of 1 *3ht* 9 attributed to the "Feast of Amun, feast of Re, corresponding to what the ancestors called the Feast of *Wp rnpt*"<sup>63</sup> in an Esna calendar and IV *šmw* 9 in the Ebers calendar.<sup>64</sup>

The date of IV *šmw* 9 was also found on another Esna inscription in which the month was Re-Horakhty.<sup>65</sup> Spalinger points out that in the third line of the Ebers calendar the month of *thy* is in the first column (under *wp rnpt*) and is in line with IV *šmw* 9 in the second column, and with the ditto marks in the fourth column under the "going up of Sothis."<sup>66</sup> He concludes, "Esna and Ebers coincide."<sup>67</sup>

I have dealt with the two Esna passages earlier, the former as an instance of the feast of *wp rnpt* held out of its eponymous month in the Esna calendar, so I will not repeat it here.<sup>68</sup>

However, Spalinger's view of the Ebers calendar is pertinent to our present discussion.

I consider this very perturbing document to be more valuable as an intellectual aspect of ancient Egyptian calendrics than as a solution to the chronology of the New Kingdom. And if I take for granted that the coverage of this small calendar by Luft, Helck, Leitz, and even by myself, has advanced our interpretation to a new level, this is because grave doubts surrounding its applicability to absolute chronology cannot be dispelled.<sup>69</sup>

In Spalinger's comprehensive work about feasts his comments on the names of days are worth noting, "The 'name' of a day by itself says nothing with regard to what calendar is assumed by the speaker or the writer."<sup>70</sup>

He gives the example of *3bd*, the second day of an Egyptian month (by which I understand him to mean lunar month) when set in a 365-day lunar calendar could be second day of that calendar, or if standing alone *3bd* could be the second day of a 30-day civil calendar. Spalinger writes, "After all, the names of the days in the Egyptian civil calendar were simply borrowed from the presumed original lunar calendar of an earlier time."<sup>71</sup>

The point here is that Spalinger acknowledges that the lunar calendar is only *presumed*, so even he does not have tangible evidence for it. Rather, he points out that day-names could be civil (but from a lunar calendar!), and insists that the Medinet Habu calendar consists of civil—not lunar—months and days.<sup>72</sup>

<sup>62</sup> Idem, "From Esna to Ebers: An Attempt at Calendrical Archaeology," *Studies in Honor of William Kelly Simpson* Vol 2; (Boston: Museum of Fine Arts, 1996).

<sup>63</sup> See Spalinger's earlier comments on this text in "*Wp rnpt* in the Esna Festival Calendar," *Three Studies*, 51-56, though he admits that this article is now obsolete ("From Esna to Ebers," 759 n. 15).

<sup>64</sup> Idem, "From Esna to Ebers," 759-62.

<sup>65</sup> *Ibid.*, 761.

<sup>66</sup> *Ibid.*, 762.

<sup>67</sup> *Ibid.*

<sup>68</sup> See chap. 6, p. 100.

<sup>69</sup> Spalinger, "From Esna to Ebers," 761; similarly, previously, "Notes on," 22. The "new level" refers to the recognition that the Ebers calendar does not contain a lunar system (761-62).

<sup>70</sup> Idem, *Private Feast Lists of Ancient Egypt* (ÅA 57, 1996) 2.

<sup>71</sup> *Ibid.*, 2.

<sup>72</sup> *Ibid.*

### Leo Depuydt

Also in 1996 Leo Depuydt's article "The Function of the Ebers Calendar Concordance"<sup>73</sup> appeared. Based on the old view of Borchardt, followed by Parker, and other scholars referred to above, he assumed the month-names in the Ebers calendar were lunar, and he writes "The original lunar calendar is now accepted by most as it is here."<sup>74</sup> And further on:

"I am confidently accepting the original lunar calendar. But since its existence is not independently confirmed here, I fully realize that, logically speaking, this existence functions within the confines of this article as a principal assumption or axiom on which the theory proposed above stands or falls."<sup>75</sup>

Notably missing from Depuydt's bibliography is Luft's 1992 article "Remarks of a Philologist on Egyptian Chronology" (discussed above), in which Luft concludes, "The weak position of the lunar calendar in general lessens the possibility of explaining the month-names of the Ebers calendar as lunar ones."<sup>76</sup> If the first column of the Ebers calendar consists of civil month-names and not lunar month-names, Depuydt's thesis is demolished—as he himself is aware.

A curious aspect of Depuydt's theory in 1996 is that he says there are no time intervals stated in the Ebers calendar, just points of time. He writes, "Day 9 dates serve as anchors identifying the name of the lunar month in which they fall in the same line, just as *prt-spdt* in line 2 serves as the anchor of *wp-rnpt* in the same line."<sup>77</sup> And, "The civil Day 9 dates are *individual days* serving as anchors and heralds. Importantly, the Calendar *does not mark time intervals* from one Day 9 to another, including a 35 day interval from IV *šmw* to I *3ht*,"<sup>78</sup> (emphasis his). The dots in the fourth column under the rising of Sothis represent, "not the name or the event of the rising of Sirius, but the function of anchor and herald that this rising exercises in relation to the lunar months listed in the same line and the following line."<sup>79</sup>

Depuydt's major work on the nature of the lunar and civil calendars was published in 1997 as *Civil Calendar and Lunar Calendar in Ancient Egypt*, followed by an article in 1999 entitled, "The Two Problems of the Month Names."<sup>80</sup> Primarily his book was written to answer the "Brugsch phenomenon"—why "the last month of the Egyptian civil year can be named as if it were the first."<sup>81</sup> Secondly, he discussed the "Gardiner phenomenon"—why "a feast day occurring on Day 1 of a civil month bears the same name as the preceding month."<sup>82</sup>

While most Egyptologists see these as being one problem, Depuydt separates them. He writes, "The difference is that the Brugsch phenomenon concerns a transfer or

<sup>73</sup> L. Depuydt, "The Function of the Ebers Calendar Concordance," *Orientalia* 65 (1996) 63.

<sup>74</sup> *Ibid.*, 77.

<sup>75</sup> *Ibid.*

<sup>76</sup> Luft, "Remarks of a Philologist," 112. Depuydt refers to other articles by von Beckerath, Krauss, and Leitz, in the same issue of *Ä und L* (3) as Luft's article, but he does not refer to Luft's counter view. Spalinger's important "Month Representations," (1995) identifying the month-lists on the Karnak water clock, Ramasseum, Senmut tomb, Edfu frieze ceiling as *civil* in origin was probably too late for inclusion by Depuydt in his 1996 article.

<sup>77</sup> Depuydt, "Function of Ebers Calendar," 66.

<sup>78</sup> *Ibid.*, 66.

<sup>79</sup> *Ibid.*, 67.

<sup>80</sup> L. Depuydt, "The Two Problems of the Month Names," *Rd'É* 50 (1999) 107-33.

<sup>81</sup> *Idem*, *Civil Calendar and Lunar Calendar in Ancient Egypt* (*Orientalia Lovaniensia Analecta* 77; Leuven: Peeters, 1997), 61; similarly "Two Problems," 113.

<sup>82</sup> *Idem*, *Civil Calendar*, 63; similarly "Two Problems," 114.

derivation of month *names*, whereas the Gardiner phenomenon concerns a transfer of monthly *feasts*. In instances of the Gardiner phenomenon, a month has the same name as the feast celebrated on Day 1 of the following month.”<sup>83</sup>

Depuydt recognizes three sets of month-names, one of which is the seasonal set with designations such as I *3ht*, II *3ht*, etc.<sup>84</sup> Of the other two sets, he calls one the Theophoric Set X, which he attributes to a *lunar* calendar having months beginning with *thy*, *mnht*, and so on, and he derives this set from the Ramesseum ceiling, the Edfu temple frieze, and water clocks.<sup>85</sup>

The third set he calls the Theophoric Civil Set, which he attributes to a *civil* calendar having months beginning with *dhwty*, *p n jpt*, etc.<sup>86</sup> This set of month-names comes from the Cairo papyrus 86637 verso XIV, represented later in Greek–Coptic names.<sup>87</sup> It will be recalled from our earlier discussions that Spalinger argued that all the month-lists, those of the Ebers calendar, Senmut tomb ceiling, Karnak water clock, Ramesseum and Medinet Habu temple ceilings, and the Edfu frieze, were *civil* in nature.<sup>88</sup> In other words, the Theophoric Set X and the Theophoric Civil Set are one and the same civil calendar, with some names changed over the centuries. However, Depuydt proposes that:

Unambiguous evidence shows that the Egyptians conceived of the civil months and the lunar months in terms of pairs. This pairing found expression in the naming of the months. Civil months and their lunar twins were linked by receiving the same name. Joined to one another by nomenclature, civil calendar and lunar calendar spiraled forward in time like a double helix. This double calendar is a structure with both civil features and lunar features. The lunar component of this composite calendar may be called the civil-based lunar calendar.”<sup>89</sup>

Based on the results of our previous discussions it is hard to conceive what Depuydt found as evidence, let alone “unambiguous evidence” for civil and lunar months spiraling together as in a double helix. Depuydt’s calendars are shown in Table 9.2.<sup>90</sup>

**Table 9.2: Depuydt’s Lunar and Civil Calendars**

Seasonal month-names	Theophoric Set X Month-names = lunar origin	Theophoric Civil Set Month-names = civil	
		Early	Greek/Coptic
I <i>3ht</i>	<i>thy</i>	<i>dhwty</i>	Thoth
II <i>3ht</i>	<i>mnht</i> or <i>pth</i>	<i>p-n jpt</i>	Phaophi
III <i>3ht</i>	<i>hwt-hr</i>	<i>hwt-hr</i>	Hathyr
IV <i>3ht</i>	<i>k3 hr k3</i>	<i>k3 hr k3</i>	Choiak
I <i>prt</i>	<i>šf bdt</i> or <i>mn</i>	<i>t3<sup>c</sup>bt</i>	Tybi
II <i>prt</i>	<i>rkh-wr</i>	<i>mhr</i>	Mechir
III <i>prt</i>	<i>rkh nds</i>	<i>p-n jmn htp</i>	Phamenoth
IV <i>prt</i>	<i>Rnnwtt</i>	<i>p-n rnnwtt</i>	Pharmouthi
I <i>šmw</i>	<i>hnsu</i>	<i>p-n hnsu</i>	Pachons
II <i>šmw</i>	<i>hnt-hjij</i> or <i>hb jnt</i>	<i>p-n jnt</i>	Payni
III <i>šmw</i>	<i>jpt hmt.s</i>	<i>jpip</i>	Epiphi
IV <i>šmw</i>	<i>wp rnpt</i> or <i>r<sup>c</sup> hr 3hty</i>	<i>mswt r<sup>c</sup></i>	Mesore

<sup>83</sup> Ibid., 56; similarly 105 (emphasis his).

<sup>84</sup> Idem, “Two Problems,” 111-15. See also, *Civil Calendar*, 208-9.

<sup>85</sup> Idem, *Civil Calendar*, 209-10, 238.

<sup>86</sup> Ibid., 52, 208; idem, “Two Problems,” 120-22.

<sup>87</sup> Ibid., 109-36; “Two Problems,” 112-13.

<sup>88</sup> Spalinger, “Month Representations,” 110-22; cf. Depuydt, *Civil Calendar*, 209-10, 238.

<sup>89</sup> Depuydt, “Two Problems,” 116.

<sup>90</sup> Ibid., 122.

Depuydt's Theophoric Set X is the same as Parker's original lunar calendar except that Parker added *Dhwtyt* at the beginning as the name of the hypothetical intercalary month, and Depuydt's Theophoric Civil Set is the same as Parker's civil calendar, except that he gives only *mswt r<sup>c</sup>* as the name of the last month, whereas Parker had *mswt r<sup>c</sup>*, *Rc-hr- 3hty*, and *wp rnpt*.<sup>91</sup>

Depuydt has simply followed Parker's earlier attribution of month-names to form two separate lists. However, what Parker saw as an original lunar calendar, Depuydt now dates to about 1300 BCE, at which time it was supposedly anchored to the civil calendar allowing the alleged transfer of names, from one to the other, to take place.<sup>92</sup> Spalinger, writing in 1998, says, "It does not seem possible that a new lunar calendar appeared at this point in history."<sup>93</sup> He points out that evidence for month-names appears as early as the 18th Dynasty as in the Ebers calendar.<sup>94</sup> To these may be added month-names with civil calendar designations in the Hekanakhte letters dating to the 12th Dynasty.<sup>95</sup>

Armed with his later lunar and civil calendars Depuydt attempts to resolve the "Brugsch phenomenon," having elected not to interact with any earlier lunar calendar.<sup>96</sup> He writes, "The explanation for the Brugsch phenomenon [how a 12th month can be named as if it were the first] will have much to do with the transfer of a set of month-names from a calendar with a straddle month to one without."<sup>97</sup> He defines a straddle month as: "the lunar month that sits astride the yearly marker of a lunisolar calendar. It has properties of both a beginning and an end."<sup>98</sup> Depuydt proposes that this "involves a shift".<sup>99</sup> He writes:

When the name of the lunar counterpart of civil I *3ht* was rolled backwards onto civil I *3ht*, the preceding lunar month name, *\*wp rnpt* or *\*mswt r<sup>c</sup>* was pushed backward, entirely out of civil I *3ht*, with which it overlapped as a designation of the lunar straddle month ... the name *wp rnpt* was pushed backward across these five [epagomenal] days to land squarely on the last or twelfth civil month of the year, IV *šmw*.

Thus the links with its former signifier, the year's beginning, were entirely severed ... the month *jpt hmt* was moved back to civil III *šmw*. This left civil IV *3ht* [*sic šmw*] without a name. The effect is a kind of vacuum into which *wp rnpt* was readily pulled, or sucked as it were ... It is this double force, combining pushing and pulling, that tore loose *wp rnpt* from its signifier. The name *wp rnpt* was attached to another signifier, namely civil Month 12. But at the same time it remained in use as a designation of New Year's Day. This makes for an odd contrast, the Brugsch phenomenon.<sup>100</sup>

Depuydt's explanation boggles the mind. What is that force he is talking about? How can names roll backwards from a lunar calendar to a civil calendar?

<sup>91</sup> Parker, *Calendars*, 45 §230 Table 7.

<sup>92</sup> Depuydt, *Civil Calendar*, 50-51.

<sup>93</sup> Spalinger, "Review of *Ancient Egyptian Calendars*," 245.

<sup>94</sup> *Ibid.*, 245.

<sup>95</sup> According to von Beckerath, the earliest surviving examples of feast-names used for month-names are found in the Hekanakhte letters, ("Bemerkungen zum ägyptischen Kalender, Pt. 1: Zur Entstehung des 365-tätigen Kalenders," *ZÄS*, 120 [1993], 19). See also, A.J. Spalinger, "Calendrical Evidence and Hekanakhte," *ZÄS* 123 (1996) 85-96.

<sup>96</sup> Depuydt, *Civil Calendar*, 10; similarly p. 138.

<sup>97</sup> *Ibid.*, 45.

<sup>98</sup> *Ibid.*, 43.

<sup>99</sup> *Ibid.*, 66.

<sup>100</sup> *Ibid.*, 237; similarly 54-55, 219, 234.



He touches lightly on the “Gardiner phenomenon,” saying, “It concerns the fact that a civil month can have the same name as Day 1 of the civil month following it.”<sup>101</sup> Depuydt accepts Parker’s theory as the most plausible, as a “transfer of feasts from the lunar to the civil calendar.”<sup>102</sup> Regarding Gardiner’s theory that a shift of month-names took place, Depuydt says that if a month had been skipped from the calendar, so that the feast of the months were all put forward into the next month, it could account for the fact of feasts held out of their eponymous months. But, as he points out, there is no known motive for such a “skipping”, and he doesn’t give credibility to Gardiner’s “Re” and “Thoth” clans to explain the phenomenon.<sup>103</sup> Thus, at the end of his book he relies on Parker’s theory.

Depuydt’s 1999 article, “The Two Problems of the Month Names”, reiterates many of the issues already discussed in his *Civil Calendar* of 1997. Part of the abstract can suffice:

This article attempts to sharpen the distinction between the two problems [Brugsch and Gardiner phenomena] as much as possible. It is suggested that failure to make the distinction has caused much confusion in the debate on Egyptian calendars. The events leading to the two problems of the names are described as the actions and decisions of anonymous calendar-makers. Identifying with these actions and decisions as if they were our own may promote understanding of the difficult problems regarding Egyptian calendars and of why these problems have so much to do with the names of months.<sup>104</sup>

In his article about Sothic chronology, published in 2000,<sup>105</sup> Depuydt admits he is apprehensive of the refutation of Parker’s later lunar calendar by Spalinger,<sup>106</sup> because he equates the latter with his own civil-based lunar calendar. He asks: “But how else can one interpret the three civil-lunar double dates from the reigns of Amasis and Ptolemy VIII Euergetes (Depuydt 1997:161–69)?”<sup>107</sup>

I discussed the “double dates” in chapter 7, and determined that in the three instances both “double dates” in each text are *civil* month-dates from a civil calendar, and in no way witness to an original lunar calendar with seasons and month-names.<sup>108</sup>

As a final attempt to identify a lunar calendar Depuydt itemises seven facts, which, taken together, allegedly supply evidence of lunar months, which for him infers a lunar calendar.<sup>109</sup> He writes, “A set of lunar months has to begin somewhere ... The point of reference for the original lunar calendar is the rising of Sirius.”<sup>110</sup> Having presupposed that there was an original lunar calendar that began with the rising of Sothis, he then cites an equation of *pṛt spdt* with *wṗ rnpt* as evidence for his lunar calendar. For example, “*Second fact*: In the Illahun archive, the rising of Sirius (*pṛt spdt*) falls generally in late IV *pṛt*”, and, “*Fourth fact*: In the Canopus Decree of 238 B.C., *pṛt spdt* is explicitly equated with *wṗ rnpt*; other sources point to the same equation,” and

<sup>101</sup> Depuydt, “Two Problems,” 110, similarly 113.

<sup>102</sup> Idem, *Civil Calendar*, 243.

<sup>103</sup> Ibid., 248.

<sup>104</sup> Idem, “Two Problems,” 107.

<sup>105</sup> Idem, “Sothic Chronology and the Old Kingdom,” *JARCE* 37 (2000) 181.

<sup>106</sup> Spalinger, “Thoth and the Calendars,” 45-60; idem “Notes on,” 22 n.19; Depuydt, “Sothic Chronology,” 180.

<sup>107</sup> Depuydt, “Sothic Chronology,” 180.

<sup>108</sup> See chap. 7, pp. 104-105, 111-114.

<sup>109</sup> Depuydt, “Sothic Chronology,” 181-83.

<sup>110</sup> Ibid., 180.

again, “*Fifth fact*: At Illahun and elsewhere, civil *w3g* (see section 4) falls on I 3*ht* 18, that is, at the very beginning of a year or of a set of months.”<sup>111</sup>

It is not easy to see in these and the other four facts why a lunar *calendar* is inferred. Of themselves there is no evidence that *pṛt spdt* with *wṗ rnpt* have anything to do with a *lunar* calendar. Spalinger’s analysis sees them as being associated only in the Late Period with a *civil* calendar.<sup>112</sup>

We conclude our discussion concerning Depuydt’s views with an article that appeared in 2008.<sup>113</sup> This article seeks to explain the hieroglyph accompanying the name *wṗ rnpt* in the first column of the Ebers calendar as a determinative, which marks it as a feast day.<sup>114</sup>

As the only one of 12 names that has this hieroglyph, it requires explanation. Depuydt proposes that the hieroglyph indicates that *wṗ rnpt* is the name of a lunar feast day, whereas the other 11 names are those of lunar months.<sup>115</sup>

He notes that if it has been written carelessly or randomly then his explanation has no foundation.<sup>116</sup> If it is a day, then how can the 11 alleged lunar month-names correspond to the 12 civil-month designations? Depuydt reasons that *pṛt Spdt* “the going forth of Sothis” marks the beginning of the lunar year, and that its related term, *wṗ rnpt*, “opener of the year” also means New Year’s Day; thus, “The rising of Sirius presumably owes the designation *wṗ rnpt* in large part to its original function as marker of the beginning of the lunar year.”<sup>117</sup>

He theorizes that since the new moon that marks the beginning of the new lunar year always falls after the rising of Sothis, varying between 1 day and 30, this constitutes the lunar month preceding *thy*, so that sometimes there will not be enough time at the end of the 11th month to include a 12th month before the first month, *thy*, commences. He writes, “In other words, 11 is the constant factor. That explains why only 11 lunar month-names are known and why only 11 names follow the graphic in the first column of the Ebers calendar.”<sup>118</sup> The function of the Ebers calendar was to provide the name of the lunar month corresponding to a date in the civil month in the same line in the second column.<sup>119</sup>

In earlier articles, Depuydt has used the notion of *wṗ rnpt* as a lunar month, even as a 12th straddle month, to account for the “Brugsch phenomenon.” Now that *wṗ rnpt* in the Ebers calendar is a feast day and not a month, this adds a further complication to his theory—which is not mentioned in the article.

## Rolf Krauss

In the Proceedings of the SCIEM 2000 EuroConference published in 2003, Rolf Krauss discussed the Ebers calendar in the context of arguing for a low chronology for the Middle and New Kingdoms.<sup>120</sup> He recalled Helck’s proposal in 1986 concerning the

<sup>111</sup> Ibid., 182.

<sup>112</sup> Spalinger, “Canopus Stela,” *Three Studies*, 46-49.

<sup>113</sup> L. Depuydt, “Function and Significance of the Ebers Calendar’s Lone Feast-Hieroglyph (Gardiner Sign-List W3),” *Journal of Egyptian History* 1 (2008) 117-38.

<sup>114</sup> Ibid., 117, 123.

<sup>115</sup> Ibid., 117, 120, 123, 133.

<sup>116</sup> Ibid., 121, 125.

<sup>117</sup> Ibid., 127.

<sup>118</sup> Ibid., 128.

<sup>119</sup> Ibid., 131.

<sup>120</sup> R. Krauss, “Arguments in Favor of a Low Chronology for the Middle and New Kingdom in Egypt,” *SCIEM II* (2003) 175-97.

Ebers calendar that Sothis could have risen heliacally on any day between III *šmw* 9 and IV *šmw* 8. Krauss saw this as an attempt by Helck to shorten the chronology (having given only 15 regnal years to Horemheb), and do away with the implications of the Ebers date and Parker's astronomical chronology for the Middle Kingdom (the Illahun dates).<sup>121</sup>

Krauss stated, "By 1980, however, Egyptologists agreed that the first column did indeed list lunar months, and that in 9 Amenhotep I the first day of the lunar month Wep-renpet coincided with the rising of Sothis on III Shemu 9."<sup>122</sup> Krauss assumed that lunar years were known from Illahun and used a *lunar year* to say that Sothis rose heliacally in the *lunar* month of *wp rnpt*, which was the 12th month of the year, the first month being *thy*<sup>123</sup> (emphasis added).

Based on this interpretation of the Ebers calendar, and his calculations that led to 1506 as Amenhotep I's ninth year when Sothis rose heliacally on III *šmw* 9 (lunar), he calculated back to the Sothic rising in Sesostri III's seventh year in 1830, leading him to propose the emending of the date of IV *pṛt* 16 to IV *pṛt* 18.<sup>124</sup> He wrote, "Either IV Peret 16 was a scribal error or we must refrain from attempting to use the Illahun Sothic date ... until new information is available."<sup>125</sup>

Thus in 2000 Krauss was still committed to a lunar calendar in the Ebers papyrus, and that Sothis rose heliacally on the first day of a *lunar* month,<sup>126</sup> and furthermore continued to assume that Amenhotep's accession fell on the same day as the Sothic date.<sup>127</sup> He does not refer to Spalinger's corpus of literature giving his counter view that the first and second columns of Ebers relate to a civil calendar. Nor does he refer to Ulrich Luft's article in the same edition of *SCIEM* 2000 reiterating that there were only lunar feasts and months mentioned in Illahun material, but not lunar years,<sup>128</sup> the view Luft previously mooted in 1992.<sup>129</sup> On the other hand, Luft continued to regard the Ebers calendar "as evidence for the failure to establish the regnal year."<sup>130</sup>

### Anthony Spalinger in 2002

In 2002 Spalinger writes again.<sup>131</sup>

The evidence for a Predynastic lunar calendar is explicit in 'double-dated' inscriptions that occur throughout ancient Egyptian history. In particular, correlations of a lunar month-and-day date with a civil month-and-day date confirmed Parker's theory that a functioning lunar calendar co-existed with the civil calendar.<sup>132</sup>

He references these "double dates" back to Depuydt's *Civil Calendar* chapters 9–11. Depuydt used Parker's "double dates" concerning the 26th and 28th year of Ptolemy VIII Euergetes II and the 12th year of Amasis of the 26th Saite Dynasty. I have shown

<sup>121</sup> Ibid., 190.

<sup>122</sup> Ibid., 188.

<sup>123</sup> Ibid., 189.

<sup>124</sup> Ibid., 187, 188, 190.

<sup>125</sup> Ibid., 190.

<sup>126</sup> Ibid., 189.

<sup>127</sup> Ibid.

<sup>128</sup> U. Luft, "Priorities in Absolute Chronology," *SCIEM II* (2003) 201, 203.

<sup>129</sup> Idem, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992) 222-23.

<sup>130</sup> Idem, "Priorities," 203.

<sup>131</sup> Spalinger, "Ancient Egyptian Calendars," 241-50.

<sup>132</sup> Ibid., 241.

earlier that the alleged lunar month-names turned out to be civil months, by which a new or full moon was dated.

Convinced that the existence of a lunar calendar was a fact, Spalinger writes, “When the civil calendar was invented, early in the history of Pharaonic Egypt, perhaps ca. 2750 B.C., it was necessary to place lunar-based religious events into a civil setting. In addition, the newly invented civil months had to be named and placed into a set order; they were also based upon an original lunar system.”<sup>133</sup>

His statement involves the assumption that there was a lunar calendar and that the “invention” of a civil calendar had to gain its month-names from a prior lunar calendar. Yet, in this connection, Spalinger writes, “In [*sic*] the festival calendars of the New Kingdom and later the references to lunar events significantly ignore the name of a lunar month. The common phrase *in psdntyw in sw* simply indicates that the event fell upon a new moon within a given civil month. There was no necessity to write down the name of a lunar month; only the sighting was important.”<sup>134</sup>

The lack of lunar month-names suggests that lunar months did not have names, which concurs with the lack of evidence of lunar month-names in supposed “double dates”, and by extension, the lack of evidence for the existence of *any* lunar calendar.

Concerning new moon festivities, Spalinger writes, “All that was necessary was to look to the east and to witness the non-occurrence of the lunar crescent and then begin the festival when the moon reappeared. In other words, no second lunar calendar was necessary to determine the starting date of these celebrations. Although their beginning required a lunar event, no separate lunar calendar was required. So even Parker’s ‘first lunar calendar’ was not necessary.”<sup>135</sup>

So even before a civil calendar was used the Egyptians could hold festivals by observing the phases of the moon. Since there is no attestation for lunar months having names, the origin of month-names can be attributed to the civil calendar for which there is ample evidence for all 12 months (no intercalary month is known!). So why did Spalinger retain the notion of Parker’s original lunar calendar when there was no need for it? As noted above, he (mistakenly) thought there was evidence for an original lunar calendar because of the supposed “double dates,” and because he thought feasts had been transferred from a lunar to a civil calendar.<sup>136</sup>

But the acceptance of the idea of lunar to civil transfer troubled Spalinger because of the change of name for the 12th month. He asks:

Why was the last civil month (twelve) changed to *R<sup>c</sup>-Hr- 3hty* from the earlier *wp rnpt*? After all, the *wp* (that is the opening) of the year happens on New Year’s Day, I 3ht 1. The name of the first civil month in the year ought to be *wp rnpt* and not *thy*. The Epiphi festival (in civil month twelve) and the name of civil month eleven can be brought into discussion. Whatever one’s solution to this difficulty, the changeover of month names occurred very early. (I do not find the alteration of *wp rnpt* to *R<sup>c</sup>-Hr- 3hty* as significant as the original position of *wp rnpt*; i.e., civil month twelve.)<sup>137</sup>

Thus, Spalinger is left with the unresolved problem of the change of name of the 12th month from *wp rnpt* to *R<sup>c</sup>-Hr- 3hty* while at the same time recognizing that *wp rnpt*

<sup>133</sup> Ibid., 243.

<sup>134</sup> Ibid., 245 n. 29.

<sup>135</sup> Ibid., 248-49.

<sup>136</sup> Idem, “Return to Papyrus Ebers,” 143; idem, “Notes on,” 23, 25.

<sup>137</sup> Idem, “Ancient Egyptian Calendars,” 244.

ought to have been the first month of the year. (Yet he does not recognize *wp rnpt* as the first month in the Ebers calendar.)

Mention must be made of Spalinger's skepticism concerning the use of lunar phases (new moons) to date Egyptian chronology. He writes,

“In the last fifteen years Bradley Schaefer has demonstrated the inherent weaknesses of lunar dating: no exact Julian date can be derived from the small data set of lunar-civil equations. At the minimum, synchronisms are necessary.”<sup>138</sup>

The “small data set” cited by Spalinger, suggesting a few lunar dates, actually, on investigation swells to about 40 scattered dates, plus about 40 Illahun dates from the consecutive reigns of Sesostri III and his son Amenemhet III, making the total nearer 80–90.

Many festivals, the inductions of priests, and the laying of temple foundations were associated with either the new moon or the full moon. Added to these dates are a number of inscriptions recording the heliacal rising of Sothis. Since lunar and Sothic dates are tied to specific regnal years of various kings throughout the dynastic period, they provide a significant mesh of Egyptian dates and years that can be converted to the Julian calendar, whereby a chronology *can* be established. This will be demonstrated in forthcoming chapters.

### **John Nolan**

John S. Nolan, in a paper published in 2003, sought to tie cattle counts to regnal years in the 5th and 6th Dynasties assuming their timing to an original lunar calendar with an intercalary 13th month.<sup>139</sup> The problem with cattle counts is in the uncertainty of how often they were held. Some texts refer to the *x*th year, such as the “1st occurrence” or the “15th occurrence,” while others of less frequency refer to the “year *after* the *x*th year,” which seems to imply that cattle counts were held every second year. If the notation was, for example, “the year after the fourth occurrence,” does this mean the fifth year, or, if biennially, the ninth year?

Nolan proposed that cattle counts were numbered from the beginning of a king's reign and “over the course of every third civil year (occasionally every other year), the *Dhwtyt* feast would be celebrated when the rising of Sirius and the start of the next lunar month required the intercalation of an extra month ... The celebration of *Dhwtyt* would in some way mean that the ritual cattle count was to be skipped in the following civil year.”<sup>140</sup> Nolan relied heavily on Richard Parker and Leo Depuydt for his information on the supposed original lunar year for which I have found no evidence in preceding discussions. I will clarify the important matter of cattle counts during discussion of the 6th Dynasty.

For many decades until the present, scholars have attempted to find a resolution to the problem of feasts held out of their eponymous months in the Greco–Roman calendar. Due to the importance of establishing the appropriate calendar(s) in reconstructing the Egyptian chronology, and the different interpretations scholars placed on the Ebers calendar, I now offer my own explanation.

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<sup>138</sup> *Ibid.*, 246.

<sup>139</sup> J.S. Nolan, “The Original Lunar Calendar and Cattle Counts in Old Kingdom Egypt,” *Aegyptiaca Helvetica* 17 (2003) 75-97.

<sup>140</sup> *Ibid.*, 92.



## Chapter 10

### Resolving the Eponymous Month Conflict

The core puzzle in much of the dialogue over Egyptian calendars in the last century is the problem of feasts held out of their eponymous months in the Greco–Roman Calendar.

Examining the evidence presented for Parker’s and Depuydt’s lunar calendars with seasons and month-names, as undertaken in the previous chapters, has led me to conclude that Egypt did not utilize a lunar timetable to record the passage of a solar year.

There are, of course, lunar months and days, with phases such as new and full moons dated to a so-called civil calendar. The timing of various festivals and celebrations were prescribed to be held on new or full moons. But no transference of lunar feasts from a lunar calendar to a civil calendar can explain the anomaly of feasts apparently celebrated out of their eponymous months in the Greco–Roman calendar.

Moreover, there are *no examples* of the kind of transfer proposed by Parker, “two dates for each festival, one fixed to the civil year, the other determined by the lunar year, with varying dates in the civil calendar.”<sup>1</sup> In this context Parker was referring to Gardiner’s examples of feasts set on day one of a civil month, but these feasts do not reappear as lunar feasts set on varying dates in the civil calendar. Conversely, feasts dated to the new or full moon occur on varying days of the month in the civil calendar but they do not have a *counterpart* set on day one of another month.

Furthermore, there is no attestation of a 13th intercalary lunar month to keep the rising of Sothis in the 12th civil month of *wp rnpt*—Sirius/Sothis rises at the beginning of the solar year whenever this occurred in its cycle through the civil calendar—and all these resting on a 13th intercalary lunar month are invalid, including Nolan’s cattle counts.

If lunar calendars are eliminated from consideration, scholars must still deal with the evidence of feasts, which appear to have moved back to day 1 of the previous month as seen in the Greco–Roman calendar beginning with the month of *thy* or Thoth. These same feasts are held *in* their eponymous month in a calendar beginning a month earlier such as *wp rnpt* in the Ebers calendar.

This situation caused Gardiner to propose two civil calendars, one beginning with “Mesore” the later name for *wp rnpt*, and one beginning with Thoth, the later name for *thy*. Thus Mesore and Thoth both ran concurrently as I *3ht*.

However, Gardiner was puzzled about how or why this situation had come about. He suggested that it was due to a philosophical difference between a “Re school” and a “Thoth school,” but this idea has not convinced Egyptologists. How, then, can the calendar situation be resolved? I propose the following answer based on the timing of the seasons in the south and north of the country. This discussion will advance from basic simplicity at first, and proceed to the complexities that Egyptologists have grappled with in the descriptions that have already been detailed.

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<sup>1</sup> R.A. Parker, *The Calendars of Ancient Egypt* (SAOC 26; Chicago, IL: Oriental Institute of the University of Chicago, 1950) 58 §290.

### Egypt is “Two Lands”: Upper Egypt and Lower Egypt

Ancient Egypt was known as the “Two Lands” because it had two defined regions, Upper Egypt and Lower Egypt (see Figure 10.1). Upper Egypt began at its southern border at the first cataract near Elephantine and followed the Nile north almost 1200 kilometers to the south of Memphis. Lower Egypt included Memphis and the region of the Delta with its northern border at the Mediterranean Sea. Thebes was the civil capital of Upper Egypt, Memphis the hub of Lower Egypt. Agriculturally their seasons differed between the highlands of Upper Egypt and the lowlands of the Nile delta.<sup>2</sup>

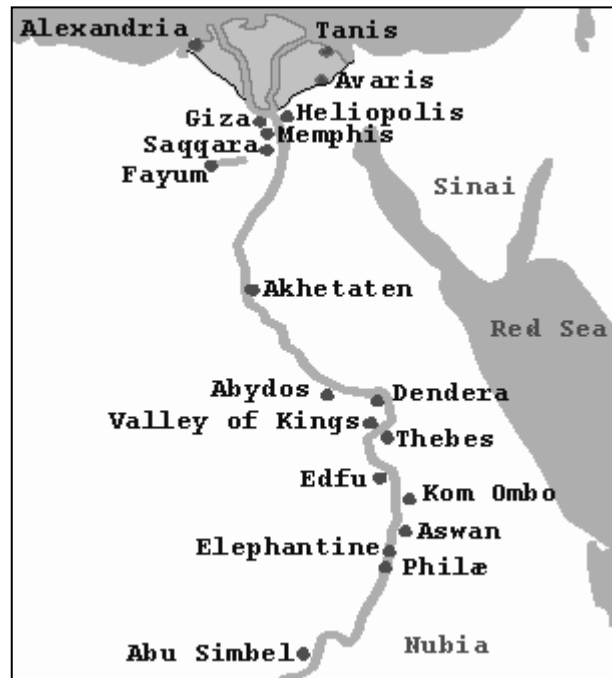


Figure 10.1: Map of Upper and Lower Egypt.

There were differences between the Upper and Lower Egyptians in the ancient world: they spoke different dialects and had different customs that impacted on national life with its festivals and calendars. The regimes of political, military, and civil life also ebbed and flowed over the centuries. Kings of Upper Egypt wore the *hedjet* or White Crown, and kings of Lower Egypt wore the *deshret* or Red Crown. The two kingdoms of Upper and Lower Egypt were united ca. 3000 BCE. The pharaohs were known as the rulers of the Two Lands, and wore the *pschent*, a double crown, each half of the crown representing sovereignty over each of the two kingdoms.

The Nile River was the main communication and transportation route linking north and south. But more importantly it was responsible for the life and livelihood of ancient Egyptians. Every year torrential rains from the Ethiopian Highlands brought rich, silt-laden waters into the Nile, which Egyptians used to fertilize and irrigate the surrounding lands to produce their crops. Without the annual inundation, the crops would fail and the people would starve.

Modern calculations for ancient Egypt set the appearance of the inundation at Aswan by the end of June or early July (using the Gregorian calendar) and at the Delta in August, swelling to its *highest* at Cairo (north of Memphis) by September or October. An average time for the inundation to travel the length of the Nile in Egypt would be

<sup>2</sup> Image from <http://www.ancient-egypt.info/2013/09/ancient-egyptian-nile-river.html>



about one month.<sup>3</sup> The height of the Nile was unpredictable from one year to the next. The levels fall quickly in November and December, with the lowest levels between March and May/June.

The inundation of the Nile waters lasted about four months, and was known as the season of *akhet* (*3ht*) before they receded sufficiently to allow sowing and planting to begin. The growing season of *peret* (*pṛt*) also lasted approximately four months, and afterwards came the season of *shomu* (*šmw*) when the harvesting took place, which was also a period of four months.

### **Astronomical time.**

While the agricultural seasons provided an annual calendar, the Egyptians were well aware of a celestial timetable. The seasonal phases gave convenient names to the three seasons corresponding to the solar year, the time it takes for the Earth to orbit around the Sun from one starting point until its return to that same point. But the solar year consists of 365¼ days. The timing of the inundation or flooding of the Nile could vary by several months from one year to the next,<sup>4</sup> and was unreliable as an indicator of a new solar year. So the Egyptians reckoned with an astronomical timetable, the solar year that coincided with the heliacal rising of the star Sothis.

### **The Solar Year Began with the Heliacal Rising of Sothis in the South**

The flooding of the Nile was preceded in the south by the heliacal rising of Sothis. When the star was first seen after a period of 70 days invisibility the Egyptians reckoned this as the beginning of their solar and agricultural year because they knew a year had passed since the last time the star had risen. This event occurred near the time of the summer solstice, or when the sun was at its height. The time between each heliacal rising of Sothis was the time it took for the earth to orbit around the sun back to the point where the rising of Sothis could again be seen in early daylight.

### **In Upper Egypt the Calendar was Regulated by the Sothic Cycle**

The heliacal rising of Sothis was first seen in the south. It eventually regulated the calendar used in Upper Egypt.<sup>5</sup> The people of Upper Egypt held a feast at the beginning of each year on I *3ht* 1 calling it *wp rnpt*, “the opener,” or the feast of *pṛt Spdt*, the “going up of Sothis.” The occurrence of the *pṛt Spdt* festival, on the occasion of the heliacal rising of Sothis, becomes significant in subsequent inscriptional evidence.

### **Lower Egypt**

The people in the north, Lower Egypt, could not begin planting at the same time as those in the south because the flood waters would recede about a month later. So the *first* planting month of Lower Egypt was concurrent with the *second* planting month of Upper Egypt. This meant that the agricultural year *started one month later* in the north than in the south. The difference in the start of their respective years was no problem in early periods when the people of each region conducted their farming and Nile-based activities with various degrees of geographical and political separation.

<sup>3</sup> H.E. Winlock, “The Origin of the Ancient Egyptian Calendar,” *Proceedings of the American Philosophical Society* 83 (New York: Metropolitan Museum of Art, 1940) 452; C. Seawright, “The Inundation,” at <http://www.touregypt.net/featurestories/nile.htm>.

<sup>4</sup> The beginning of inundation could vary from 335 to 415 days, according to Winlock, (“Origin,” 452).

<sup>5</sup> Wells proposed a luni-stellar calendar for Upper Egypt based on Sothis, using Parker’s idea of a lunar calendar. R.A. Wells, “Re and the Calendars,” *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 16-23.

Unlike those in the south, the northerners celebrated their year by the feast of their sun-god Re. According to Wells, Re's mythical birth occurred at the time of the winter solstice and then he began to travel through the horizons over the Two Lands. Six months later he had reached his northern-most point, when the sun was at its height at the time of the summer solstice.<sup>6</sup> This meant that the heliacal rising of Sothis, which was regarded as the beginning of the agricultural year, and the "feast of Re" both occurred near the time of the summer solstice.

The phases of the Nile naturally divided the year into three seasons that were given appropriate names: *3ht*, *pri*, and *šmw*. Presumably, with the passing of time, seasons were divided into four months each, and months gained their names from the festivals held in each, such as *wp rnpt* "the opener." Re's travel through the horizons is perhaps implicit in the month-name *R<sup>c</sup> hr 3hty* "Re Horus of the Two Horizons." Renenutet was the harvest goddess, and Renenutet was the name given to the first month of harvest, I *šmw*.

### Emergence of a Civil Calendar

At some stage, a calendar emerged having 30 days to each month and 5 epagomenals, becoming the basis of the two calendars: civil calendars using the names of the agricultural seasons of the solar year; inundation, sowing, and harvest.

When numerical designations were applied to these calendars, I *3ht* was the month of *wp rnpt* in the calendar of Upper Egypt followed by II *3ht*, the month of *thy*, and so on. But *thy* was I *3ht* in the calendar of Lower Egypt because the inundation, equated with the first month of that region, arrived about a month later in the north than in the south. Thus the month of *thy* had two designations, and likewise the following months. Feasts set on the first day of each month also had the same two designations, such as the seasonal feast of Hathor on IV *3ht* 1 and III *3ht* 1, but the month-name of both in the civil calendar was Hathor. How this evolved is lost in the mists of antiquity, but the evidence points towards similar but different calendars in Upper and Lower Egypt.

This arrangement meant that *months of the same names were aligned with each other, but their numerical designations were always one month apart*. The only two months, one in each calendar, that did not have the same names were *wp rnpt* and *R<sup>c</sup>-hr-3hty* and they were aligned with each other, being the first month and the 12th month, respectively. *This simple alignment resolves the problem of feasts supposedly being held out of their eponymous months in the Greco-Roman calendar*.

No "shift" of any feast from a lunar calendar to a civil calendar ever took place. Thus Parker's and Depuydt's lunar calendars, which were proposed to solve the problem, have no basis in fact.

My alignment of the two calendars is displayed in Table 10.1.

<sup>6</sup> Wells proposed that when the Two Lands amalgamated early in predynastic history, the birth of Re falling on the winter solstice in the sixth month had to be moved to the 12th month of the summer solstice. He attributes this to a secondary birthplace of Re in Lower Egypt. ("Re and the Calendars," 4, 6, 21–23). There is no attestation that the birth of Re was ever celebrated in the sixth month, and it may always have been celebrated at the time of the summer solstice in the 12th month.

**Table 10.1: Alignment of Calendars of Upper and Lower Egypt**

Upper Egypt	Lower Egypt	Month-name
I <i>3ht</i>	IV <i>šmw</i>	<i>wp rnpt</i> in Up. Eg. and <i>R<sup>c</sup>-hr-3hty</i> in L. Eg.
II <i>3ht</i>	I <i>3ht</i>	thy
III <i>3ht</i>	II <i>3ht</i>	mnht
IV <i>3ht</i>	III <i>3ht</i>	hwt hr
I <i>prt</i>	IV <i>3ht</i>	k3 hr k3
II <i>prt</i>	I <i>prt</i>	šf bdt
III <i>prt</i>	II <i>prt</i>	rkh wr
IV <i>prt</i>	III <i>prt</i>	rkh nds
I <i>šmw</i>	IV <i>prt</i>	rnnwtt
II <i>šmw</i>	I <i>šmw</i>	hnsu
III <i>šmw</i>	II <i>šmw</i>	hnty hty
IV <i>šmw</i>	III <i>šmw</i>	ipt hmt

Table 10.1 shows that the months, and therefore the feasts that named the months, have two designations one month apart. In previous discussions *wp rnpt* “the opener” and the “feast of Re” or the “Birthday of Re” were both dated to I *3ht* 1. In this case, the feast of the 12th month, concurrent with the feast of the first month, took on the latter’s designation. The feast of Hathor was held on IV *3ht* 1 in the calendar of Upper Egypt, but was out of its eponymous month if applied to III *3ht* 1 in the calendar of Lower Egypt. The same situation applies to the other months having two designations set on the first day of two consecutive months. These nation-wide festivals were held on the *same day* throughout Egypt, but their numerical designations differed by one month.

Gardiner’s alignment, which had the *numerical* designations aligned (I *3ht* with I *3ht*, II *3ht* with II *3ht*, etc.) meant that the feasts of their eponymous months always seemed to be one month earlier in his “Mesore”-beginning calendar, than in his Thoth-beginning calendar. Had he aligned the 11 *months with the same names* in his two calendars he would have resolved the alleged “Brugsch and Gardiner phenomena.” These phenomena never actually existed as they are based on an incorrect interpretation of the feasts supposedly held out of their eponymous months in the Greco–Roman calendar.

### Ebers Calendar, Upper Egypt, Early 18th Dynasty

The first column of the Ebers calendar represents the month order and names of the calendar of Upper Egypt as it was in the early 18th Dynasty. It differs from the calendar of Lower Egypt represented in the Senmut tomb ceiling only in having *wp rnpt* at its head, whereas *wp rnpt* is the 12th month depicted in Senmut’s tomb. The later depictions, as we have noticed previously, have the same order as that of Senmut’s ceiling with a few variations in names of months. In the Karnak water clock, the Ramesseum and Medinet Habu temple ceilings, and the Edfu temple frieze, the last month is given as *R<sup>c</sup> hr 3hty*, though *wp rnpt* is 12th month in the Cairo papyrus 86637. It is found elsewhere in a fragment of the Tanis Geographical Papyrus,<sup>7</sup> in the Esna temple calendar,<sup>8</sup> and in Edfu text IV, 8–9 where *wp rnpt* is the name for IV *šmw* in Edfu texts VII, 7 and IV, 2,<sup>9</sup> discussed earlier in regard to supposed “double dates.”

By the time of the 18th Dynasty, any earlier differences in month-names in the two regions had merged. The two calendars were operating at the same time as attested in various inscriptions from ostraca and papyri from the 18th to the 20th Dynasties.

<sup>7</sup> L. Depuydt, *Civil Calendar and Lunar Calendar in Ancient Egypt* (Orientalis Lovaniensia Analecta 77; Leuven: Peeters, 1997) 116-17.

<sup>8</sup> Spalinger, “From Esna to Ebers: An Attempt at Calendrical Archaeology,” *Studies in Honor of William Kelly Simpson* Vol 2; (Boston: Museum of Fine Arts, 1996) 759.

<sup>9</sup> R.A. Parker, “The Problem of the Month-Names: A Reply,” *Rd'É* 11 (1957) 103.

### **Heliacal Risings of Sothis used in Upper Egypt**

It might be wondered why the ancient Egyptians tolerated two calendars from antiquity down to the New Kingdom. A very important reason is that the calendar of Upper Egypt was used to date the heliacal risings of Sothis as it moved through the days of the civil calendar in its nearly 1460 year cycle. The date of III *šmw* 9 in the ninth year of Amenhotep I in the Ebers calendar not only demonstrates the significance that Egyptians attributed to dating key events by the Sothic cycle, it also shows its referential starting point at the commencement of the Sothic cycle some 1356 years earlier.

Significant dates were located within the Sothic cycle, by reference to the time it took Sothis to move through the civil calendar from I *3ht* 1 until IV *šmw* 9. Thus, from I *3ht* 1 to III *šmw* 9 are 339 days, which equates to 1356 years. Having commenced dating by the Sothic cycle using the calendar of Upper Egypt, it was necessary to use the same calendar for subsequent sightings at the same latitude (in this instance, Thebes), in order for the passage of time to be measured with relative accuracy.

Since heliacal risings were dated to a king's specific regnal year, the time between two kings could be measured by the civil dates attributed to each *providing that* the observations were taken from the same latitude and dated by the same calendar. If two kings are at *different locations* at which the heliacal risings were recorded, then adjustments are required to take account of the difference of one year per 1 degree of latitude proceeding north when reckoning the time interval between them. For example, Thutmose III has a date of III *šmw* 28 recorded at Elephantine.<sup>10</sup> If the recording had been made at Thebes, it would be dated to III *šmw* 30 because there are about 2 degrees of difference in latitude between the two centers.

### **Sothic Calendar is Important for Recording Long Passages of Time**

The use of the heliacal risings of Sothis to reckon on years between kings or events was important for keeping track of time covering long periods. Each solar year—the period between Sothic risings—was 365¼ days long, as the latter's appearance in the morning sky was regulated by its same position relative to the sun every year.<sup>11</sup> The appearance of Sothis after 70 days of invisibility (due to its closeness to the sun) was recorded using the civil calendar of Upper Egypt. But unfortunately, the *civil* calendar was short of the solar year because it was only constructed to have 365 days not 365¼ days. Because of the deficiency, the civil calendar gained 6 hours every year, and 24 hours or one day every four years.

Without the addition of an extra day every four years, the civil calendar of Upper Egypt clicked one day forward every four years, so that after about 730 years the civil calendar date of I *3ht* 1 was six months ahead of the heliacal rising of Sothis. In other words, the seasons of the civil calendar were displaced by six months from their original position in the solar/agricultural year.

The correspondence of the solar year to the calendar of the civil year gradually but constantly changed over the centuries. The solar and seasonal year inexorably continued year after year, but a device was needed to locate any particular year in the long-term calendar, in the manner that the Gregorian calendar is our internationally accepted measure of the passage of time.

<sup>10</sup> A.J. Spalinger, "Sothis and 'Official' Calendar Texts," *VA* 10/2-3 (1995) 176.

<sup>11</sup> According to Teije de Jong, "In the course of 4000 years the date of the heliacal rising of Sirius moves forward with respect to the summer solstice by one day in about 120 years," ("The Heliacal Rising of Sirius," *Ancient Egyptian Chronology*, [eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006] 438).

### Ebers Calendar

The reason that the Ebers calendar (as shown in Table 10.2) is significant to Egypt's chronology is that it displays the correspondence between the solar/agricultural months and the civil calendar. It indicates that the “going up of Sothis” on III *šmw* 9 fell in Amenhotep I's ninth year in the calendar of Upper Egypt. III *šmw* 9 was the first day of the new solar/agricultural year, equated with the first day of *wpr npt*, and the Inundation (*3ht*) season.

**Table 10.2: The Ebers Calendar**

Year 9 under the majesty of the king of Upper and Lower Egypt <i>Dsr-k3-R<sup>c</sup></i> may he live forever			
<i>wpr npt</i>	III <i>šmw</i>	day9	going up of Sothis
<i>thy</i>	IV	day9	•
<i>mnht</i>	I <i>3ht</i>	day9	•
<i>hwt hr</i>	II	day9	•
<i>k3 hr k3</i>	III	day9	•
<i>šf bdt</i>	IV	day9	•
<i>rkḥ wr</i>	I <i>pṛt</i>	day9	•
<i>rkḥ nds</i>	II	day9	•
<i>rnnwtt</i>	III	day9	•
<i>ḥnsw</i>	IV	day9	•
<i>ḥnt ḥt</i>	I <i>šmw</i>	day9	•
<i>ḥpt ḥmt</i>	II	day9	•

• = ditto.

The purpose of the calendar was to show that III *šmw* 9 was the beginning of the solar/agricultural year and that the following months could be counted off from day 9 as given in the third column. The four months of Inundation were equated in the calendar from III *šmw* 9 to III *3ht* 8, corresponding to the *seasonal* (not civil) months of *wpr npt*, *thy*, *mnht*, and *hwt hr*. When the waters had receded sufficiently, the Nile workers could begin their planting. Approximately four months later, the harvesting could begin around III *pṛt*. (This applies to an agricultural scenario, but the calendar could be used for other purposes—noting that the other side of the papyrus appears to be a record of medical treatment.)

Such a calendar enabled the Egyptians to keep track of the months and seasons of the solar/agricultural year by equating the seasons with the civil calendar commencing with the day of the rising of Sothis as it moved through the centuries. While the Ebers calendar may have been constructed as an occasional document for a particular year, the heading of the calendar assists us to locate it within the full Sothic cycle, and relate it to other years within the cycle.

Following the ninth year of Amenhotep I, Sothis would take another 228 years to reach the end of the cycle before its heliacal rising coincided with I *3ht* 1 again at the beginning of a new Sothic cycle. By knowing the civil date of the Sothic rising that began the solar/seasonal year, any particular date can easily be computed.

The repetition of the large dots under the “going up of Sothis” in the fourth column of the Ebers calendar (Table 10.2), understood as ditto marks, infer that the solar/agricultural months changed to the next solar/agricultural month at “day 9” in the civil calendar. This assumes a 30-day month. The “day 9” for all months is somewhat

schematic as another 5¼ days have to be taken into account in the 365¼ days of the solar year. But “day 9” would be used for convenience and the extra five days would not matter materially because for four years (rarely three or five years) the “going up of Sothis” would remain on III *šmw* 9 then move on to III *šmw* 10 in the civil calendar.

### The Ebers Calendar’s Significance for Egyptian Chronology

The Ebers calendar has a more significant role to play than merely stating the correspondence of months of the calendar of Upper Egypt and the solar/agricultural year, or being used to give the time between specific regnal years of two kings dated to a heliacal rising of Sothis. With the help of another Sothic cycle date, the Ebers calendar can provide a Julian date for Amenhotep I’s ninth year.

The discovery that the calendar of Upper Egypt ran concurrently with the calendar of Lower Egypt throws into disarray the chronology of ancient Egypt as it is now understood by scholars. Dates based on the calendar of Upper Egypt must be considered independently of those of the calendar of Lower Egypt.

A difference of one month between the start and finish of both calendars amounting to a 30-day month, will, in terms of the Sothic cycle, take Sothis 120 years to traverse. For example, if III *šmw* 9 for Amenhotep I’s ninth year is dated to the calendar of Upper Egypt it will occur 120 years earlier than if dated to the calendar of Lower Egypt, which has a further month of its calendar to run. Therefore, a date of III *šmw* 9 in Upper Egypt equates to II *šmw* 9 in Lower Egypt.

This difference also means that a Sothic cycle dated to the calendar of Upper Egypt will start and finish one month ahead of a calendar dated to Lower Egypt if the star’s rising is observed from the *same* location. But observations from Upper or Lower Egypt would be from different latitudes, which would mean that the distance between the sites must be taken into account when reckoning the time between the beginning of one Sothic cycle and another. Provided the location and Egyptian date of a heliacal rising of Sothis is known, and depending on which calendar is used to record it, we can convert a Sothic date to the Julian calendar and find the commencement date of the Sothic cycle. I take up this subject again below with respect to various records of the rising of Sothis including the Ebers calendar date.

### Merging of the Calendars of Upper and Lower Egypt

By the end of the 20th Dynasty, it seems that a gradual merging of the calendars was virtually complete since examples of two calendars are no longer found. The calendar of Lower Egypt predominates during the merger, with *thy* as its first month and *R<sup>c</sup>-hr-3hty* in 12th place. The calendar of Lower Egypt supplanted the calendar of Upper Egypt regulated by the heliacal rising of Sothis, with *wp rnpt* in first place and *ipt hmt* (later Epiphi) in 12th place.

The calendar of Lower Egypt was the precursor of the Greco–Roman calendar having *thy* at its head, and *wp rnpt* and *R<sup>c</sup>-hr-3hty* vying for last place. It is evident that the calendar of Lower Egypt spread south, no doubt taken there as the population itself spread southwards with its kings taking up residence at Thebes in the 18th Dynasty, contrary to a spread from south to north as Wells has stated.<sup>12</sup>

<sup>12</sup> Wells, “Re and the Calendars,” 21-23.

### Two Calendars in Operation for a Time

The two civil calendar designations given to fixed feasts demonstrate that two calendars were in use concurrently long after they had reached a written form.<sup>13</sup> A result of the merger of calendars is seen in the fact that the feasts of *wp rnpt*, the “opener of the year” and the “birthday of Re” could both be celebrated on I *3ht* 1, with the latter feast taking on the designation of I *3ht*. This situation, however, would have pertained only while *wp rnpt* was in first month position and *R<sup>c</sup>-hr-3hty* ran concurrently with it. One can imagine, with the spread of the population from north to south and vice versa, that the existence of two calendars running concurrently would cause problems in dating transactions, festivals, etc. It would be much less complicated if one calendar was used throughout.

### Lower Egypt Calendar Prevails in the New Kingdom

By the New Kingdom, the calendar of Lower Egypt predominated over that of Upper Egypt. This meant that the month of *wp rnpt* “the opener” aligned with *R<sup>c</sup>-hr-3hty* had to share 12th position with *R<sup>c</sup> hr 3hty*—or otherwise be lost from the calendar altogether. Apparently reluctant to let go of *wp rnpt* and its same-named feast, the Egyptians retained both *wp rnpt* and *R<sup>c</sup>-hr-3hty* as names for the 12th month down to Greco–Roman times. Mesore (“the birthday of Re”) replaced *R<sup>c</sup>-hr-3hty* in the Greco–Roman calendar. Unlike *wp rnpt* and *R<sup>c</sup>-hr-3hty* competing for the 12th month position, the other 11 months with the same names merged into the calendar of Lower Egypt. Only the different numeration for their months reveals their “pre-merger” identity in the two different calendars.

The Senmut tomb ceiling calendar (18th Dynasty), and the Ramesseum and Medinet Habu Temple ceiling calendars of the 19th and 20th Dynasties, show the calendar of Lower Egypt; whereas the Ebers calendar (18th Dynasty) and the Festival Calendar of Medinet Habu originating with Ramesses II (19th Dynasty) attest to the calendar of Upper Egypt. Both calendars were in use in the days of Ramesses II, which led to their inevitable merger by the 20th Dynasty.

### Dates for Sothic Risings in Upper and Lower Egypt

By identifying two calendars, one in Upper Egypt and another in Lower Egypt, which begin and end one month apart, we are able to positively date Amenhotep I’s ninth year by the date of the Sothic rising on III *smw* 9. Two calendars or two observation sites for the “going up of Sothis” imply two Sothic cycles beginning and ending at different times. In order to date Amenhotep I’s ninth year, one must first date the Sothic cycle known from later times, and then work backward to the 18th Dynasty. To do so, I review the following well-known records.

### Sothic Cycle Ends/Begins in 139 CE

Censorinus, a Latin writer living in the 3rd century CE, recorded that the first day of the Egyptian month Thoth—the first month of the year—fell in 238 CE in the Roman calendar on VII Kal. Iul. Scholars equate this with June 25th.<sup>14</sup> Censorinus also noted

<sup>13</sup> Contrary to Wells, who asserts that the two calendars had amalgamated before Upper and Lower Egypt had unified in the first two dynasties, with the spread of writing necessitating a simple calendar (“Re and the Calendars,” 2, 23).

<sup>14</sup> Cited from XXI, 10 in *Censorini de die natali liber*, (ed. F. Hulstsch, 1867, p. 46) by J. Finegan, *Handbook of Biblical Chronology: Principles of Time Reckoning in the Ancient World and Problems of Chronology in the Bible* (Princeton, NJ: Princeton University Press (1964) 27 §46. For the Roman method of reckoning dates, in which Kal stands for Kalends or the first day of every month, see p. 75 §141. See also R. Long, “A Re-examination of the Sothic Chronology of Egypt,” *Orientalia* 43 (1974) 272-73.

that 100 years previously in the second year of Antoninus Pius who was consul for the second time along with Bruttius Praesens,<sup>15</sup> the Egyptian Thoth 1 fell on XII Kal. August = 21 July 139 CE. Scholars note that this date should be corrected to XIII Kal, August or 20 July 139 CE, a day earlier, to agree with the date of the heliacal rising of Sothis for that period.<sup>16</sup> But the two dates, 100 years apart for the beginning of new Sothic cycles, invite further consideration of the differences for the commencement of the Sothic cycles for Upper and Lower Egypt, respectively.

Additional support for the 139 CE date for the end/beginning of a Sothic cycle also comes from coins minted in Alexandria at the time of the aforementioned Antoninus Pius and Bruttius Praesens's consulship in 139 CE. The coins show a phoenix with a shining crown and the word ΑΙΩΝ (denoting a significant period of time; an era) on it. Dated to the proconsulship, the minting of the coins suggests the end of one cycle and the commencement and celebration of a new Sothic cycle.<sup>17</sup>

Casperson's lunar table for the year 139 CE (Table 10.3) demonstrates that IV šmw 29 equates to 13 July. IV šmw 30 equates to 14 July, and a further five epagomenal days concludes the Egyptian civil year on 19 July. I 3ht 1 occurs on 20 July, thus confirming the date for the end of the Sothic cycle on 19 July 139 CE. This provides a fixed end-date from which to work backward.

**Table 10.3: Sothic cycle ends/begins in 139 CE (new moon listing from +139)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
139	6	14	139	6	13	2921	11	30	7	6:49	5:03	203	5:03	77	5:03	-8
<b>139</b>	<b>7</b>	<b>13</b>	139	7	12	2921	<b>12</b>	<b>29</b>	1	19:36	5:04	279	5:05	148	5:05	52
139	8	12	139	8	11	2922	1	24	3	10:45	5:21	214	5:22	117	5:22	26

DoW = day of week; ToD = time of day.

### The Decree of Canopus in 238 BCE Gives a Date for the Heliacal Rising of Sothis

Centuries before, an earlier reference to the heliacal rising of Sothis concurs with the date 139 CE, which is assumed to have been observed at Memphis. This is referred to in the Decree of Canopus (in the western Delta), which was instituted in the ninth year of Ptolemy III Euergetes I in 238 BCE (reigned 247–221 BCE), when it was decreed that a sixth epagomenal day would be added every fourth year to keep the calendar adjusted to the appropriate seasons.<sup>18</sup> The relevant part of Spalinger's translation states:

“Let each year a celebration at public expense be celebrated in the temples and throughout all the land to King Ptolemy and Queen Berenice, Benefactor Gods, on the day on which the star of Isis heliacally rises, which is regarded/considered by the sacred writings to be a new year, and is now celebrated in the 9th year, the first day of the month of Payni ...”<sup>19</sup>

<sup>15</sup> Years were dated by Roman consuls two of whom gave their name to one year at a time (Finegan, *Handbook*, 26 §46, 93-95 §§172-78).

<sup>16</sup> *Ibid.*, 26 §46; R.A. Parker, “The Sothic Dating of the Twelfth and Eighteenth Dynasties,” *Studies in Honor of George R. Hughes* (SAOC 39; Chicago, IL: Chicago: Oriental Institute of the University of Chicago (1976) 182; U. Luft, “Priorities in Absolute Chronology,” *SCIEM II* (2003), 201.

<sup>17</sup> E. Hornung, *Untersuchungen zur Chronologie und Geschichte des neuen Reiches* (Ägyptologische Abhandlungen II; Weisbaden: Harrassowitz, 1964) 17; Parker, “Sothic Dating,” 182 and n. 15.

<sup>18</sup> Hornung, *Untersuchungen zur Chronologie*, 17-18; R.D. Long, “A Re-examination of the Sothic Chronology of Egypt,” *Orientalia* 43 (1974) 271-72; Parker, “Sothic Dating,” 186-8; A.J. Spalinger, “The Canopus Stela,” *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 35, 44, and n. 1 on p. 31 for more references to the Canopus Stela.

<sup>19</sup> Spalinger, “Canopus Stela,” 35.



The Sothic rising dated to the first of Payni is otherwise II *šmw* 1.<sup>20</sup> Casperson provides the information in Table 10.4.

**Table 10.4: Ptolemy III Euergetes I’s ninth year in –237 (new moon listing from –237)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW			ToD			Morning visibility	
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D					-2	-1	0	
-237	6	2	-237	5	29	2545	8	14	1	8:12	5:08	206	5:08	74	5:07	-16
-237	7	1	-237	6	27	2545	9	13	2	17:18	5:01	329	5:02	145	5:02	28
<b>-237</b>	<b>7</b>	<b>31</b>	-237	7	27	2545	<b>10</b>	<b>13</b>	4	1:32	5:11	221	5:12	<b>86</b>	5:12	-30
-237	8	29	-237	8	25	2545	11	12	5	9:57	5:32	277	5:33	142	5:34	19

DoW = day of week; ToD = time of day.

II *šmw* 13 equates to 31 July 238 BCE, so II *šmw* 1 equates to 19 July, applicable to a Sothic rising in this year according to the HELIAC Program.

### Sothic Cycle Starts in 1314 BCE

A late reference to a Sothic cycle was recorded by a certain Theon, an Alexandrian astronomer, who lived during the reign of Theodosius the Elder (379–395 CE).<sup>21</sup> Jack Finegan writes:

Expressly using the Egyptian shifting year, Theon reckons 1605 years “from Menophres” (ἀπὸ Μενόφρεως) to the end of the era of Augustus. The era of Diocletian began on Aug 29, 284 C.E. and the last year of the Augustan era was accordingly 283/284. One thousand six hundred and five of the shorter shifting Egyptian years are equal to 1604 Julian years less thirty-six days; and 1604 years before A.D. 283/284 brings us back to 1321/1320 B.C.”<sup>22</sup>

It was earlier thought that the Sothic cycle observed from Memphis and ending in 139 CE had begun 1460 years earlier in the quadrennium 1321–1318. However, it is now known that the Sothic cycle was somewhat shorter. M.R. Ingham computed that a Sothic cycle took approximately 1453 years with a constant *arcus visionis*, and 1452 years with a changing *arcus visionis*;<sup>23</sup> therefore, less than the projected 1460 years of earlier scholars. This can be explained by the fact that Sothis does not follow a strictly linear pattern but sometimes advances and retracts, and that on two occasions in the cycle Sothis rose heliacally on only three, not four, days; thus, accounting for the 7–8 years’ difference.<sup>24</sup>

Theon’s estimate that there were 1604 years from 283/284 CE back to the beginning of the “Era of Menophres” in 1321/1320 BCE (284 + 1320) has to be corrected to 1598/1597 years. The 1453 years of the Sothic cycle that ended in 139 CE began in 1314 BCE and ended in 139 CE. Despite slight modifications, Theon affirms the ending/starting point of the Sothic cycle based on the Egyptian calendar for Lower Egypt, which subsequent examples confirm.

### The “Era of Menophres”

We noted above that Theon referred to the “Era of Menophres” (ἀπὸ Μενόφρεως) by which he seemed to be referring to a Sothic cycle. Scholars have long

<sup>20</sup> Ibid., 34-35.

<sup>21</sup> Long, “Re-examination,” 269.

<sup>22</sup> Finegan, *Handbook*, 27 §47. The Greek of Theon’s statement is given by Long in, “Re-examination,” 269.

<sup>23</sup> M.F. Ingham, “The Length of the Sothic Cycle,” *JEA* 55 (1969) 39-40.

<sup>24</sup> Spalinger, “The Canopus Stela,” 44.

understood that the “Era of Menophres” refers to a Sothic cycle but have been undecided who or what was meant by “Menophres.”

The date of 1321/1320 BCE, proposed by Theon, led scholars to look to pharaohs whom they thought reigned about this time; that is, prior to their dates for Ramesses II (1304 or 1290, now touted as 1279). Horemheb was eliminated because his name could not be construed as “Menophres.”<sup>25</sup> Ramesses I, whose prenomen was *Mn-phty-r*, was considered by some as a possible candidate.<sup>26</sup> Merenptah, son of Ramesses II, presumed by scholars to have reigned from 1224 to 1214, was a century too late as a candidate for “Menophres.”<sup>27</sup> Sety I, whose common epithet is Merenptah (*Mr-n-ptah*) received favorable support,<sup>28</sup> but Redford wrote, “The name Menophris can only with great difficulty be derived from ‘Merneptah’. The same is true of a derivation from *Mn-phty-rc*.”<sup>29</sup>

Rowton, Redford, and other scholars suggested instead that “Menophres” refers to the city of Memphis by its earlier name Men-efer.<sup>30</sup> Redford writes, “... there is a perfect *Vorlage* to be found in *Mn-nfr*, ‘Memphis’. Linguistically this is precisely the vocalization that would be expected”.<sup>31</sup> No linguistic problem prevents the derivation of Memphis from “Menophres”.

That Memphis was chosen as the new site for the observation of the heliacal rising of Sothis is inferred by a certain Olympiodorus, who, in the year 6 CE, noted that the Alexandrians observed the heliacal rising of Sothis at Memphis in the late Roman period.<sup>32</sup> It is apparent that the Sothic cycle using the calendar of Lower Egypt starting in 1314 initiated the “Era of Menophres,” which can now be understood as the “Era of Memphis.” This appellation differentiates it from the previous Sothic sightings, which were observed using the calendar of Upper Egypt.

### Memphis Sothic Cycle Beginning in 1314 BCE

The commencement of a new Sothic cycle in 1314 BCE (–1313) can be demonstrated from Caspersen’s lunar table (Table 10.5), which uses the Greco–Roman calendar applicable to a Sothic observation at Memphis.

<sup>25</sup> Long, “Re-examination,” 269-70.

<sup>26</sup> For discussion on Ramesses I as “Menophres” see J. Černý, “Note on the Supposed Beginning of a Sothic period under Sethos I,” *JEA* 47 (1961) 151-52; Finegan, *Handbook*, 26 §47; R. O. Faulkner, “Egypt: From the Inception of the Nineteenth Dynasty to the Death of Ramesses III,” *CAH* 2/2 (1975) 218; D.B. Redford, *History and Chronology of the Eighteenth Dynasty of Egypt* (Toronto: University of Toronto Press, 1967) 212 and n. 108; Long, “Re-examination,” 269-70.

<sup>27</sup> Long, “Re-examination,” 269.

<sup>28</sup> See discussion by M.B. Rowton, “Mesopotamian Chronology and the ‘Era of Menophres,’” *Iraq* 8 (1946) 107-10; Černý, “Supposed Beginning,” 150-52; Long, “Re-examination,” 269-71.

<sup>29</sup> Redford, “History and Chronology,” 214. See R. Krauss for earlier attempts at derivation in *Das Ende der Amarnazeit: Beiträge zur Geschichte und Chronologie des Neuen Reiches* (HÄB 7; Hildesheim: Gerstenberg, 1981) 269.

<sup>30</sup> See discussion by Rowton, “Mesopotamian Chronology,” 108-10; Redford, *History and Chronology of the Eighteenth Dynasty*, 214-15; Long, “Re-examination,” 269-71; E.R. Wentz and C.C. van Siclen, “A Chronology of the New Kingdom,” *Studies in Honor of George R. Hughes*, SAOC 39; Chicago, IL: Oriental Institute of the University of Chicago (1976) 233 and n. 100.

<sup>31</sup> Redford, *History and Chronology*, 214.

<sup>32</sup> M. Bietak, “The Middle Bronze Age of the Levant—A New Approach to Relative and Absolute Chronology,” *High, Middle or Low?* Part 3, 92, 103 n. 61; W.A. Ward, “The Present Status of Egyptian Chronology,” *BASOR* 288 (1992) 59.

**Table 10.5: Sothic cycle beginning at Memphis in 1314 BCE (new moon listing from –1313)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1313	6	17	-1313	6	5	1468	12	5	1	9:47	5:05	186	5:05	70	5:05	-6
<b>-1313</b>	<b>7</b>	<b>17</b>	-1313	7	5	1468	<b>13</b>	<b>5</b>	3	1:11	5:02	156	5:02	<b>63</b>	5:02	<b>-18</b>
-1313	8	15	-1313	8	3	1469	<b>1</b>	<b>29</b>	4	18:01	5:15	240	5:16	140	5:16	51
-1313	9	14	-1313	9	2	1469	2	29	6	11:09	5:39	216	5:40	122	5:41	27

DoW = day of week; ToD = time of day.

The last day of the Egyptian year in –1313 fell on 17 July corresponding to the fifth epagomenal (13 5). The following day, I *3ht* 1 coincided with 18 July, an appropriate date for the heliacal rising of Sothis at this period of history using the calendar of Lower Egypt. According to the HELIAC Program using an altitude of 2–3 degrees, the date of the Sothic rising fell on the dates of 18–19 July at Memphis,<sup>33</sup> concurring with the above table.

The above references confirm that a Sothic cycle ran from 1314 BCE to 139 CE based on the calendar of Lower Egypt.<sup>34</sup>

### Heliacal Rising of Sothis in the Reign of Ptolemy IV Philopator (221–205 BCE)

An enigmatic reference to the passage of Sothis through the civil year comes from the reign of Ptolemy IV Philopator (reigned 221–205 BCE.). It was found on an inscription at Elephantine (Aswan). Unfortunately, it does not mention the king’s regnal year. The heliacal rising of Sothis referred to seems to have been observed at Memphis as it comes from the same sequence of dates as those of Ptolemy III in 238 BCE.

Marshall Clagett provides the inscription:

Col. 1. Hail to you, Isis-Sothis ...

Col. 2. Lady (?) of 14 [centuries?] and mistress of 16 [what?], who has followed her dwelling place (i.e. been advancing through the civil year up to now?) for 730 years, 3 months, 3 days, and 3 hours.<sup>35</sup>

According to Leo Depuydt it is the “only such reference to the cycle in hieroglyphic sources.”<sup>36</sup> Clagett affirms his confidence in his interpretation of it “as the recording of the position of Sirius rising on a specific year relating to a datable year of the reign of Ptolemy IV” but believes “it has not been so recognized because it is presented in numbers that are mixed measures.”<sup>37</sup>

The confusing text appears to refer to the time-span from the beginning of a Sothic cycle until a certain year in the reign of Ptolemy IV Philopator. Clagett reckoned that the period added up to 1102½ years. Because Sothis stays on the same day for four

<sup>33</sup> Jean-Pierre Lacroix, “Heliacal Rising of Sirius in Thebes,” at <http://www.ancientcartography.net/LEVERheliaqueAN.html>. Hereafter denoted as HELIAC.

<sup>34</sup> Long refers to two additional dates, one from Theon claiming that in 26 BCE a period of 1460 years terminated in the fifth year of the reign of Augustus, after which the Egyptians found themselves every year a quarter of a day in advance again. The other date comes from Alburuni, an Arabian chronologist (lived 973–1048 CE), claiming that Augustus delayed reforming the calendar for five years in order to wait for the completion of a Sothic cycle in 26 BCE (“Re-examination,” 273-74). Where this Sothic cycle originated and ended is not stated, and whether the date is correct is open to doubt.

<sup>35</sup> M. Clagett, *Ancient Egyptian Science, Vol 2: Calendars, Clocks, and Astronomy* (Memoir Series vol. 214; Philadelphia, PA: American Philosophical Society, 1995) 331.

<sup>36</sup> L. Depuydt, Review of M. Clagett’s *Ancient Egyptian Science, Vol. 2: Calendars, Clocks, and Astronomy* in *JAOS* 118.1 (1998) 75.

<sup>37</sup> Clagett, *Ancient Egyptian Science, Vol. 2*, 331.

years, the “months” and “days” have to be multiplied by four to obtain the number of “years” it took Sothis to travel through the cycle. The 730 years is half a Sothic cycle. Three months of 30 days equals 90, which is multiplied by four to total 360 years through the cycle. The 3 days = 12 years, and the 3 hours = ½ year. Three hours is an eighth of a day, and an eighth of any four-year “day” (a quadrennia) in the Sothic cycle is half a year. Altogether it is 1102½ years.<sup>38</sup>

In order to date the year of Ptolemy IV Philopator’s reign when the Sothic rising was observed, Clagett subtracted 1102½ years from the quadrennium 1321–1318 that he believed the Sothic cycle started on. Consequently, he dates the Sothic rising in Philopator’s reign to the year 218 BCE.<sup>39</sup> However, this is incorrect because he should have subtracted 1102½ years from the date of 1314 BCE. The result is half-way through the year 211 BCE. Philopator began to reign in 221, so 211 is his 11th year. This date comes only 27½ years after the Sothic date falling on 19 July in 238 BCE in the reign of Ptolemy III Euergetes II on II šmw 1. Therefore, 27½ years later, in the year 211, the Sothic rising in Philopator’s reign was observed on II šmw 7. This is illustrated schematically in Table 10.6.

**Table 10.6: Quadrennia between 238 and 211 BCE in the reigns of Ptolemy III Euergetes II and Ptolemy IV Philopator**

		Year date range
Sothic rising falling on 238 in reign of Ptolemy III Euergetes II	II šmw 1	238–235
	II šmw 2	234–231
	II šmw 3	230–227
	II šmw 4	226–223
221: 1st yr Ptolemy IV Philopator	II šmw 5	222–219
	II šmw 6	218–215
211: 11th yr Ptolemy IV Philopator	II šmw 7	214–211

The date of II šmw 7 for the Sothic rising in Ptolemy IV Philopator’s 11th year in 211 BCE can be confirmed by its coincidence with the Julian date in that year. According to the HELIAC Program, the rising of Sothis in 211 fell on 22 or 23 July at Memphis. We can use Casperson’s new moon table, not for establishing a new moon date, but to determine when the Egyptian date of II šmw 7 coincided with the Julian date. In the Table 10.7, II šmw 21 equates to August 1 in –210 (211 BCE). Fourteen days earlier, on II šmw 7, the Julian date would be July 23 at Memphis, concurring with the date of the HELIAC Program.

**Table 10.7: Ptolemy IV Philopator’s 11th year –210 (new moon listing from –210)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–210	7	2	–210	6	28	2572	9	21	2	23:43	5:02	332	5:02	194	5:02	95
–210	8	1	–210	7	28	2572	10	21	4	8:51	5:12	252	5:12	141	5:13	31
–210	8	30	–210	8	26	2572	11	20	5	17:44	5:33	303	5:34	186	5:35	67

DoW = day of week; ToD = time of day.

The date affirms that the obscure reference at Elephantine can be understood to refer to the progress of Sothis through the civil calendar. There were 1102½ years before 211 BCE, indicating the beginning of a Sothic cycle in the year 1314 BCE, and 350 years after 211 BCE, indicating the end/beginning of a Sothic cycle in 139 CE. The length of the Sothic cycle was 1453 years, which is in accord with modern estimations.

<sup>38</sup> Ibid., 331-33. L. Depuydt recommends Clagett’s book as “very reliable and useful,” and cites the interpretation described here as “an original contribution” 75-76.

<sup>39</sup> Clagett, *Ancient Egyptian Science*, Vol. 2, 333.

### **Heliacal Rising of Sothis in the Reign of Ramesses III?**

Another date for the heliacal rising of Sothis is found in List 23, Section 21, (line 629) of the Medinet Habu Festival calendar followed by a list of food for the festival offerings (lines 630–645).

The inscription states, “First month of inundation, the coming out of Sothis on its day, offerings for Amon-Re, King of the gods and the portable image of King of Upper and Lower Egypt, *Wosermaatre meriamon*, with his Ennead in this day of festival.”<sup>40</sup>

The king named is Ramesses III. The regnal year is not stated and there is no day-date. Nevertheless, a general timeframe can be determined for this Sothic rising. The preceding lists, Lists 20, 21, and 22, refer to the coronation of the king. List 21 states, “First month of summer, 26th day; day of the accession of King of Upper and Lower Egypt, *Wosermaatre Meriamon*; offerings for Amon-Re with his Ennead.” List 24 dates the eve of the *w3gy* feast to I *3ht* 17, and List 25 dates the day of the *w3gy* feast to I *3ht* 1[8]. Therefore, the rising of Sothis appears to have taken place between the king’s accession on I *šmw* 26 and I *3ht* 17.

A heliacal rising in I *3ht* indicates a day near the beginning of a Sothic cycle. Since Sothis rises on the same day for four consecutive years, I *3ht* 17 would fall 68 years after the beginning of a Sothic cycle. If this Sothic cycle was dated to the calendar of Lower Egypt (the calendar of Upper Egypt seems to have become obsolete), and began in 1314, the Sothic rising date in the reign of Ramesses III occurred sometime between 1314 and 1246. In my chronology, Ramesses III reigned for 31 years from 1293 to 1262 BCE. One of these years would allude to his Medinet Habu Sothic date, but without a regnal year, this is about as close as can be determined.

### **Recognizing the Sothic Cycle for Upper Egypt at Thebes**

Our present search is for a date from another Sothic cycle by which we can ascertain the date of the Sothic rising in Amenhotep I’s ninth year, on III *šmw* 9, given in the Ebers calendar.

Evidence for the date of 1314 for the commencement of a Sothic cycle dated to the calendar of Lower Egypt at the latitude of Memphis has been presented. Now it is necessary to adjust this date to the criteria of the Ebers calendar date of III *šmw* 9, assuming it records an observation at Thebes where the papyrus was found; where Amenhotep I resided; and where the calendar of Upper Egypt would apply.

According to the HELIAC Program, the heliacal rising of Sothis at Memphis fell on 18 or 19 July 1314, and in Thebes on 13 or 14 of July, depending on the factors taken into account, such as the height of the sun, etc. The latitude of Thebes at 25.7 degrees and Memphis at 29.9 degrees north is equivalent to about five days’ difference in the sighting of the heliacal rising of Sothis in any one year. In terms of the Sothic cycle, the star is about 20 years further through the calendar at Memphis than at Thebes using the same calendar. If a month of 30 days had passed at the same location, the difference would amount to 120 years in the Sothic cycle, but because Sothis is further through its cycle at Memphis, the 20 years have to be deducted from the 120 years, leaving 100 years between the Sothic cycle ending at Thebes and the Sothic cycle beginning at Memphis in 1314. This 100-year period between 1414 and 1314 is fully documented by the reigns of kings of the 18th and 19th Dynasties, as we shall see.

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<sup>40</sup> S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies; Liverpool: Liverpool University Press, 2000) 88.

The end of the Sothic cycle observed at Thebes can be demonstrated from Casperson's lunar table for the year -1413 (Table 10.8), when another cycle would also have commenced.

**Table 10.8: End of Sothic cycle at Thebes in -1413 (new moon listing from -1413)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1		0		
-1413	6	13	-1413	5	31	1368	11	6	5	17:16	5:16	262	5:16	139	5:15	45
<b>-1413</b>	<b>7</b>	<b>13</b>	-1413	6	30	1368	<b>12</b>	<b>6</b>	7	4:34	5:11	208	5:11	93	5:11	-12
-1413	8	11	-1413	7	29	1368	13	5	1	14:45	5:20	279	5:20	155	5:21	37

DoW = day of week; ToD = time of day.

In addition to using Casperson's lunar tables for listing new moons, they also provide the synchronisms between the Egyptian calendar and Julian dates. The above table is based on the calendar of Lower Egypt (that is, the civil calendar of Greco-Roman times). Note **12 6** in the Egyptian column. When adjusted to the calendar of Upper Egypt by aligning the Egyptian months with a month earlier in the Julian calendar than that shown, 13 July corresponds to 13 6 (i.e. the sixth day of the 13th month). But since there is no 6th epagomenal day, the date equates to I 3<sup>ht</sup> 1, validating the end of a Sothic cycle at Thebes in the Julian year of year -1413 or 1414 BCE.

### Amenhotep I's Ninth Year

To determine when Amenhotep I's ninth year fell, we reckon the days between III *šmw* 9 and the last epagomenal, which is 57 days, and multiply it by four to bring it to years, which amounts to 228. Add 228 years to the date of 1414 and the ninth year of Amenhotep I is the year 1642!

Table 10.9 reports the Egyptian-dated column showing II *šmw* 9 and the Julian-dated column showing 13 July -1641. We have to convert II *šmw* 9 (the Lower Egyptian date to which the table is aligned) to III *šmw* 9 (the Upper Egyptian date).

**Table 10.9: Amenhotep I's ninth year in 1642 BCE (new moon listing for -1641)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1		0		
-1641	6	13	-1641	5	30	1140	9	9	7	22:36	5:17	277	5:16	162	5:16	81
<b>-1641</b>	<b>7</b>	<b>13</b>	-1641	6	29	1140	<b>10</b>	<b>9</b>	2	13:59	5:11	229	5:11	136	5:11	<b>50</b>
-1641	8	12	-1641	7	29	1140	11	9	4	5:55	5:19	199	5:20	104	5:20	<b>8</b>

DoW = day of week; ToD = time of day.

II *šmw* 9 in the Lower Egyptian calendar equates to the Julian date of 13 July of the year -1641 (1642 BCE), also confirmed by the HELIAC Program, which supplies the date of either 12 or 13 July at Thebes using an altitude of 3 degrees for Sothis.<sup>41</sup> Coincidentally, the table also shows that II *šmw* 9 (10 9), the date given for the Sothic rising, is also the date of a new moon!<sup>42</sup>

<sup>41</sup> De Jong, "Heliacal Rising of Sothis," *AEC* (2006) 438; M.G. Firmeis and M. Rode-Paunzen, "Progress-Report on Egyptian Astrochronology," *SCIEM II* (2003), 85.

<sup>42</sup> Borchardt had earlier suggested that the squiggle now read as "day 9" should be read as "new moon," but this view has now been rejected by scholars (*Die Mittel zur Zeitlichen Festlegung von Punkten der ägyptischen Geschichte und ihre Anwendung*, [Quellen und Forschungen zur Zeitbestimmung der ägyptischen Geschichte 2; Kairo: Selbstverlag, 1935] 20).

The Ebers date also provides a means of dating other heliacal risings of Sothis that are attributed to a specific regnal year dated to an Egyptian calendar, when converted to the Julian calendar. A more significant date would be hard to find.

### Why Was the New Sothic Cycle Based on Memphis?

Recall that by the 18th–19th Dynasties the expanding population was moving southward from the Delta into Upper Egypt, and had virtually made obsolete the calendar of the south—its main remaining function being to date the heliacal risings of Sothis. If the heliacal rising of Sothis was to continue to be recorded, it must connect to the calendar now being used throughout Egypt: the calendar of Lower Egypt.

The appropriate time to make a change would be when the new year on I *3ht* 1 in the calendar of Lower Egypt coincided with the heliacal rising of Sothis at Memphis; that is, at the beginning of a new Sothic cycle. This occurred 100 years after the end of the cycle of Upper Egypt observed at Thebes.

The old Sothic cycle ended at *Thebes* in 1414 BCE, and the new one began at *Memphis* 100 years later in 1314 BCE. The end of the Theban-based cycle presented a not-to-be missed opportunity for the ancient Egyptians to make a change to an *official* observation site for the recording of Sothic dates by the calendar of Lower Egypt. The inauguration of a new Sothic cycle meant that not only Sothic rising dates, but all events, records, and festivities could be dated by the same calendar over the *entire* country.

Thanks to the Ebers calendar, we can attribute the explanation and solution of the puzzling ἀπὸ Μενόφρεως, the “*Era of Menophres*.” Without the *Ebers papyrus explicitly showing us a calendar that began with wp rnpt* and recording the date of III *šmw* 9 for a Sothic rising in Amenhotep I’s ninth year, the transition of the Sothic cycle recordings to the calendar of Lower Egypt would have been much more difficult to detect, and the “*Era of Menophres*” may have remained an enigma.

### Conclusion

The Ebers calendar, which has caused so much discussion and bewilderment, is really quite a simple little table, and easy to understand in its corresponding months and seasons using the calendar of Upper Egypt. It is of profound chronological significance with its record of the Sothic rising on III *šmw* 9 in Amenhotep I’s ninth year.

There is no lunar calendar in the first column, and the second column is not an “aborted experiment” of a regnal year calendar beginning with Amenhotep I’s accession eight years earlier on III *šmw* 9. Nor is it what Spalinger described as being “more valuable as an intellectual aspect of ancient Egyptian calendrics than as a solution to the chronology of the New Kingdom.”<sup>43</sup>

Far from being of no chronological value, and its use disallowed for chronological purposes as stated in the Gothenburg colloquium of 1987,<sup>44</sup> the Ebers calendar is probably the most valuable chronological tool from Egypt that we are ever likely to possess.

In the preceding chapters I have sought to determine the calendars used by the ancient Egyptians, recognizing an unresolved problem concerning certain feasts that appeared to be dated out of their eponymous months in the Greco–Roman calendar. The search has led to recognizing two calendars, those of Upper Egypt and of Lower Egypt used by Egyptians in their respective regions. These calendars merged into one with the inauguration of the Sothic cycle at Memphis in 1314 BCE. This cycle became known as the “*Era of Menophres*.” From 1314 on there was only one calendar of note: the civil

<sup>43</sup> Spalinger, “From Esna to Ebers,” 761.

<sup>44</sup> See chap. 1 pp. 8–10.

calendar, which was based on the calendar of Lower Egypt—the prototype of the later Greco–Roman calendar.

Until now, the reconstruction of Egyptian chronology has relied on the assumption of only one civil calendar by which the heliacal risings of Sothis were recorded. No difference was understood between the calendar used to record the Sothic rising in Amenhotep I's ninth year at Thebes, and the calendar used to record the Sothic cycle that began in 1314 BCE at Memphis.

With the identification of a calendar of Upper Egypt, we can now reconstruct the chronology of ancient Egypt taking into account the effect that this calendar has had on the dates attributable to the regnal years of the kings. The date of 1642 BCE can be used to fix other Sothic risings considering the calendar and location.

From these dates, the regnal year dates recorded for kings—especially when set on lunar phases dated to the calendar of either Upper or Lower Egypt—give us the opportunity to reconstruct a credible chronology for ancient Egypt.

In the next three chapters, the utilization of the Sothic cycle and lunar phases at Illahun (Middle Kingdom) is demonstrated in the reigns of Sesostris III and his son Amenemhet III. The remainder of this book establishes the dynastic chronology of Egypt.



## Chapter 11

### Studying Sesostris III and Illahun - Sesostris III's Seventh Year

The reign of Sesostris III in the 12th Dynasty, documented by papyri found at Illahun, provides the earliest case with sufficient data of a chronological kind for the study of Sothic information, regnal dates, and Egyptian feasts. It permits a case study in the application of the Sothic cycle with corroboration by lunar observances. The full 12th Dynasty of regnal reigns will be presented later in the book.

Famous in this dynasty is the important Sothic date in the seventh year of Sesostris III, and some 40 lunar-based feast dates attributed to the reigns of Sesostris III and his son Amenemhet III.

This chapter discusses Sesostris III's seventh year in particular; and Chapter 12 discusses various feasts in the light of identified dates; and Chapter 13 looks at the *w3gy* (wagy) feast in particular.

#### Illahun Papyri

In 1889, the English archaeologist and Egyptologist, Sir Flinders Petrie, examined the pyramid district of Illahun dating to the Middle Kingdom (11th–12th Dynasties). In the débris of the mortuary temple of Sesostris II, many ancient papyri documents were found that were written in the Egyptian middle-hieratic script. The papyri were later identified as belonging to the time of Sesostris III and his son Amenemhet III—sixth and seventh kings of the nine kings of the 12th Dynasty. Further materials were found between 1889 and 1899. In 1899, L. Borchardt published the most important of the papyri,<sup>1</sup> with a further publication in 1935.<sup>2</sup>

However, problems of access to the Berlin Museum, which purchased most of the papyri, meant that much was unavailable for examination. In 1992, Ulrich Luft published a comprehensive account of the Illahun papyri, and an article that recognized three groups of texts relating to feasts, such as attendance lists, letters, and temple diaries or day books.<sup>3</sup>

#### The Sothic Date Attributed to Sesostris III's Seventh Year

In the diaries, a date appeared in the heading, followed by the feast name, and the name of the serving priest.<sup>4</sup> The temple diary on III *prt* 25 predicted a heliacal rising of

<sup>1</sup> L. Borchardt, "Der zweite Papyrusfund von Kahun und die zeitliche Festlegung des mittleren Reiches der ägyptischen Geschichte," *ZÄS* 37 (1899) 89-103.

<sup>2</sup> Idem, *Mittel zur zeitlichen Festlegung von Punkten der ägyptischen Geschichte und ihre Anwendung* (Band 2; Kairo: Selbstverlag, 1935).

<sup>3</sup> Papyrus Berlin 10012 A recto II lines 18-21. See U. Luft, "Zur Chronologischen Verwertbarkeit des Sothidatums aus Illahun, Illahunstudien IV," *SAK* 16 (1989) 221; idem, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992), 57; R. Krauss, "Arguments in Favor of a Low Chronology for the Middle and New Kingdom in Egypt," *SCIEM* (2000), 186.

<sup>4</sup> Borchardt, *Mittel zur zeitlichen*, 109-10.

Sothis on IV *prt* 16, a date 22 days hence. A further fragment of three incomplete lines (pBerlin 10012 B)<sup>5</sup> written by the same hand, dated to Year 7, eighth month, 17th day, recorded the receipt of festival offerings (200 assorted loaves, 60 jars of beer ...) for the celebration of the rising of Sothis.<sup>6</sup> Comparing the writing of these papyri with other writings, Borchardt and other scholars determined that the temple book was from the seventh year of Sesostris III.<sup>7</sup>

The predicted (not observed) date of IV *prt* 16 has been discussed and accepted by most scholars as the festival day of the heliacal rising of Sothis, though Rolf Krauss' alternative proposal is noted later.

### Illahun Sothic Cycle Dates

To assign a Julian calendar date to the heliacal rising of Sothis in Sesostris III's seventh year we must determine the place where the predicted rising of Sothis was to be observed and by what calendar it was dated, and convert it to the Julian calendar. We may assume that the predicted observation was at Illahun where the presumed feast was held. Illahun was situated in the northern region of *Upper* Egypt where Sothic risings were dated by the Sothic calendar of Upper Egypt.

We estimate the date for the Sothic rising in Sesostris III's seventh year by reckoning on the time-span from the beginning of the cycle on I *3ht* 1 and the date of the Sothic rising prediction for IV *prt* 16; likewise, from that date to the end of the current Sothic cycle down to the last epagomenal. This Sothic cycle observed at Illahun then must be adjusted to the dates known from Thebes in order to arrive at a Julian date for the cycle's commencement, and Sesostris III's seventh year. These dates then must be checked against the stated lunar dates for the king's sixth and eighth years.

### The Julian Date for the Heliacal Rising of Sothis on IV *prt* 16

In chapter 10 we concluded that I *3ht* 1 equated to 13 July at Thebes in the year 1414 BCE. Ingham has calculated that the length of Sothic cycles vary becoming marginally shorter in more recent times. In the period ca. 2000 BCE, he calculated that the Sothic cycle lasted about 1456 years, not 1460.<sup>8</sup> The Sothic cycle that ended in 1414 BCE with an approximate length of 1456 years would have begun around 2870 BCE. Casperson's table (Table 11.1) can confirm the beginning of the Sothic cycle in 2870 BCE by confirming that I *3ht* 1 fell on the date of the Sothic rising.

Adjusting the table to the calendar of Upper Egypt, 12 23 becomes 13 23, or I *3ht* 23; that is, 18 days after the fifth epagomenal counted as the fifth day of the 13th month (13 5). Eighteen days before 29 July –2869 (2870 BCE), I *3ht* 1 fell on 12 July, as demonstrated by the lunar table. This concurs with the HELIAC Program, which gives variants of 11 or 12 July.<sup>9</sup> This date would apply for four years.

<sup>5</sup> D. Franke, "Zur Chronologie des Mittleren Reiches (12-18. Dynastie) Teil 1: Die 12. Dynastie," *Orientalia* 57 (1988) 132.

<sup>6</sup> W.F. Edgerton, "Chronology of the Twelfth Dynasty," *JNES* 2 (1943) 308.

<sup>7</sup> *Ibid.*, 308.

<sup>8</sup> M.F. Ingham, "The Length of the Sothic Cycle," *JEA* 55 (1969) 36-40.

<sup>9</sup> J-P. Lacroix, "Heliacal Rising of Sirius in Thebes," at <http://www.ancientcartography.net/LEVERheliqueAN.html> (hereafter HELIAC Program), or R. Bywater and J-P. Lacroix, <http://geocities.com/CapeCanaveral/Launchpad/4633/heliacJAVA.html>

**Table 11.1: Beginning of a Sothic cycle at Thebes in 2870 BCE (new moon listing from -2870)**

Thebes; Lat. 25.7, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2869	6	29	-2869	6	6	-89	11	23	7	18:34	5:14	291	5:14	164	5:13	73
<b>-2869</b>	<b>7</b>	<b>29</b>	-2869	7	6	-89	<b>12</b>	<b>23</b>	2	8:35	5:11	218	5:11	120	5:12	27
-2869	8	28	-2869	8	5	-89	1	18	4	1:38	5:23	178	5:24	83	5:24	-12

DoW = day of week; ToD = time of day.

Illahun, with a latitude of 29.2 degrees is approximately 3.5 degrees further north than Thebes at latitude 25.7 degrees, which means that I *3ht* 1 falls 3½ days later than at Thebes in any given year, and about 14 years further on in terms of the Sothic cycle. Thus the heliacal rising at Illahun on I *3ht* 1 would have been observed about 14 years earlier (in the civil calendar) than the heliacal rising of Sothis on I *3ht* 1 at Thebes in the same year, thus about 2884 BCE on a 1456-year cycle. (Put another way, the civil calendar would have to click over another 14 years before the civil calendar at Illahun would record the rising of Sothis on the same civil date as previously it was recorded at Thebes).

Assuming that 2884 BCE is *near* the date for the beginning of the Sothic cycle at Illahun on I *3ht* 1, we can estimate the date when the Sothic rising might have fallen on IV *prt* 16—the date recorded in Sesostris III's seventh year. Each month has 30 days equating to 120 years in the Sothic cycle. The months of I–IV *3ht* equate to 480 years, plus three months of *prt* equate to 360 years, and another 16 days equate to 64 years, which brings the total to 904 years. Subtracting 904 years from 2884 yields the date of 1980 BCE for the Illahun Sothic date of IV *prt* 16.

Casperson's lunar table (Table 11.2) demonstrates that a new moon occurs on IV *prt* 1 (8 1 Lower Egypt), which converts to 9 1 (I *šmw* 1 Upper Egypt). A heliacal rising of Sothis on IV *prt* 16 in the civil calendar in Upper Egypt would occur about 16 days earlier than I *šmw* 1 and equates to 14 July, since I *šmw* 1 equates to 29 July.

**Table 11.2: Helical rising of Sothis at Illahun in -1979 (new moon listing from -1979)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1979	6	30	-1979	6	13	802	7	2	1	11:24	5:12	231	5:12	124	5:12	38
<b>-1979</b>	<b>7</b>	<b>29</b>	-1979	7	12	802	<b>8</b>	<b>1</b>	2	22:37	5:13	306	5:13	191	5:14	89
-1979	8	28	-1979	8	11	802	9	1	4	9:03	5:27	252	5:28	140	5:29	24

DoW = day of week; ToD = time of day.

This date is in accord with the HELIAC Program dating the rising to 14 July using a Sothic altitude of 3 degrees. Two other options are for 15 and 16 July, but it is 14 July that equates to IV *prt* 16.

### Dating Lunar Phases for Sesostris III's Sixth and Eighth Years

The year 1980 appears to be Sesostris III's seventh year when the heliacal rising of Sothis was observed at Illahun on IV *prt* 16. Further checks of this date can be made by comparison with new moon dates for Sesostris III's sixth and eighth years. On the current projections, we would expect Sesostris III's sixth year in 1981 BCE (-1980) and his eighth year in 1979 BCE (-1978).

For Sesostris III's sixth year, we turn to an Illahun papyrus having the Berlin catalogue number 10282. It contains three civil dates in texts classified as 10282<sub>1</sub>, 10282<sub>2</sub>, and 10282<sub>3</sub>. A date for a feast of Joy is found in pBerlin 10282 recto 3 heading

(siglum 10282<sub>1</sub>) and is dated to I 3<sup>ht</sup> 18, which is held on the fourth lunar day, making the new moon I 3<sup>ht</sup> 15.<sup>10</sup> The other two festivals on the same papyrus (10282<sub>2</sub> and 10282<sub>3</sub>) are described only as “month feasts” and dated to II 3<sup>ht</sup> 14, and III 3<sup>ht</sup> 13(?), respectively. (The question mark indicates that Luft queried the latter date.)<sup>11</sup>

On which lunar day did these feasts fall? See Casperson’s table below (Table 11.3). Note that lunar dates are recorded using the calendar of Lower Egypt; therefore, the following table does not have to be converted to the calendar of Upper Egypt. *Lunar* phases appear on the same day throughout Egypt.

**Table 11.3: Sesostris III’s sixth year in –1980 (new moon listing from –1980)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1981	12	16	-1981	11	29	800	12	20	6	21:20	6:45	268	6:45	159	6:45	59
-1980	1	15	-1981	12	29	801	<b>1</b>	<b>15</b>	1	15:18	6:57	219	6:57	104	6:57	<b>14</b>
-1980	2	14	-1980	1	28	801	<b>2</b>	<b>15</b>	3	9:05	6:44	153	6:44	<b>50</b>	6:43	<b>-23</b>
-1980	3	15	-1980	2	27	801	<b>3</b>	<b>15</b>	5	1:22	6:21	93	6:20	<b>13</b>	6:20	<b>-47</b>
-1980	4	13	-1980	3	27	801	4	14	6	15:39	5:56	182	5:55	58	5:55	-7

DoW = day of week; ToD = time of day.

In –1980 the “month feast” falling on II 3<sup>ht</sup> 14 is a new moon day or the first day of the lunar month, as is the second “month feast” falling on III 3<sup>ht</sup> 14. These two “month feasts” falling on the day of the new moon suggests that they are applicable to the year –1980, and presumably also the feast of Joy on the fourth lunar day.

This result can be further checked by two dates given in pBerlin 10130<sub>1</sub> and 10130<sub>2</sub> for Sesostris III’s eighth year. The first text dates a Sand Moving festival to II 3<sup>ht</sup> 22 and a Clothing festival to II 3<sup>ht</sup> 24.<sup>12</sup> The second text date refers to a feast of the Line of the Nile Mile on IV 3<sup>ht</sup> 11. Accordingly, we look for new moons before the Sand Moving and Clothing dates, to determine what lunar day they fell on, and whether the dates here are consistent with those of the sixth year. See Casperson’s table below (Table 11.4).

**Table 11.4: Sesostris III’s eighth year –1978 (new moon listing from –1978)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1978	1	22	-1978	1	5	803	1	23	4	16:29	6:55	306	6:55	115	6:55	7
-1978	<b>2</b>	<b>21</b>	-1978	2	4	803	<b>2</b>	<b>23</b>	6	5:07	6:39	150	6:38	<b>36</b>	6:38	<b>-35</b>
-1978	<b>3</b>	<b>22</b>	-1978	3	5	803	<b>3</b>	<b>22</b>	7	18:46	6:16	232	6:15	<b>76</b>	6:14	<b>7</b>
-1978	4	21	-1978	4	4	803	4	22	2	9:26	5:50	148	5:49	58	5:48	2

DoW = day of week; ToD = time of day.

The new moons fell on II 3<sup>ht</sup> 22 and III 3<sup>ht</sup> 21 in the year –1978, which indicates that the Sand Moving festival fell on the day of the new moon followed by the Clothing festival on the third lunar day. The Line-of-the-Nile-Mile festival on IV 3<sup>ht</sup> 11 fell on the 20th lunar day following the new moon on III 3<sup>ht</sup> 21. The fact that the Sand Moving festival falls on the new moon seems to be intentional and consistent with the dates for the month feasts falling on the new moon in Sesostris III’s sixth year.

<sup>10</sup> Luft, *Fixierung*, 117, 211.

<sup>11</sup> *Ibid.*, 211.

<sup>12</sup> *Ibid.*, 99, 209.

### Corroborative Significance of Sothic and Lunar dates

We may assume, therefore, that the dates for the other named feasts are also reliable. *These dates produce a conclusion that Sesostris III's seventh year must have fallen in 1980 BCE*, reinforced by the consistent lunar dates in 1981 and 1979. That the Sothic date and the lunar dates support each other is a compelling argument for their reliability. It would be possible to give the lunar dates different years based on different 25-year cycles, but then the Sothic date would not fall on IV *prt* 16. So the predicted Sothic rising on IV *prt* 16 in Sesostris III's seventh year can be dated with confidence to the year 1980 BCE. Before turning to the other Illahun feast dates in the reigns of Sesostris III and Amenemhet III, the Julian dates attributed to them by Luft and Krauss require some review.

### Luft's Illahun Dates Tested

At the outset we owe a debt of gratitude to Luft for publishing the Illahun papyri, which provide the basis for the following discussions of feast dates from the reigns of Sesostris III and Amenemhet III. However, when Luft published the Illahun papyri in 1992, he incorrectly assumed that the heliacal rising in Sesostris III's seventh year was observed from Memphis and occurred between 1867 and 1863 BCE, or if from Elephantine, between 1843 and 1840 BCE.<sup>13</sup> He found what appeared to be a good match in 1866. From his calculations, he deduced a date for the heliacal rising of Sothis on IV *prt* 17 (not 16) at Memphis, which equated to 17 July, and at Elephantine he found the date of IV *prt* 17, which equated to 11 July in 1841 BCE.<sup>14</sup> He explained the date of IV *prt* 17 as the day on which the Egyptians *celebrated* the feast, not the date of the actual observation.<sup>15</sup>

Furthermore, the sixth and eighth years appear to provide a reasonable match for the feast dates in those years. Since Luft does not provide tables, Casperson's lunar table for the relevant months for the years -1867 to -1864 with Memphis as the observation site is supplied below (Table 11.5). This can be compared with the previously provided tables for the relevant dates in Sesostris III's sixth, seventh, and eighth years for the dates -1980, -1979 and -1978 (1981-1979 BCE) at Illahun.

**Table 11.5: Luft's dates for new moons in Sesostris III's sixth, seventh and eighth years for -1867 to -1864 at Memphis (new moon listing from -1867 to -1864)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1867	12	16	-1867	11	30	915	<b>1</b>	<b>14</b>	2	6:60	6:54	181	6:54	<b>79</b>	6:55	<b>-13</b>
-1866	1	15	-1867	12	30	915	<b>2</b>	<b>14</b>	4	1:56	6:58	133	6:58	<b>36</b>	6:58	<b>-43</b>
-1866	2	13	-1866	1	28	915	3	13	5	18:56	6:45	220	6:45	<b>80</b>	6:44	<b>2</b>
-1866	3	15	-1866	2	27	915	4	13	7	9:20	6:22	148	6:21	46	6:20	<b>-15</b>
-1865	6	1	-1865	5	16	916	7	1	2	4:09	5:16	194	5:15	97	5:15	<b>25</b>
<b>-1865</b>	<b>6</b>	<b>30</b>	-1865	6	14	916	<b>7</b>	<b>30</b>	3	13:24	5:02	282	5:02	153	5:02	<b>59</b>
<b>-1865</b>	<b>7</b>	<b>29</b>	-1865	7	13	916	<b>8</b>	<b>29</b>	4	21:60	5:04	343	5:04	207	5:05	<b>95</b>
-1865	8	28	-1865	8	12	916	9	29	6	6:53	5:21	256	5:22	135	5:23	<b>13</b>
-1865	12	24	-1865	12	8	917	<b>1</b>	<b>22</b>	5	5:39	6:57	205	6:57	<b>76</b>	6:57	<b>-26</b>
-1864	1	22	-1864	1	6	917	<b>2</b>	<b>21</b>	6	20:38	6:57	293	6:56	115	6:56	<b>20</b>
-1864	2	21	-1864	2	5	917	3	21	1	12:43	6:40	175	6:39	66	6:38	<b>1</b>

DoW = day of week; ToD = time of day.

<sup>13</sup> Ibid., 226.

<sup>14</sup> Ibid., 226-27; see also, idem, "Illahunstudien IV: Zur chronologischen Verwertbarkeit des Sothisdatums," *SAK* 16 (1989) 231-32; idem, "Priorities in Absolute Chronology," *SCIEM II* (2003) 202.

<sup>15</sup> Idem, "Illahunstudien IV," 222.

On the surface, the dates seem to match those of the Illahun texts for the sixth and eighth years, so Luft has dated the seventh year of Sesostris III to 1866, and the heliacal rising to IV *prt* 17. However, the chronology has been incorrectly derived from the assumption that only one civil calendar was used continuously throughout Egyptian history. No recognition is given to the fact that there are 100 years between the end of the Sothic cycle observed at Thebes, and the Sothic cycle instituted at Memphis in 1314, nor for the adjustment for the location of Illahun.

Luft's date for Sesostris III's seventh year in 1866 BCE is 114 years later than 1980—the extra 14 years being attributable to Luft assigning a year in which the new moon fell on IV *prt* 17 in 1866 in cycle-year 23 instead of in cycle-year nine as it is in 1980 BCE.

According to the HELIAC Program, Sothis rose heliacally in 1866 BCE on 17, 18, or 19 July. Caspersen's table (Table 11.5) equates I *šmw* 29 (adjusted to the calendar of Upper Egypt) with 29 July. This means that IV *prt* 17 equates to 17 July as Luft believed. But this is a day later than in 1980 BCE when Sothis did rise heliacally on IV *prt* 16, the correct day.

### Krauss' Dates for Sesostris III

Rolf Krauss also sought to date the heliacal rising of Sothis in Sesostris III's seventh year. In 2003, Krauss summarized the situation, noting that in 1950 scholars were forced to revise their assumption that Memphis was the observation site for the heliacal rising of Sothis due to new information from Assyrian–Babylonian king-lists shortening the chronology by 20 years. This could be achieved by shifting the observation site from Memphis to Thebes.<sup>16</sup> However, in the 1970s, due to Morris Bierbrier's work on genealogies,<sup>17</sup> it was believed that the chronology must again be shortened by 10–15 years.<sup>18</sup>

In 1978, Krauss had already argued for an Elephantine observation site rather than a Memphite or Theban site to accommodate lower dates proposed for Thutmose III (1479 accession) and Ramesses II (1279 accession) and to accommodate the Ebers Sothic date in the reign of Amenhotep I. He pointed out, among other arguments, that Elephantine was on the southern border of Egypt at which location the heliacal rising of Sothis would be seen in the country first.<sup>19</sup>

In 1998, based on the lower chronology, he searched Viktor Neugebauer's astronomical tables compiled in 1929<sup>20</sup> for dates that would fit the feasts in the reigns of Sesostris III and Amenhotep I, ranging from 1900 to 1700 BCE. He took into account dates for synchronisms between Assyria and Egypt, which he assumed were reliable. Because lunar dates tend to repeat themselves (not exactly) every 25 years he proposed

<sup>16</sup> R. Krauss, "Arguments in Favor of a Low Chronology for the Middle and New Kingdom in Egypt," *SCIEM II* (2003) 184.

<sup>17</sup> *Ibid.*, 184 n. 59 citing M. Bierbrier, *The Late New Kingdom in Egypt (c. 1300 – 644 B.C.)*, (Warminster: Aris and Phillips, 1975) 109ff.

<sup>18</sup> *Ibid.*, 184.

<sup>19</sup> *Idem*, *Das Ende der Amarnazeit: Beiträge zur Geschichte und Chronologie des Neuen Reiches* (HÄB 7; Hildesheim: Gerstenberg, 1978; rep. 1981) 189-93. The inconsistency of proposing Elephantine as the observation site for the Ebers Sothic date when the Ebers papyrus was found at Thebes is pointed out by K.A. Kitchen in his review of Krauss's book (*JEA* 71 [1985] 44).

<sup>20</sup> A reference to O. Neugebauer and R. Parker, *Egyptian Astronomical Texts III. Decans, Planets, Constellations and Zodiacs* (Providence, RI: Brown University Press, 1969).

the dates of 1830, 1855, and 1880. Of these he found that 1830 gave the highest number of matches (14 out of 20) for the lunar dates given in the papyri.<sup>21</sup>

In 2003, his astronomical calculations were based on the computer program UraniaStar release 1.1. For his calculations of the old lunar crescent, he followed Mucke (1992), and for the heliacal rising of Sothis, he followed Pachner (1998).<sup>22</sup> Over the years, Krauss has reiterated his arguments for Elephantine as the observation site.<sup>23</sup>

Table 11.6 shows the Egyptian feast dates for Sesostris III's sixth, seventh, and eighth years from the Illahun papyri using the Julian dates proposed by Krauss for an observation at Elephantine. Casperson provides the relevant years for -1831/1830 to -1828. The middle section (-1829) represents Sesostris III's seventh year for the predicted heliacal rising.

**Table 11.6: Krauss's dates for Sesostris III's sixth, seventh and eighth years in -1831 to -1828 (new moon listing from -1831 to -1828)**

Elephantine; Lat. 24.0, Long. 32.85; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	230	-1	123	0	19
-1831	11	8	-1831	10	23	950	12	20	2	10:30	6:21	230	6:21	123	6:22	19
<b>-1831</b>	<b>12</b>	<b>8</b>	-1831	11	22	951	<b>1</b>	<b>15</b>	4	4:10	6:38	186	6:39	<b>85</b>	6:39	<b>-13</b>
<b>-1830</b>	<b>1</b>	<b>6</b>	-1831	12	21	951	<b>2</b>	<b>14</b>	5	22:56	6:46	264	6:46	143	6:46	<b>45</b>
<b>-1830</b>	<b>2</b>	<b>5</b>	-1830	1	20	951	<b>3</b>	<b>14</b>	7	17:06	6:39	218	6:38	<b>92</b>	6:38	<b>5</b>
-1830	3	7	-1830	2	19	951	4	14	2	9:28	6:22	156	6:21	50	6:20	-22
-1829	5	24	-1829	5	8	952	7	2	4	6:51	5:30	183	5:30	89	5:29	18
<b>-1829</b>	<b>6</b>	<b>22</b>	-1829	6	6	952	<b>8</b>	<b>1</b>	5	18:26	5:17	282	5:17	158	5:17	<b>68</b>
-1829	7	22	-1829	7	6	952	9	1	7	4:37	5:15	224	5:15	118	5:16	13
-1829	12	16	-1829	11	30	953	1	23	7	9:35	6:42	254	6:42	120	6:42	1
<b>-1828</b>	<b>1</b>	<b>14</b>	-1829	12	29	953	<b>2</b>	<b>22</b>	1	22:21	6:45	356	6:45	160	6:45	<b>41</b>
<b>-1828</b>	<b>2</b>	<b>13</b>	-1828	1	28	953	<b>3</b>	<b>22</b>	3	12:06	6:35	217	6:35	<b>78</b>	6:34	<b>-7</b>
-1828	3	14	-1828	2	27	953	4	22	5	2:54	6:17	130	6:16	41	6:16	-22

DoW = day of week; ToD = time of day.

As discussed previously, the dates for Sesostris III's sixth year come from Illahun papyrus pBerlin 10282<sub>1-3</sub>, in which a feast of Joy is dated to I *3ht* 18, and being held on the fourth lunar day gives a date for the new moon on I *3ht* 15 as in Casperson's table for 1981 BCE (Table 11.3). According to his table for the Krauss date of -1831 (Table 11.6) the new moon fell on I *3ht* 14. The other two days are "month-feasts," and fell on II *3ht* 14 and III *3ht* 14 as shown in Table 11.3, though in -1830 (Table 11.6) they are II *3ht* 14 and III *3ht* 13.

For Sesostris III's eighth year, pBerlin 10130 has three feast dates. A Sand Moving and a Clothing feast are held on the 22nd and 24th of II *3ht*, which occurred on the new moon and third lunar day according to Table 11.2, and Table 11.6 in -1828. The third feast is a Line-of-the-Nile-Mile feast dated to IV *3ht* 11. It takes its date from the new moon on III *3ht* 21, which indicates the feast was held on the 21st lunar day. This is shown in Table 11.4 and Table 11.6 (at -1828).

<sup>21</sup> R. Krauss, "Altägyptische Sirius- und Monddaten aus dem 19. und 18. Jahrhundert vor Christi Geburt (Berliner Illahun-Archiv)," *Ä und L* 8 (1998) 117-18.

<sup>22</sup> H. Mucke, *Sichtbarkeitsverhältnisse und Sonnenlauf* (Sternfreunde-Seminar: Wiener Planetarium, 1992); N. Pachner, "Zur Erfassung der Sichtbarkeitsperioden ekliptikferner Gestirne," *Ä und L* 8 (1998) 125-36.

<sup>23</sup> See for example, Krauss, "Sothis, Elephantine und die altägyptische Chronologie," *GM* 50 (1981) 71; idem, *Sothis- und Monddaten: Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 63-67.

These dates demonstrate that Krauss's dates *seem* to match the feast data in the years given, but this is because he has appropriated the cycle of lunar dates (cycle year nine for Sesostris III's seventh year in 1830) that apply to the actual date of 1980, 150 years or six cycles of 25 lunar years earlier.

For Sesostris III's seventh year, in which the heliacal rising of Sothis was predicted for the date of IV *pri* 16, Krauss says that the offerings for the Sothic celebration were entered in the temple diary on IV *pri* 17. He notes that offerings were usually delivered a day or two before a festival, and suspects that a mistake was made by the scribe and the date for the Sothic rising ought to have shown IV *pri* 18.<sup>24</sup>

As we have determined above, the actual date was predicted accurately as IV *pri* 16 in 1980 BCE (see Table 11.3). In Table 11.6, in the year -1829, IV *pri* 1 (8 1) equates to 22 June (jul.), so IV *pri* 17 in the calendar of *Lower Egypt* (that Krauss used) would equate to 9 July, and IV *pri* 18 to 10 July. Krauss wrote:

In 1830 BC, IV Peret \*18 was the 9th of July. This date cannot be interpreted as an actually observed rising of Sothis, because during that epoch, Sothis did not rise before the 10th of July at any site within Egypt. Instead, IV Peret \*18 in 1830 BC should be understood as a schematically determined date with reference to the southern border where Sothis rose on July 9th in the 28th century BC when the schematic Sothic calendar was introduced.<sup>25</sup>

The HELIAC Program sets the Sothic rising date on 12, 13, or 14 July in 1830 BCE observed at Elephantine with an altitude for Sothis of 2 degrees, demonstrating that the date of IV *pri* 18 is inappropriate. Krauss recognized the discrepancy but sought to explain it as a schematic date going back to the 28th century, not an observed date. The reason his Julian date did not comply with the Sothic rising date was because the year 1830 was 150 years later than the actual seventh year of Sesostris III in 1980 BCE.

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<sup>24</sup> Krauss, "Arguments," 186.

<sup>25</sup> *Ibid.*, 187.



## Chapter 12

### Studying Sesostri III and Illahun - Feast Dates

From the Illahun papyri that he published in 1992, Luft calculated 14 new moon dates from feasts dated to the civil calendar in the reign of Sesostri III, and a further 25 new moon dates from the reign of Amenemhet III. Some dates have been discussed so often that scholars have given them letters from A to G. This chapter examines the consistency between the dates I have proposed for Sesostri III and the timetable of dates for various feasts recorded in the Illahun papyri.

But rather than discussing these dates in the chronological order of the kings' regnal years, I shall instead discuss them under the *civil* calendar feast names to show that they fall almost consistently on the same day of the *lunar* month in their respective years. There are a few exceptions, but these amount to only one day's difference and can have various explanations.

The feast groups are:

Phyle transfers from one priestly phyle (clan) to the next phyle;

Sand Moving followed by a Clothing feast;

The Feast of Joy;

The Excursion of the Land feast;

The Feast of the Line of the Nile Mile;

The Departure/Excursion Feast;

An Unnamed Feast;

Moveable and fixed *w3gy* (wagy) feasts (these will be covered in the next chapter).

The dates of feasts, if not held on the date of the new moon, are at least located to the same day or date relative to a new moon—making allowances for the estimates of phyle prediction, based on the experienced regularity of lunar cycles, which may not be as exactly precise as a Casperson table.

#### Phyle Dates

I begin with the priests' phyle dates, the dates when one priestly clan handed over their priestly duties to another phyle, occurring on a new moon. The *earliest* date is from Sesostri III's ninth year mentioned in pBerlin 10003 A recto III (16)–(19) (siglum 10003; known as E), when the fourth phyle completes its service and is replaced by the first phyle.<sup>1</sup> The day this occurred is not stated, but the text follows with entries dated from III *prt* 10 to IV *prt* 3. Krauss writes, "Luft dates the protocol to [III Peret 9], the day before the first preserved dated entry."<sup>2</sup> Luft understands this to be the day of the

<sup>1</sup> U. Luft, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992) 31-34, 204. The fourth phyle is replaced by the first phyle (lines 12-16), p. 33. See also Krauss, "Lunar Dates," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 425.

<sup>2</sup> Krauss, "Lunar Dates," 425.

new moon.<sup>3</sup> Casperson's lunar table below (Table 12.1) reviews this date using the location of Illahun. If Sesostris III's seventh year is 1980 BCE then his ninth year will be 1978 BCE (-1977).

**Table 12.1: Sesostris III's ninth year -1977 (new moon listing from -1977)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1977	6	8	-1977	5	22	804	6	10	2	16:23	5:14	238	5:13	128	5:12	57
<b>-1977</b>	<b>7</b>	<b>8</b>	-1977	6	21	804	<b>7</b>	<b>10</b>	4	7:38	5:03	200	5:03	112	5:03	<b>33</b>
-1977	8	6	-1977	7	20	804	8	9	5	23:44	5:08	271	5:09	175	5:09	84

DoW = day of week; ToD = time of day.

Table 12.1 shows a new moon on III *prt* 10, the *first* preserved date given in the text. If, as assumed, one phyle ended and another began on the day of the new moon, it would occur on the 10th, not on the ninth day as Luft proposed. The date equates to 8 July in -1977. Luft wrote that his date of III *prt* 9 was confirmed by the delivery of an offering on the day of the *full moon* on III *prt* 24,<sup>4</sup> which, in his understanding, is the year 1864 (-1863). First, I check the full moon dates for the year -1977 given by Casperson (Table 12.2).

**Table 12.2: Sesostris III's ninth year in -1977 (full moon listing from -1977)**

Illahun; Lat. 29.2, Long. 31.0.												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-1977	6	23	-1977	6	6	804	6	25	3	15:34	5:06	18:06
<b>-1977</b>	<b>7</b>	<b>22</b>	-1977	7	5	804	<b>7</b>	<b>24</b>	4	22:51	5:04	18:04
-1977	8	21	-1977	8	4	804	8	24	6	7:31	5:18	18:18

DoW = day of week.

A full moon is recorded for III *prt* 24 in -1977, equating to 22 July, agreeing with the new moon on III *prt* 10. Fred Espenak's table (Table 12.3) provides the same dates for the new moons and full moons as given by Casperson's tables, confirming that the new moon date fell on III *prt* 10.

Phyle service in Amenemhet's 30th and 31st years all have dates belonging to a new moon.<sup>5</sup> Each phyle began and ended on the day of the new moon, as demonstrated here. This is contrary to Luft's understanding that the handover day is on the new moon but is the *last* day of the phyle month, so that the phyle starts on lunar day two.<sup>6</sup> Thus, for Luft, the first day of the phyle is the second lunar day. Espenak's table below (Table 12.3) shows that the new moon fell on 8 July and the full moon on 22 July<sup>7</sup> in agreement with Casperson's Julian date.

<sup>3</sup> Luft, *Fixierung*, 34.

<sup>4</sup> *Ibid.*, 204.

<sup>5</sup> Table 4.5, chap. 4, .p. 66.

<sup>6</sup> Luft writes, "I accept that the service ends on the New Moon's day ... I have consequently used this new result in my forthcoming publication [*Fixierung*] with complete success." (U. Luft, "Remarks of a Philologist on Egyptian Chronology," *Ä und L* 3 [1992] 110). See Luft, *Fixierung*, 233-34. Krauss writes, "According to Luft, this 'month' designates a lunar month of temple service which started on a LD 2 and ended on a LD 1" (Krauss, "Lunar Dates," 426; citing *Fixierung*, 42-44).

<sup>7</sup> "Eclipse Predictions by Fred Espenak, NASA/GSFC" at

<http://eclipse.gsfc.nasa.gov/phase/phasecat.html>

**Table 12.3: Phases of the Moon for selected months of the year –1977**

Year	New moon		First quarter		Full moon		Last quarter		ΔT
	Date	Time	Date	Time	Date	Time	Date	Time	
-1977							Jan 5	12:05	12h, 48m
-1977	Jun 8	13:51	Jun 16	16:52	Jun 23	13:02	Jun 30	04:56	
-1977	<b>Jul 8</b>	05:08	Jul 16	04:37	<b>Jul 22</b>	20:13	Jul 29	17:28	
-1977	Aug 6	21:15	Aug 14	14:24	Aug 21	04:49	Aug 28	09:52	

This offers corroboration for Sesostris III's ninth year being dated to 1978 BCE.

The second phyle date comes from the temple day book, pBerlin 10112 Bc recto (1–7) (siglum 10112), and is dated to the 10th year of Sesostris III.<sup>8</sup> It refers to the day of the handing over of service from one phyle to the next, and the date given is the last day of a month in the season of *3ht*, the month figure being broken away (line 6).<sup>9</sup> Line seven notes that the phyle begins on the day of the monthly feast, which infers the new moon day.<sup>10</sup> We look to Casperson's table for the year –1976 (1977 BCE).

**Table 12.4: Sesostris III's 10th year –1976 (new moon listing from –1976)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1976	3	30	-1976	3	13	805	4	1	4	0:39	6:08	159	6:08	55	6:07	-9
<b>-1976</b>	<b>4</b>	<b>28</b>	-1976	4	11	805	<b>4</b>	<b>30</b>	5	9:56	5:43	234	5:43	102	5:42	<b>33</b>
-1976	5	27	-1976	5	10	805	5	29	6	20:28	5:21	327	5:20	157	5:19	74

DoW = day of week; ToD = time of day.

The only new moon that fell on the *last* day of *3ht* applies to IV *3ht* and day 30, consistent with our previous conclusion that the changeover of the phyles occurred on the first day of the lunar month; that is, the day of the new moon, and counted as the first day of the phyle's service.

By comparison, the new moon in –1862 (Luft's date for Sesostris III's 10th year) was IV *3ht* 28, with conjunction on the 29th. (See Casperson's table [Table 12.5] below). Luft dates the new moon to IV *3ht* 29, which is actually the second lunar day, but he applies this to the first lunar day, so that the 30th is the *second* lunar day, and the first day of the new phyle.<sup>11</sup>

**Table 12.5: Sesostris III's 10th year according to Luft (new moon listing from –1862)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1862	2	28	-1862	2	12	919	3	29	4	15:34	6:33	301	6:32	119	6:32	39
<b>-1862</b>	<b>3</b>	<b>30</b>	-1862	3	14	919	<b>4</b>	<b>29</b>	6	2:36	6:08	173	6:07	<b>82</b>	6:06	<b>20</b>
-1862	4	28	-1862	4	12	919	5	28	7	14:31	5:43	247	5:42	127	5:41	58

DoW = day of week; ToD = time of day.

The alternative dates given by Luft, where the new moon day usually occurs one day earlier in the civil month for his dates than those for the earlier range beginning in the 1980s, appear throughout his calculations. In an effort to not prolong the discussion, we concentrate now on the feasts dated to our chronology in which the seventh year of Sesostris III fell on 1980 BCE, and not on Luft's dates, which can be found in his

<sup>8</sup> Luft, *Fixierung*, 96, 209.

<sup>9</sup> *Ibid.*, 95-96, 209.

<sup>10</sup> *Ibid.*, 96.

<sup>11</sup> *Ibid.*, 209.

publication. Our conclusion is that the year –1976 for the second phyle date in Sesostris III’s 10th year concurs with the data of the Illahun text pBerlin 10112.

The third phyle date is from pBerlin 10090 recto (7) (siglum 10090; known as document A), found in the temple day book, and dates to the third year of Amenemhet III.<sup>12</sup> Referring to the temple day book, Krauss writes, “The entries mention offerings on III Shemu 15, followed by ‘*sw3 hr* III Shemu 16’ in turn followed by ‘LD 1’. According to Luft ‘*sw3 hr* III Shemu 16’ means that III Shemu 16 was skipped. If so, the LD 1 [Lunar Day 1] mentioned after III Shemu 16 has to be III Shemu 17.”<sup>13</sup> In other words, lunar day one, equated with the new moon, ought to fall on III *šmw* 17, two days after the 15th day of the civil month. Amenemhet’s third year can be ascertained because scholars now recognize that Sesostris III reigned 19 sole years then shared a co-regency with his son, Amenemhet III, for about 20 years.

Accordingly, Sesostris III’s 19th year in 1968 BCE (–1967) is followed three years later by Amenemhet III’s third year in 1965 (–1964). Casperson’s table for Amenemhet’s third year in –1964 is provided below in Table 12.6.

**Table 12.6: Amenemhet III’s third year –1964 (new moon listing from –1964)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1964	10	9	–1964	9	22	817	10	17	2	23:16	5:58	300	5:59	190	6:00	82
<b>–1964</b>	<b>11</b>	<b>8</b>	–1964	10	22	817	<b>11</b>	<b>17</b>	4	15:11	6:26	247	6:26	145	6:27	<b>43</b>
–1964	12	8	–1964	11	21	817	12	17	6	9:24	6:48	208	6:49	112	6:49	19

DoW = day of week; ToD = time of day.

A new moon fell on III *šmw* 17 in –1964, which concurs with the date of offerings on III *šmw* 15 two days previously, the 16th day being “skipped.” My conclusion is that the –1964 date conforms to the text for Amenemhet III’s third year.

The fourth phyle date comes from pBerlin 10056 A recto III (13) (siglum 10056<sub>1</sub>) in which a list of offerings presented at the change of the phyles included those made in Amenemhet III’s eighth year, dated to IV *3ht* 26.<sup>14</sup> By my chronology, Amenemhet’s eighth year is 1960 BCE Casperson provides the lunar table (Table 12.7).

**Table 12.7: Amenemhet III’s eighth year –1959 (new moon listing from –1959)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1959	3	22	–1959	3	5	822	3	27	3	9:31	6:15	203	6:15	59	6:14	–10
<b>–1959</b>	<b>4</b>	<b>20</b>	–1959	4	3	822	<b>4</b>	<b>26</b>	4	20:28	5:50	323	5:50	111	5:49	<b>34</b>
–1959	5	20	–1959	5	3	822	5	26	6	8:53	5:26	189	5:25	89	5:24	25

DoW = day of week; ToD = time of day.

The new moon fell on IV *3ht* 26 in Amenemhet’s eighth year in –1959 (1960 BCE), agreeing with the papyrus date, and confirming the date of the changeover of phyles on the first lunar day.

A fifth “pair” of phyle dates “reduced” by Luft both come from pBerlin 10006 recto III and II (sigla 10006<sub>1-2</sub>; known as Document C) and refer to Amenemhet III’s 32nd year. Recto III gives dates of II *3ht* 9 and III *3ht* 7, indicating a lunar month for a

<sup>12</sup> Ibid., 86-88, 208.

<sup>13</sup> R. Krauss, “Arguments in Favor of a Low Chronology for the Middle and New Kingdom in Egypt,” *SCIEM II* (2003) 176; idem, “Lunar Dates,” 425, citing Luft, *Fixierung*, 88.

<sup>14</sup> Luft, *Fixierung*, 70-73, 205.

phyle's period of service, and recto II gives dates of III *3ht* 6 and 7 for the deliveries of bread and wine for the feast on the day of the new moon.<sup>15</sup>

Casperson's table for Amenemhet III's 32nd year in -1935 (1936 BCE) is given below (Table 12.8).

**Table 12.8: Amenemhet III's 32nd year -1935 (new moon listing from -1936 and -1935)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1936	12	28	-1936	12	11	846	1	9	5	9:23	6:56	217	6:57	96	6:57	4
-1935	<b>1</b>	<b>27</b>	-1935	1	10	846	<b>2</b>	<b>9</b>	7	1:41	6:53	151	6:53	<b>64</b>	6:52	<b>-6</b>
-1935	<b>2</b>	<b>25</b>	-1935	2	8	846	<b>3</b>	<b>8</b>	1	18:23	6:36	232	6:35	120	6:34	<b>54</b>
-1935	3	27	-1935	3	10	846	4	8	3	10:27	6:11	189	6:10	104	6:09	45

DoW = day of week; ToD = time of day.

New moons fell on II *3ht* 8 and III *3ht* 8; thus, the lunar month consisted of 30 days ending on III *3ht* 7, which is the second date from recto III, and the day before the new moon, indicating that the offerings for the feast on III *3ht* 6 and 7 (recto II) were delivered appropriately on the two days before the feast on the new moon day on III *3ht* 8.

The earlier date of II *3ht* 9 was apparently understood as the first day of the lunar month, though according to Table 12.8 it is the day *after* the new moon. In no other instance does a phyle begin on a second lunar day. But if this is a record for planning for being "on duty," and the list anticipates the approximate timing of a new moon, as rosters do, then the difference is immaterial.<sup>16</sup>

### Sand Moving (*hnp-šc*) and/or Clothing (*Mnht*) Festivals

The next group of Illahun dates comes from the temple day book, which mentions the Sand Moving and/or Clothing festivals.

The first example comes from papyrus pBerlin 10092 b recto (8), (siglum 10092), and refers to offerings for a Clothing festival on II *3ht* 27 dated to Sesostris III's fifth year.<sup>17</sup> Casperson's table below (Table 12.9) gives the date for the year -1981 (1982 BCE).

**Table 12.9: Sesostris III's fifth year -1981 (new moon listing from -1981)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1981	1	26	-1981	1	9	800	1	26	4	15:38	6:54	213	6:54	101	6:53	16
-1981	<b>2</b>	<b>25</b>	-1981	2	8	800	<b>2</b>	<b>26</b>	6	7:54	6:36	153	6:36	<b>49</b>	6:35	<b>-25</b>
-1981	3	26	-1981	3	9	800	3	25	7	21:01	6:13	276	6:12	88	6:11	4

DoW = day of week; ToD = time of day.

The new moon fell on II *3ht* 25, indicating that the offering for the Clothing festival on the 27th was dated to the third day of the lunar month (or two days after the new moon).

<sup>15</sup> Ibid., 39-44, 204; Krauss, "Lunar Dates," 426; idem, "Arguments," 177.

<sup>16</sup> Krauss defends the beginning of a phyle on the second lunar day on the basis that it would avoid priests who had arrived on the 29th day expecting to start service on the next day having to go home because the old crescent appeared on the 30th day and having to return the following night (Krauss, "Arguments," 177). According to Table 12.8, II *3ht* 9 would have been the 31st day since the previous new moon and therefore inadmissible as a new moon day.

<sup>17</sup> Luft, *Fixierung*, 88-89, 208.

A second example comes from another Illahun papyrus, pBerlin 10130 Bc recto heading (siglum 10130<sub>1</sub>), listing a Sand Moving festival on II 3<sup>ht</sup> 22 and a Clothing festival on II 3<sup>ht</sup> 24, dated to Sesostris III's eighth year.<sup>18</sup> This is discussed earlier in chapter 11 where Casperson's table (Table 11.4) appears for the year -1978.<sup>19</sup> The table shows that a new moon fell on II 3<sup>ht</sup> 22. The Sand Moving festival, therefore, fell on the new moon day, or first lunar month day, and the Clothing festival on the 24th on the third lunar day, the same day as in the previous example in Sesostris III's fifth year.

A third example, in a third papyrus, is a copy of a letter known as pBerlin 10248 recto II (14) (designated F; siglum 10248). It refers to Sand Moving and Clothing festivals giving the dates of II 3<sup>ht</sup> 18 and II 3<sup>ht</sup> 20 in Sesostris III's 14th year.<sup>20</sup> Casperson's table for the year -1972 follows (Table 12.10).

**Table 12.10: Sesostris III's 14th year -1972 (new moon listing from -1972)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1972	1	17	-1973	12	31	809	1	19	6	10:19	6:57	183	6:56	88	6:56	15
<b>-1972</b>	<b>2</b>	<b>16</b>	-1972	1	30	809	<b>2</b>	<b>19</b>	1	3:50	6:43	155	6:42	<b>77</b>	6:41	<b>15</b>
-1972	3	16	-1972	2	28	809	3	18	2	18:25	6:20	255	6:20	133	6:19	64

DoW = day of week; ToD = time of day.

The new moon is dated to II 3<sup>ht</sup> 18, concurring with the date for the Sand Moving festival, and the Clothing festival on II 3<sup>ht</sup> 20, the third lunar day, as in previous examples.

The fourth example shows another Clothing festival, which is noted on pBerlin 10166 verso heading (siglum 10166), attributed to Amenemhet III's ninth year and to II 3<sup>ht</sup> 19, with a query by Luft concerning the date.<sup>21</sup> Casperson's table below (Table 12.11) gives the new moon as II 3<sup>ht</sup> 17, so the Clothing festival would have been dated to II 3<sup>ht</sup> 19, in agreement with the given date, and would have fallen on the third lunar day.

However, the text says the Clothing festival fell on the fourth lunar day, and the new moon on II 3<sup>ht</sup> 16. It is quite possible that the first invisibility of the moon was observed on the 16th, given that the -1 column shows 110; therefore, the moon was barely visible.<sup>22</sup> But this date would give a 28-day lunar month, which is inadmissible. The date of II 3<sup>ht</sup> 17 with the Clothing feast on the third lunar day appears to be correct.

**Table 12.11: Amenemhet III's ninth year -1958 (new moon listing for -1958)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1958	1	12	-1959	12	26	823	1	18	5	6:17	6:57	239	6:57	80	6:57	-29
<b>-1958</b>	<b>2</b>	<b>10</b>	-1958	1	24	823	<b>2</b>	<b>17</b>	6	15:26	6:46	383	6:46	110	6:45	<b>4</b>
-1958	3	11	-1958	2	22	823	3	16	7	23:49	6:25	906	6:24	153	6:23	38

DoW = day of week; ToD = time of day.

<sup>18</sup> Ibid., 99, 209.

<sup>19</sup> See chap. 11, p. 174.

<sup>20</sup> Krauss, "Lunar Dates," 425. Luft gives only the date of II 3<sup>ht</sup> 18 in *Fixierung*, 110-11, 211.

<sup>21</sup> Luft, *Fixierung*, 104-05, 161, 210. He omits the feast date on page 210. The sketch on p. 104 shows the number 19 clearly.

<sup>22</sup> See n. 36 below.

Examples five and six are located in two Illahun papyri, pBerlin 10018 recto (1) (siglum 10018)<sup>23</sup> and 10079 recto heading (siglum 10079<sub>1</sub>),<sup>24</sup> both from the 10th year of Amenemhet III. The first has a date for a Sand Moving festival on II 3 $\text{ht}$  6 followed by a Clothing festival, but the date is lost. However, it may be reconstructed as the eighth day since on the previous evidence it always follows two days after the Sand Moving feast.

The second text (10079<sub>1</sub>) mentions a Sand Moving festival on II 3 $\text{ht}$  6; evidently the same feast as in the previous text since they both fall on the same year. Casperson's table for the year -1957 follows (Table 12.12).

**Table 12.12: Amenemhet III's 10th year -1957 (new moon listing from -1957)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1957	1	1	-1958	12	15	824	1	7	2	20:12	6:57	321	6:57	148	6:57	33
<b>-1957</b>	<b>1</b>	<b>31</b>	-1957	1	14	824	<b>2</b>	<b>7</b>	4	7:26	6:52	220	6:51	<b>71</b>	6:51	<b>-19</b>
-1957	3	1	-1957	2	12	824	3	6	5	16:41	6:33	380	6:32	114	6:32	22

DoW = day of week; ToD = time of day.

The new moon fell on II 3 $\text{ht}$  6, indicating that the Sand Moving festival fell on a new moon day, concurring with the previous examples.

A seventh example of a Clothing festival comes from pBerlin 10206a recto heading (siglum 10206) dated to II 3 $\text{ht}$  27 in Amenemhet III's 36th year.<sup>25</sup> Casperson's table for the year -1931 is given below (Table 12.13).

**Table 12.13: Amenemhet III's 36th year -1931 (new moon listing from -1931)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1931	1	13	-1932	12	27	850	1	26	5	14:09	6:57	289	6:57	154	6:57	55
<b>-1931</b>	<b>2</b>	<b>11</b>	-1931	1	25	850	<b>2</b>	<b>25</b>	6	23:30	6:45	464	6:45	205	6:44	<b>93</b>
-1931	3	13	-1931	2	24	850	3	25	1	7:37	6:23	267	6:22	116	6:21	26

DoW = day of week; ToD = time of day.

The new moon fell on II 3 $\text{ht}$  25, so II 3 $\text{ht}$  27 is the third lunar day, agreeing with the previous examples for the day of the Clothing festival. The dates for the Sand Moving and Clothing festivals fall on the civil month of II 3 $\text{ht}$  and date to the first and third lunar days, respectively, as given in the lunar tables compiled for Illahun dated to the reigns of Sesostri III and Amenemhet III from 1982 down to 1932 BCE.

### Feast of Joy (ihhy)

As already discussed in chapter 11, a feast of Joy is referred to in pBerlin 10282 recto 3 heading (siglum 10282<sub>1</sub>) dated to I 3 $\text{ht}$  18 in the sixth year of Sesostri III.<sup>26</sup> The feast was celebrated on the fourth lunar day, the new moon being on the 15th, and dates to -1980 (1981 BCE).

A second feast of Joy is referred to in pBerlin 10412 d recto III (2) (siglum 10412) and dates to I 3 $\text{ht}$  24 of Sesostri III's 11th year.<sup>27</sup> Casperson provides the table (Table 12.14).

<sup>23</sup> Luft, *Fixierung*, 60-61, where it is attributed to pBerlin 10018 recto (2), (5)-(6); but on p. 205 to recto (1).

<sup>24</sup> *Ibid.*, 85-86, 208.

<sup>25</sup> *Ibid.*, 105-6, 210.

<sup>26</sup> *Ibid.*, 117, 211-12.

<sup>27</sup> *Ibid.*, 131-32, 212.

**Table 12.14: Sesostris III's 11th year -1976 and -1975 (new moon listing from -1976 and -1975)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1976	12	21	-1976	12	4	805	12	27	4	11:39	6:54	252	6:55	112	6:55	2
<b>-1975</b>	<b>1</b>	<b>19</b>	-1975	1	2	805	<b>1</b>	<b>21</b>	5	23:05	6:56	448	6:56	165	6:55	<b>43</b>
-1975	2	18	-1975	2	1	805	2	21	7	8:37	6:41	246	6:40	82	6:40	-2

DoW = day of week; ToD = time of day.

The new moon fell on I *3ht* 21 so the feast of Joy on I *3ht* 24 is the fourth lunar day as in the previous example.

A third feast of Joy appears in pBerlin 10052 verso 9 (siglum 10052), in Amenemhet III's 24th year, for a date in I *3ht*. The text shows what is assumed to have been three rows of three horizontal strokes, but the top row has been damaged.<sup>28</sup> According to Luft, the number nine seems certain.<sup>29</sup> Casperson provides the table for -1944 (1945 BCE) (Table 12.15).

**Table 12.15: Amenemhet III's 24th year -1944 (new moon listing from -1944 and -1943)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1944	10	28	-1944	10	11	837	11	11	4	21:12	6:16	326	6:17	205	6:18	81
-1944	11	27	-1944	11	10	837	<b>12</b>	<b>11</b>	6	8:35	6:41	253	6:42	132	6:42	<b>14</b>
<b>-1944</b>	<b>12</b>	<b>26</b>	-1944	12	9	837	<b>1</b>	<b>5</b>	7	21:05	6:56	320	6:56	175	6:56	<b>59</b>
-1943	1	25	-1943	1	8	837	2	5	2	10:30	6:54	224	6:54	89	6:53	-6

DoW = day of week; ToD = time of day.

The new moon fell on I *3ht* 5, so the feast of Joy, if held on I *3ht* 9, fell on the *fifth* lunar day unlike the two previous examples in the reign of Sesostris III where the feast fell on the fourth lunar day. Table 12.15 shows that the lunar month beginning on IV *šmw* 11 on day six of the week and ending on I *3ht* 4 also on day six, comprised a month of 30 days, so there is no chance that the new moon could have fallen on I *3ht* 6—to give a feast on lunar day four—which would have given an impossible lunar month of 31 days. It seems possible then that the top line of pBerlin 10052 verso 9 (siglum 10052), which has suffered some damage, originally read the number eight, consistent with the feast date on the fourth lunar day as in the previous examples. If there was no mistake in the recording of the date for the feast then it appears that for some unknown reason the feast was held on the fifth lunar day in the reign of Amenemhet III, not the fourth as in the reign of Sesostris III. The difference of one day does not mean that the feast cannot be attributed to Amenemhet III's 24th year in 1945 BCE.

### Excursion of the Land Feast (hnt-nt-t3)

A fourth group of feasts is known as the Excursion of the Land. Four examples come from five texts, one of them being duplicated.

The first of these feasts comes from pBerlin 10009 recto II (17), (siglum 10009), in which payment for the delivery of the offering for the Land Excursion feast was dated to III *prr* 1 of Sesostris III's fifth year.<sup>30</sup> We have already noted Sesostris III's fifth year

<sup>28</sup> Ibid., 67.

<sup>29</sup> Ibid., 68, 205, facing p. 224. See also discussion concerning the *w3gy* feast on this same text, p. 50.

<sup>30</sup> Ibid., 47-49, 204.



in connection with the Clothing feast dated to II *3ht* 27 falling on the third lunar day.<sup>31</sup> Casperson provides the table (Table 12.16) for the year -1981 and the dates for the season of *pṛt*.

**Table 12.16: Sesostris III's fifth year -1981 (new moon listing from -1981)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1981	5	24	-1981	5	7	800	5	24	3	16:04	5:23	329	5:23	104	5:22	14
<b>-1981</b>	<b>6</b>	<b>22</b>	-1981	6	5	800	<b>6</b>	<b>23</b>	4	23:50	5:07	559	5:06	191	5:06	<b>68</b>
<b>-1981</b>	<b>7</b>	<b>22</b>	-1981	7	5	800	<b>7</b>	<b>23</b>	6	7:34	5:03	268	5:04	128	5:04	<b>20</b>
-1981	8	20	-1981	8	3	800	8	22	7	16:02	5:16	309	5:17	180	5:17	62

DoW = day of week; ToD = time of day.

The new moon in III *pṛt* fell on the 23rd day (7 23) so the Excursion feast on III *pṛt* 1 is dated from the previous new moon, which fell on II *pṛt* 23. There being 30 days to the lunar month, III *pṛt* 1 fell on the ninth lunar day.

A second Excursion of the Land feast fell in Sesostris III's 16th year, 1971 BCE by my chronology. This comes from pBerlin 10011 recto II (11)-(12), (siglum 10011).<sup>32</sup> It refers to a payment of the offering for the Excursion feast on III *pṛt* 2.<sup>33</sup> See Casperson's table below (Table 12.17).

**Table 12.17: Sesostris III's 16th year -1970 (new moon listing from -1970)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1970	5	22	-1970	5	5	811	5	25	1	19:06	5:25	248	5:24	123	5:23	42
<b>-1970</b>	<b>6</b>	<b>21</b>	-1970	6	4	811	<b>6</b>	<b>25</b>	3	8:37	5:07	198	5:07	<b>86</b>	5:06	-1
<b>-1970</b>	<b>7</b>	<b>20</b>	-1970	7	3	811	<b>7</b>	<b>24</b>	4	20:45	5:03	304	5:03	158	5:03	<b>48</b>
-1970	8	19	-1970	8	2	811	8	24	6	7:47	5:16	241	5:16	115	5:17	0

DoW = day of week; ToD = time of day.

The new moon fell on III *pṛt* 24 so III *pṛt* 2 dates from the previous new moon on II *šmw* 24. The month has 30 days so III *pṛt* 2 falls on the ninth lunar day. This is the same result as for the previous Excursion of the Land feast.

A third Excursion of the Land feast is found on two Illahun papyri dating to III *pṛt* 11 of Amenemhet III's 24th year, 1944 BCE by my chronology. One feast is found in an attendance list in pBerlin 10104 recto heading (siglum 10104),<sup>34</sup> and the other is an announcement of the feast found on pCairo JE 71583 recto (1) (siglum 71583).<sup>35</sup> Casperson gives the table for the year -1943 in Table 12.18.

**Table 12.18: Amenemhet III's 24th year -1943 (new moon listing from -1943)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1943	5	23	-1943	5	6	838	6	3	1	21:27	5:24	242	5:23	100	5:22	28
<b>-1943</b>	<b>6</b>	<b>22</b>	-1943	6	5	838	<b>7</b>	<b>3</b>	3	12:04	5:06	205	5:06	<b>100</b>	5:06	<b>26</b>
-1943	7	22	-1943	7	5	838	8	3	5	1:40	5:04	183	5:04	89	5:04	1

DoW = day of week; ToD = time of day.

<sup>31</sup> See Table 12.9, p. 183.

<sup>32</sup> Luft, *Fixierung*, 50-52, 204.

<sup>33</sup> *Ibid.*, 204.

<sup>34</sup> *Ibid.*, 93-95, 209.

<sup>35</sup> *Ibid.*, 137-38, 212, facing page 224.

The question here is whether the moon was visible or invisible on the day before conjunction given the figure 100 in the -1 column. The figure 100 represents the position on the horizon at which point the moon becomes visible or invisible to an observer.<sup>36</sup> Assuming from the previous examples that the Excursion of the Land feast fell on the ninth lunar day on III *prt* 11, then in this year, the new moon would have fallen nine days earlier on III *prt* 2, indicating that the 100 figure in the -1 column meant that the moon was invisible. If the moon had been visible that day, the feast date would have fallen on the 10th lunar day, which would be one day later than in the previous two examples. It seems then that the Excursion of the Land feast can be attributed to the 10th lunar day in -1943.

### Line of the Nile Mile Feast (šspt itrw)

The first of three Line of the Nile Mile feasts comes from pBerlin 10130 Bc recto heading (siglum 10130<sub>2</sub>) dated to IV 3*ht* 11 in the eighth year of Sesostrius III.<sup>37</sup> We noted his eighth year previously when discussing the Sand Moving and Clothing feasts dated to II 3*ht* 22 and 24, respectively, which fell on the first and third lunar days.<sup>38</sup> Casperson provides the table for -1978 below (Table 12.19).

**Table 12.19: Sesostris III's eighth year -1978 (new moon listing from -1978)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1978	2	21	-1978	2	4	803	2	23	6	5:07	6:39	150	6:38	36	6:38	-35
-1978	3	22	-1978	3	5	803	3	22	7	18:46	6:16	232	6:15	76	6:14	7
-1978	4	21	-1978	4	4	803	4	22	2	9:26	5:50	148	5:49	58	5:48	2
-1978	5	21	-1978	5	4	803	5	22	4	0:39	5:25	130	5:25	58	5:24	1

DoW = day of week; ToD = time of day.

The new moon fell on IV 3*ht* 21, so the feast on the 11th must date from the previous month when a new moon fell on III 3*ht* 21. This month has 30 days, which indicates that the Nile feast fell on the 21st lunar day (but see the comment in the next paragraph).

The second and third dates for this Line of the Nile Mile feast come from the 10th and 11th years of Amenemhet III. His 10th year is referred to in pBerlin 10079 recto heading (siglum 10079<sub>2</sub>) where the date is III 3*ht* 25,<sup>39</sup> and his 11th year in pBerlin 10344 (siglum 10344) where the date is IV 3*ht* 14.<sup>40</sup> Casperson's table for the years -1957 and -1956 is given below in Table 12.20.

**Table 12.20: Amenemhet III's 10th and 11th years -1957 and -1956 (new moon listing from -1956 and -1956)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1957	1	31	-1957	1	14	824	2	7	4	7:26	6:52	220	6:51	71	6:51	-19
-1957	3	1	-1957	2	12	824	3	6	5	16:41	6:33	380	6:32	114	6:32	22
-1957	3	31	-1957	3	14	824	4	6	7	0:32	6:08	175	6:07	63	6:06	-5

<sup>36</sup> Casperson writes, "A visibility number greater than one hundred means that if the weather was good the crescent of the moon should have been visible ... A number less than one hundred means that the moon should have been invisible, and a negative number means that the moon was still below the horizon at sunrise" ("The Lunar Dates of Thutmose III," *JNES* 45 [1986] 146).

<sup>37</sup> Luft. *Fixierung*, 99, 209.

<sup>38</sup> See Table 11.4 in chap. 11, p 174.

<sup>39</sup> Luft. *Fixierung*, 85-86, 208.

<sup>40</sup> *Ibid.*, 120-21, 212.

-1956	2	19	-1956	2	2	825	2	26	3	7:31	6:41	192	6:40	73	6:39	-1
<b>-1956</b>	<b>3</b>	<b>19</b>	-1956	3	2	825	<b>3</b>	<b>25</b>	4	17:16	6:18	338	6:17	127	6:16	<b>45</b>
<b>-1956</b>	<b>4</b>	<b>18</b>	-1956	4	1	825	<b>4</b>	<b>25</b>	6	0:56	5:52	195	5:51	<b>86</b>	5:50	<b>15</b>
-1956	5	17	-1956	4	30	825	5	24	7	7:31	5:28	274	5:27	126	5:26	41

DoW = day of week; ToD = time of day.

In -1957 the new moon fell on III *3ht* 6, so the Line of the Nile Mile feast on III *3ht* 25 fell on the 20th lunar day. In the next year, -1956, the new moon fell on IV *3ht* 24 so the Nile feast on IV *3ht* 14 dates from the previous new moon on III *3ht* 25. This lunar month has 29 days (III *3ht* 25 to IV *3ht* 24) indicating that the Line of the Nile Mile feast fell on the 19th lunar day. These are one day and two days earlier, respectively, than for the feast in the eighth year of Sesostri III. However, the Egyptians may have understood the day of conjunction to be the first day of the lunar month, whether due to bad weather or some other reason, in which case the Line of the Nile Mile feast in Sesostri III's eighth year may also have fallen on what was understood to be the 20th day of the lunar month in all three instances.

### Departure/Excursion Feast (*hnt*)

Another group of feasts called a Departure/Excursion feast (different from the Excursion of the Land feast) has just two examples.

The first comes from pBerlin 10165 (siglum 10165<sub>1</sub>) in Sesostri III's 12th year dated to IV *prt* with a possible day of either 28 or 27.<sup>41</sup> Casperson's table for the year -1974 is provided below (Table 12.21).

**Table 12.21: Sesostri III's 12th year -1974 (new moon listing from -1974)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1974	7	4	-1974	6	17	807	7	7	4	14:36	5:03	312	5:03	163	5:03	55
<b>-1974</b>	<b>8</b>	<b>3</b>	-1974	7	17	807	<b>8</b>	<b>7</b>	6	0:49	5:07	204	5:07	<b>90</b>	5:08	<b>-17</b>
-1974	9	1	-1974	8	15	807	9	6	7	13:60	5:25	251	5:26	140	5:26	34

DoW = day of week; ToD = time of day.

The new moon fell on IV *prt* 6 so IV *prt* 27 or 28 will fall on the 22nd or 23rd lunar day. The second date is from pBerlin 10218 (siglum 10218) and the feast date is I *šmw* 16 in Amenemhet III's eighth year.<sup>42</sup> Casperson's table for -1959 is provided below (Table 12.22).

**Table 12.22: Amenemhet III's eighth year -1959 (new moon listing from -1959)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1959	8	17	-1959	7	31	822	8	25	4	6:59	5:15	202	5:15	110	5:16	18
<b>-1959</b>	<b>9</b>	<b>15</b>	-1959	8	29	822	<b>9</b>	<b>24</b>	5	23:57	5:37	272	5:38	176	5:38	<b>78</b>
-1959	10	15	-1959	9	28	822	10	24	7	16:19	6:04	248	6:05	148	6:06	44

DoW = day of week; ToD = time of day.

The new moon fell on I *šmw* 24, so the date of I *šmw* 16 dates from the previous new moon on IV *3ht* 25. IV *3ht* is a 29-day lunar month; therefore, the date of the feast fell on lunar day 22. This suggests that the previous Departure/Excursion feast date in Sesostri III's 12th year also fell on lunar day 22; thus, the feast date was IV *prt* 27, not 28.

<sup>41</sup> Ibid., 101-03, 210.

<sup>42</sup> Ibid., 107-09, 210-11, facing p. 224.

### An Unnamed Feast

The Illahun papyrus, pBerlin 10103 recto III (6) (siglum 10103; known as Document B) dates to Amenemhet III's 29th year, and refers to a lunar day nine.<sup>43</sup> Krauss writes, "In a letter dated I Shemu 15, an official complains that a LD9 [Lunar Day 9] had occurred, without the delivery of a bull for an offering which had been due. Luft argued that the non-delivery should have prompted an immediate reaction, 'so that in view of the small distances between the offices the 9th lunar day in all probability coincided with I Shemu 15,' i.e. LD 1 would fall on I Shemu 7."<sup>44</sup> We check this latter date with Caspersen's table below for the year -1938 (Table 12.23).

**Table 12.23: Amenemhet III's 29th year -1938 (new moon listing from -1938)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1938	7	26	-1938	7	9	843	8	8	1	6:03	5:04	250	5:05	128	5:05	16
<b>-1938</b>	<b>8</b>	<b>24</b>	-1938	8	7	843	<b>9</b>	<b>7</b>	2	16:39	5:19	285	5:20	167	5:21	<b>54</b>
-1938	9	23	-1938	9	6	843	10	7	4	6:11	5:44	215	5:44	107	5:45	0

DoW = day of week; ToD = time of day.

The new moon fell on I *šmw* 7. Therefore, nine days later, the date would be I *šmw* 15 when the letter was written, thus concurring with Luft's assumption that the non-delivery of the bull provoked an immediate reaction. It was due on the ninth, presumably the feast day, and had not arrived!

### Summary

The analysis of the feasts according to their groups led to their establishment of the following lunar days.

The beginning of each phyle's period of service began on the new moon day and finished on the following new moon day (not the second lunar day as Luft proposed). The Sand Moving feast fell on the first lunar day, followed two days later by the Clothing feast on the third lunar day. The feast of Joy fell on the fourth lunar day; the Excursion of the Land feast fell on the 10th lunar day; the Line of the Nile Mile feast fell on the 20th lunar day; and the Departure/Excursion feast fell on the 22nd lunar day. The feasts were predetermined to fall on specific days in a lunar month dated to the civil calendar. We would expect the same practice to be followed with the last group of feasts, the so-called *w3gy* feasts, discussed in our next chapter.

The *w3gy* feasts have received concentrated attention from scholars and are treated here with the rigor appropriate to their importance in discussions of the Illahun papyri and the dating of the reigns of Sesostri III and Amenemhet III.

The inscriptional data in the Illahun materials offer numerous dates that can be checked and corroborated by lunar phases. The confirmation of multiple and connected chronological evidence shown in the detail of this chapter affords a high level of confidence in the accuracy for the dates of the reigns of Sesostri III and Amenemhet III and provides a secure anchor for dating the rest of the 12th Dynasty, which we come to later.

<sup>43</sup> Ibid., 90-93, 208-09.

<sup>44</sup> Krauss, "Lunar Dates," 425.

## Chapter 13

### Studying Sesostris III and Illahun - The W3gy Feast

Scholars recognize two types of *w3gy* feasts: the fixed, held on I *3ht* 18; and the moveable, with varying dates in the civil calendar. I alluded to the *w3gy* feasts earlier in chapter 4 when discussing feasts that Gardiner thought were from two civil calendars. Parker thought the moveable *w3gy* feasts could be explained as a transfer from a lunar to a civil calendar. Spalinger explained: “W3gy was originally located in the lunar calendar on day 18 of the *second* (lunar) month ... it was moved to day 18 of the *first* civil month. Here, the parallelism with those seven civil months is overt”<sup>1</sup> (emphasis his).

The *w3gy* feast is not associated with an eponymous month, or the problem of feasts held out of their eponymous months, but is part of the discussion of feasts featured in the Illahun papyri. *W3gy* feasts had both fixed and moveable dates.<sup>2</sup> In this they were unique. The fixed *w3gy* feast dates occur on the 17th or 18th day of the first month of the civil calendar. The moveable *w3gy* feast falls on the 17th or 18th day of a lunar month dated to the civil calendar coming some months after the heliacal rising of Sothis. Determining when the movable *w3gy* feast fell after the rising of Sothis has important implications for dating Neferefre’s reign in the 5th Dynasty (chapter 14). Before entering that discussion, I comment briefly on some examples of fixed *w3gy* dates, confirming their date on I *3ht* 18.

#### Fixed W3gy Feasts

The best example of a fixed *w3gy* feast comes from pBerlin 10282 recto 3rd headline (siglum 10282<sub>1</sub>) where I *3ht* 18 is noted as the feast of Joy followed by mention of the *w3gy* feast. It seems that the *w3gy* feast is also dated to I *3ht* 18.<sup>3</sup> Luft dates this text to the sixth year of Sesostris III.<sup>4</sup> Confirmation that the feast of Joy and the *w3gy* feast were held on the same day comes from Casperson’s table for Sesostris III’s sixth year. This is shown in Table 11.3 in chapter 11 for the years –1981 and –1980. The new moon falls on I *3ht* 15, indicating that the feast of Joy fell on the fourth lunar day as in the previous examples. The feast of Joy coincided with the date for the *w3gy* feast. The *w3gy* feast cannot be the moveable one on the 17th lunar day, so must be the fixed *w3gy* feast on I *3ht* 18. It falls on 18 January 1981 BCE.

<sup>1</sup> A.J. Spalinger, “Notes on the Ancient Egyptian Calendars,” *Orientalia* 64 (1995) 23; see also, idem, “Thoth and the Calendars,” *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994) 49-52.

<sup>2</sup> These terms, used in academic dialogue, are very unhelpful for understanding how they applied. The fixed feast was fixed to a date in the civil calendar (*I 3ht 18*), a calendar that we know moved forward through the Sothic cycle one day every four years. The movable feast was “movable” in relation to dates of the civil calendar, but as we shall see, was fixed to a certain period (October) in the agricultural year.

<sup>3</sup> Luft, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992) 114-18 esp. 117, 210-11; idem, “The Date of the W3gy Feast: Considerations on the Chronology of the Old Kingdom,” *Revolutions in Time*, 39.

<sup>4</sup> *Ibid.*, 210-11; facing page 224.

A second example of a fixed *w3gy* feast is cited by Luft from pBerlin 10007 recto 23, dated to I *3ht*, but it lacks the day date, and falls in year two of an unnamed king.<sup>5</sup> Luft applied the papyrus to Amenemhet III.<sup>6</sup> Year two appears in line 22 with the date of I *3ht* 1, followed by the notation “offerings of the new year.” In line 23 there is no date, but the notation begins with a damaged “*w3gy* feast.”<sup>7</sup> One assumes that this is the fixed *w3gy* feast with the date of I *3ht* 18, the date given in the first example above, and that I *3ht* 18 applies to the second *w3gy* feast date in Amenemhet III’s second year in 1965 BCE.

Luft’s third example of a fixed *w3gy* feast date comes from pBerlin 10052 verso 11.<sup>8</sup> He assigns this to Year 24 of Amenemhet III’s reign. I discussed this papyrus fragment earlier and assigned it to the year 1945 BCE.<sup>9</sup> The relevant part is cited below in Table 13.1.

**Table 13.1: Data from Papyrus Berlin 10052 Verso**

Line	Year	Date
(9)	24	I <i>3ht</i> 9
(10)		17
(11)		18
(12)		20, day [
(13)		22 day of the [

Line nine refers to Year 24 followed by the reconstructed date of I *3ht* 9 assigned to the feast of Joy which fell on the fourth lunar day.<sup>10</sup> Under the day-dates for I *3ht*, line 10 has a number 17, line 11 a number 18, line 12 a number 20, and line 13 a number 22. The last two entries can be understood as a feast day, “day” being legible. The day 18 in line 11 is interpreted to refer to I *3ht* 18 and, therefore, a *w3gy* feast.

Other citations to the fixed *w3gy* feast are found in the Medinet Habu festival calendar. List 24 (line 646) reads “First month of inundation, 17th day; day of the eve of the *W3g* festival; offering for Amon-Re,” etc.<sup>11</sup> This is followed in List 25 (line 667) with “First month of inundation, 1[8]th day; day of the *w3g* festival, offerings for Amon-Re,” etc.<sup>12</sup> There appears to be a connection between lunar day 17 on which the moveable *w3gy* feast was held in the 12th Dynasty and the eve of the *w3gy* fixed feast on I *3ht* 17, followed by the fixed *w3gy* feast on I *3ht* 18 in the civil calendar in the 19th Dynasty (time of Ramesses II) based on the evidence of the Medinet Habu festival calendar. It seems that the examples of the feast of *w3gy* falling on lunar day 17 in the 12th Dynasty refers to the eve of the *w3gy* feast and the feast on the 18th being the main day of the feast. This could explain why the *w3gy* feast is dated to the 18th lunar day and not the 17th in pBerlin 10165<sub>2</sub>.

Spalinger refers to the fixed *w3gy* feast as a sombre occasion “connected with the ingrained mortuary rituals of pharaonic Egypt ... We see it as early as the Fourth Dynasty in the brief private feast lists that every tomb owner eventually felt it necessary

<sup>5</sup> Idem, “Date of the *W3gy* Feast,” 39.

<sup>6</sup> Idem, *Fixierung*, 152.

<sup>7</sup> Ibid., 44-47.

<sup>8</sup> Ibid., 67-68, 150f., idem, “Date of the *W3gy* Feast,” 39.

<sup>9</sup> See Table 12.15; chap. 12, p. 186.

<sup>10</sup> See chap. 12, p.185.

<sup>11</sup> S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies, Liverpool University Press, 2000) 88.

<sup>12</sup> Ibid., 89. According to Clagett the date is the 19th but should be the 18th (M. Clagett, *Ancient Egyptian Science, Vol. 2: Calendars, Clocks, and Astronomy* [Philadelphia: American Philosophical Society, 1995] 272).

to inscribe in his funerary monument ... in historical times, there were actually two separate Waggy feasts, one set according to the cycle of the moon and a later one firmly placed at day eighteen of the first civil month.”<sup>13</sup> The moveable w3gy kept the feast at approximately the same time in each solar/agricultural year whereas the fixed w3gy held on I 3<sup>ht</sup> 18 would move away from the fourth month of the inundation (3<sup>ht</sup>) due to the civil calendar not keeping in step with the seasons and the heliacal rising of Sothis.

While the fixed w3gy feasts are straightforward, the moveable w3gy feasts are not.

### Movable W3gy Feasts

Luft discussed five moveable w3gy feast dates in *Fixierung*.<sup>14</sup> Two years later, in 1994, he sought to demonstrate that the five w3gy feasts fell on the 18th lunar day and not the 13th as previously assumed by Richard Parker.<sup>15</sup> Luft noted, though, that the distance between the new moon and the w3gy feast amounts to 17 days. Then he says, “The calculations occurred with the omission of one day. Hence, the moveable w3gy is identical to the 18th day of a lunar month.” He continues: “The result explains the date of the fixed w3gy as I 3<sup>ht</sup> 18.”<sup>16</sup>

Spalinger followed Luft’s attribution of the fixed w3gy on I 3<sup>ht</sup> 18.<sup>17</sup> Krauss, on the other hand, viewed Luft’s w3gy dates as being one day late because Luft added a day to his calculations to bring the date into line with the *fixed* w3gy date. Krauss understands that the w3gy feast fell on the 17th lunar day.<sup>18</sup>

Luft also asked the question in 1994, “In which lunar month after the New Year was the moveable w3gy located?”<sup>19</sup> Or, to put it another way, how did the ancient Egyptians know when to celebrate a w3gy feast? Lunar months had to be attached to some recognizable lunar phase dated to the civil calendar. Luft proposed that in the Middle Kingdom w3gy feasts were celebrated exclusively in “the second lunar month after the heliacal rising of Sothis.”<sup>20</sup> Luft’s proposal has been followed by Krauss.<sup>21</sup>

It must be remembered that Luft and Krauss based their calculations for the Illahun dates on the assumption that there was only one civil calendar used in ancient Egypt. For this reason they gave incorrect dates to the Sothic rising on IV *prr* 16 in Sesostri III’s seventh year. It was demonstrated in the previous chapter that Luft’s dates for the Illahun feasts were always one day later in the month than those given by Caspersen’s tables because the new moon day falls one day earlier in Luft’s incorrectly

<sup>13</sup> A.J. Spalinger, “Festival Calendars,” *The Ancient Gods Speak* (ed. D.B. Redford; Oxford University Press, 2002) 126.

<sup>14</sup> U. Luft, *Die chronologische Fixierung des ägyptischen Mittleren Reiches nach dem Tempelarchiv von Illahun* (Veröffentlichungen der Ägyptischen Kommission, 2; Wien: Verlag der Österreichische Akademie der Wissenschaften, 1992) 150-51, 204-5, 210, 212, 221-22.

<sup>15</sup> U. Luft, “The Date of the W3gy Feast: Considerations on the Chronology of the Old Kingdom,” *Revolutions in Time*, 39-41.

<sup>16</sup> *Ibid.*, 41.

<sup>17</sup> A.J. Spalinger, “A Chronological Analysis of the Feast of *thy*,” *SAK* 20 (1993) 291; *idem*, “Thoth and the Calendars,” *Revolutions in Time*, 49 (in 1994); *idem*, “From Esna to Ebers: An Attempt at Calendrical Archaeology,” *Studies in Honor of William Kelly Simpson*, Vol 2 (Boston: Museum of Fine Arts, 1996) 756; U. Luft, “Remarks of a Philologist on Egyptian Chronology,” *Ä und L* 3 (1992) 111.

<sup>18</sup> R. Krauss, “Fällt im Illahun-Archiv der 15. Mondmonatstag auf den 16. Mondmonatstag?” *GM* 138 (1994) 87-88; *idem*, “Wenn und Aber: Das Wag-Fest und die Chronologie des Alten Reiches,” *GM* 162 (1998).

<sup>19</sup> Luft. “Date of the W3gy Feast,” 41.

<sup>20</sup> *Ibid.*, 41.

<sup>21</sup> R. Krauss, “Arguments in Favor of a Low Chronology for the Middle and New Kingdom in Egypt,” *SCIEM II* (2003) 187.

derived dates. The dates that Luft gives to the *w3gy* feasts in the reigns of Sesostri III and Amenemhet III also suffer from the same misconception.

Leaving aside the incorrect dates that Luft and Krauss proposed for Sesostri III and Amenemhet III, we need to determine on what day the moveable *w3gy* dates fell in the lunar month. Even more importantly, we need to ascertain in which civil month after the heliacal rising of Sothis the *w3gy* feast was celebrated, because that will give us information necessary for determining when a Sothic cycle started in the reign of Neferefre (Raneferef) of the 5th Dynasty.

**Moveable W3gy Feasts from Illahun**

The first example of a moveable *w3gy* feast comes from pBerlin 10165 recto (siglum 10165<sub>2</sub>), dating a *w3gy* feast to II *šmw* 22.<sup>22</sup> The regnal year is missing, but Luft’s calculations from this date and one in the 18th year of Sesostri III (pBerlin 10016), plus the paleography of the script, led him to place the *w3gy* feast in the 12th year of the reign of Sesostri III.<sup>23</sup> Casperson’s table is given below (in Table 13.2) for the 12th year (–1974 in my chronology).

**Table 13.2: Sesostri III’s 12th year –1974 (new moon listing from –1974)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1974	7	4	-1974	6	17	807	7	7	4	14:36	5:03	312	5:03	163	5:03	55
-1974	8	3	-1974	7	17	807	8	7	6	0:49	5:07	204	5:07	90	5:08	-17
-1974	9	1	-1974	8	15	807	9	6	7	13:60	5:25	251	5:26	140	5:26	34
II <i>šmw</i> 22 falls in the third lunar month, after the rising of Sothis on 15 July																
-1974	10	1	-1974	9	14	807	10	6	2	6:10	5:51	201	5:51	98	5:52	-2
-1974	10	31	-1974	10	14	807	11	6	4	0:43	6:18	169	6:19	69	6:20	-28

DoW = day of week; ToD = time of day.

The new moon fell on II *šmw* 5 (day before 10 6), so II *šmw* 22 is the 18th lunar day, (same as for the fixed *w3gy* feast).

According to the HELIAC Program, Sothis rose heliacally on 15 or 16 July at an altitude of 3 degrees in 1975 BCE. However, throughout the reigns of Sesostri III and Amenemhet III, the HELIAC Program also gives the date of 14 July when it gives three optional dates, and only 15 and 16 July when it gives two options. We will recall from chapter 11 that in Sesostri III’s seventh year the rising of Sothis on IV *pṛt* 16 fell on 14 July, since I *šmw* 1 equated with 29 July in Casperson’s lunar table (Table 11.2).<sup>24</sup> It may be that the correct date is 14 July for the heliacal rising in Sesostri III’s 12th and subsequent years. In deference to the HELIAC program, I use 15 July for the Sothic risings associated with the *w3gy* dates.

In the calendar of Lower Egypt by which lunar dates were reckoned, 15 July equates to III *pṛt* 18. II *šmw* 22 equates to 17 October, which fell at the beginning of the fourth solar/agricultural month after the heliacal rising on 15 July, which was, therefore, in the agricultural *season* of *3ḥt* (inundation). II *šmw* 22 does *not* fall in the second lunar month after the heliacal rising of Sothis in mid-July as Luft proposed.

<sup>22</sup> Luft, *Fixierung*, 101-03, 210; cited by Krauss, “Arguments,” 176. L. Depuydt discusses pBerlin 10165, giving a hieroglyphic transcription of the text. He notes that the text says that civil day 19 equates to *smdt* or lunar day 15, followed in the next row by civil day 22 equated to the lunar day of *w3gy*. The word *šmw* is only partly preserved. He notes that Luft read the month as II *šmw* and Krauss as III *šmw*. (“Sothic Chronology and the Old Kingdom,” *JARCE* 37 [2000] 177).

<sup>23</sup> Luft, “Date of the W3gy Feast,” 39-40.

<sup>24</sup> See ch. 11, p. 173.



The second example of a *w3gy* feast date comes from pBerlin 10016 recto (1), (siglum 10016; known as Document G). The *w3gy* feast is dated to II *šmw* 17 of Sesostri III's 18th year.<sup>25</sup>

Krauss writes,

“Lunar date 3 is contained in pBerlin 10016, a letter written in 18 [Sesostri III], in which the scribe of the temple orders an offering animal for the (moveable) Wagi festival on II Shemu 17. After the date II Shemu 17, the scribe added: *2-nw n mddj-nt*. Luft understands this to mean ‘on the second of full moon’, whereas I render it as ‘on the second (day) of lunar day 15’ and understand it as a reference to lunar day 17. On the latter premise, the corresponding lunar day would be II Shemu 1.”<sup>26</sup>

Commenting on this, Leo Depuydt points out that pBerlin 10016 gives the explicit statement in line 1 that, “the *w3gy* feast will occur in Year 18, II *šmw* 17.”<sup>27</sup> Following this, at the beginning of line two, are the words *snnw n smdt*, which he says Luft and Krauss both translate as, “‘two days after *smdt*.’ But according to Luft, the reading of *snnw* [two days] is doubtful.”<sup>28</sup> Depuydt discusses the meaning of the word *smdt*, which is usually understood to refer to the 15th lunar day, which he also understands it to be.<sup>29</sup> He points out that Luft “even goes as far as proposing to transcribe the word [*smdt*] as *md-dj-nt* ‘15(10 + 5)th’.”<sup>30</sup> The new moon date in II *šmw* can be determined from Casperson's table for Sesostri III's 18th year in –1968 given below in Table 13.3. Then I consult the *full* moon table to determine what is meant by “*2-nw n mddj-nt*.”

**Table 13.3: Sesostri III's 18th year –1968 (new moon listing from –1968)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1968	6	28	-1968	6	11	813	7	3	6	3:10	5:04	150	5:04	48	5:04	-32
<b>-1968</b>	<b>7</b>	<b>27</b>	-1968	7	10	813	8	2	7	19:05	5:05	254	5:05	129	5:05	33
-1968	8	26	-1968	8	9	813	9	2	2	11:41	5:21	220	5:21	114	5:22	18
<b>-1968</b>	<b>9</b>	<b>25</b>	-1968	9	8	813	<b>10</b>	<b>2</b>	4	4:12	5:46	194	5:47	<b>92</b>	5:47	<b>-8</b>
-1968	10	24	-1968	10	7	813	11	1	5	19:38	6:12	271	6:13	165	6:14	61

DoW = day of week; ToD = time of day.

The new moon fell on II *šmw* 1, therefore, the *w3gy* feast date of II *šmw* 17 fell on the 17th lunar day counting inclusively. This would normally be two days after full moon. Casperson's *full* moon table is given below (Table 13.4) to help clarify what is meant by the expression “*2-nw n mddj-nt*.”

<sup>25</sup> Luft, *Fixierung*, 58-59, 204-05; idem, “Date of the *W3gy* Feast,” 39-40; R. Krauss, “Lunar Dates,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 424.

<sup>26</sup> Krauss, “Arguments,” 176; see also, idem, “Fällt im Illahun-Archiv,” 87-88; idem, “Lunar Dates,” 425.

<sup>27</sup> Depuydt, “Sothic Chronology,” 178.

<sup>28</sup> Ibid., 178.

<sup>29</sup> Ibid., 178-79.

<sup>30</sup> Ibid., 178, giving a reference to *Fixierung*, 163.

**Table 13.4: Full moon listing for Sesostri III's 18th year –1968 (full moon listing from –1968)**

Illahun; Lat. 29.2, Long. 31.0.												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–1968	9	9	–1968	8	23	813	9	16	2	16:52	5:33	18:33
<b>–1968</b>	<b>10</b>	<b>9</b>	–1968	9	22	813	<b>10</b>	<b>16</b>	4	5:11	6:00	17:00
–1968	11	7	–1968	10	21	813	11	15	5	20:05	6:26	17:26

DoW = day of week.

The full moon fell on II *šmw* 16, which is the 16th lunar day counting from the new moon on II *šmw* 1 as shown above. The *w3gy* date of II *šmw* 17 fell two days after the 15th lunar day on II *šmw* 15, not the full moon on II *šmw* 16. Thus if the “2 days” (*ssnw*) is the correct number, 2-*nw n mddj-nt* appears to mean “two days after the 15th lunar day.” My conclusion is that the moveable *w3gy* feast fell on the 17th lunar day, which in this instance equates to II *šmw* 17. This day equates to 9 October in 1969 BCE. It is dated from the *third new moon* after the Sothic rising on 15 or 16 July provided by the HELIAC Program. II *šmw* 17/October 9 fell in the latter half of the third month of the *season* of *3ht*, when flood waters would have been receding.

A third exemplar, designated as pCairo CG 58065 recto (3) (siglum 58065), dates the *w3gy* feast to II *šmw* 29. This applies to Amenemhet III's ninth year.<sup>31</sup> Casperson provides the table for the year –1958 below (Table 13.5).

**Table 13.5: Amenemhet III's ninth year –1958 (new moon listing from –1958)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–1958	7	7	–1958	6	20	823	7	14	6	15:50	5:03	259	5:03	149	5:03	62
–1958	8	6	–1958	7	20	823	8	14	1	6:56	5:08	205	5:09	111	5:09	20
–1958	9	5	–1958	8	19	823	9	14	3	0:32	5:28	172	5:29	78	5:30	–17
<b>–1958</b>	<b>10</b>	<b>4</b>	–1958	9	17	823	<b>10</b>	<b>13</b>	4	19:31	5:53	243	5:54	148	5:55	<b>53</b>
–1958	11	3	–1958	10	17	823	11	13	6	14:01	6:21	227	6:22	128	6:23	28

DoW = day of week; ToD = time of day.

The new moon fell on II *šmw* 13, therefore II *šmw* 29 when the *w3gy* feast occurred on the 17th lunar day. The *w3gy* feast is again dated from the third new moon after the rising of Sothis on 15 July. II *šmw* 29 equates to 20 October in –1958, which falls at the beginning of the fourth month in the *season* of *3ht*, when the flood waters were reaching their lowest level.

This date, and the second *w3gy* date above, indicate that the *w3gy* feast was held on the 17th lunar day, which suggests that it also applies to the first date (pBerlin 101652) although there it falls on the 18th day. In this case, the day of conjunction might have been reckoned as the first day of the lunar month on II *šmw* 6, rather than II *šmw* 5, or it might be that the 17th refers to the eve of the *w3gy* feast and the 18th to the next day, the main day of celebration.

A fourth example derives from two other *w3gy* feasts, but without day-dates, also found on Illahun papyri. One is pBerlin 10007 recto 19 of a year one of an unnamed king, in II *šmw*.<sup>32</sup> Luft applies this date to the first year of Amenemhet III.<sup>33</sup> Casperson supplies Table 13.6 for the year –1966.

<sup>31</sup> Luft, *Fixierung*, 135–36, 212; idem, “Date of the *W3gy* Feast,” 39–41; Krauss, “Arguments,” 176; idem, “Lunar Dates,” 425.

<sup>32</sup> Ibid., 44–46; idem, “Date of the *W3gy* Feast,” 44–47.

<sup>33</sup> Idem, *Fixierung*, 152.

**Table 13.6: Amenemhet III's first year –1966 (new moon listing from –1966)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1966	7	6	-1966	6	19	815	7	11	2	1:17	5:03	179	5:03	55	5:03	-35
-1966	8	4	-1966	7	18	815	8	10	3	13:58	5:08	255	5:08	126	5:08	26
-1966	9	3	-1966	8	17	815	9	10	5	5:56	5:26	196	5:27	96	5:28	2
-1966	10	3	-1966	9	16	815	10	10	7	0:31	5:52	168	5:53	75	5:54	-19
-1966	11	1	-1966	10	15	815	11	9	1	20:09	6:19	244	6:20	152	6:21	59

DoW = day of week; ToD = time of day.

The new moon fell on II *šmw* 9, and assuming that the *w3gy* feast fell on the 17th lunar day, the feast date is II *šmw* 25, which equates to October 19. Again the feast is dated from the third new moon after the rising of Sothis and takes place in the first half of the fourth *seasonal* month of *3ḥt*.

As a fifth example, the second moveable *w3gy* feast date without a day number comes from pBerlin 10419a recto II (4) of a Year 38 dated to III *šmw*. This date applies to Amenemhet III.<sup>34</sup> Caspersen gives Table 13.7 for the year –1929.

**Table 13.7: Amenemhet III's 38th year –1929 (new moon listing from –1929)**

Illahun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1929	7	17	-1929	6	30	852	8	1	3	5:37	5:03	256	5:03	95	5:03	-15
-1929	8	15	-1929	7	29	852	8	30	4	15:01	5:13	306	5:14	156	5:14	39
-1929	9	14	-1929	8	28	852	9	30	6	3:09	5:36	209	5:36	97	5:37	-10
-1929	10	13	-1929	9	26	852	10	29	7	18:13	6:02	262	6:03	157	6:03	54
-1929	11	12	-1929	10	26	852	11	29	2	11:47	6:29	221	6:29	125	6:30	29
-1929	12	12	-1929	11	25	852	12	29	4	6:50	6:50	195	6:51	105	6:51	16

DoW = day of week; ToD = time of day.

The new moon fell on III *šmw* 29 (11 29). Therefore, the *w3gy* feast dated to a day in III *šmw* must have been counted from the preceding new moon that fell on II *šmw* 29. II *šmw* has 30 days to the month so 17 days later the feast would have fallen on III *šmw* 16, which equates to 30 October. According to the HELIAC program, Sothis rose on 15 or 16 July at 3 degrees altitude in 1930. This *w3gy* feast dates from the *fourth* new moon after the rising of Sothis. However, the first new moon on IV *pṛt* 1 (8 1) comes only three days after the Sothic rising on 15 July, and the *w3gy* date still falls within the month of October; that is, within the first half of the fourth *seasonal* month of *3ḥt*. If the feast had been dated from the third new moon, it would have fallen on II *šmw* 16 equated with 29 September, which would mean that it fell at the end of the *second* seasonal month and not in the third; that is, in the month equated with October—as do all the others. This was perhaps too early in the season for the feast so the later date was preferred in anticipation of sowing and planting.<sup>35</sup>

These last two Illahun dates without the day number are provided to show what the *w3gy* date would have been, assuming that the feasts were celebrated on the 17th lunar day as in the other examples noted above.<sup>36</sup>

<sup>34</sup> Ibid., 134-35, idem, "Date of the W3gy Feast," 40.

<sup>35</sup> For the context of inundation and sowing/planting in October in the early 12th Dynasty, see A.J. Spalinger, "Calendrical Evidence and Hekanakhte," ZÄS 123 (1996) 90-93 and n. 26 for basic studies cited. Note, however, that Spalinger uses the Gregorian calendar, which is dated approximately two weeks later than the Julian calendar used above.

<sup>36</sup> For Luft's calculations see *Fixierung*, 152.

### Summary of Moveable W3gy Feasts

To summarize the results obtained from the preceding discussion of the moveable *w3gy* feasts, I conclude the following. The *w3gy* feast fell on the 17th day of the lunar month, which may have been the eve of the celebration, with the 18th day (as in one example) the main day of the feast. The *w3gy* feast fell in the month of October, in the third lunar month after the rising of Sothis on 15 July.

The first moveable *w3gy* feast date, from pBerlin 10165<sub>2</sub> from Sesostri III's 12th year, fell on II *šmw* 22, which equates to 17 October in 1975 BCE. The second *w3gy* feast date, from pBerlin 10016 from Sesostri III's 18th year, fell on II *šmw* 17, which equates to 9 October in 1969 BCE. The third *w3gy* feast date (from CG 58065) from Amenemhet III's ninth year, fell on II *šmw* 29, which equates to 20 October in 1959 BCE. The reconstructed *w3gy* feast date, from pBerlin 10007 from Amenemhet III's first year, fell on II *šmw* 26, which equates to 19 October in 1967 BCE. The second reconstructed *w3gy* feast date, from pBerlin 10419a from Amenemhet III's 38th year, fell on III *šmw* 15, which equates to 30 October in 1930 BCE.

The earliest of these dates is 9 October and the latest is 30 October, all within the space of one Julian calendar month. The month of October coincides with the second half of the third month and the first half of the fourth *seasonal* month of *3ḥt* (inundation). The feasts were all timed to fall in the third or fourth *seasonal* month of *3ḥt* regardless of their designation in the civil calendar. The feasts were tied to the agricultural/solar calendar commencing with the rising of Sothis each year.

In relation to the *civil calendar*, the moveable *w3gy* feasts would move through the Sothic cycle, occurring later and later in the civil calendar until arriving back at the beginning of the Sothic cycle. At the time of Sesostri III and Amenemhet III they had moved to the months of II and III *šmw*.

The date of a movable *w3gy* feast in the reign of Neferefre (Raneferef) secures a date in the 5th Dynasty. This results in exciting implications for Egyptian chronology.

## Chapter 14

### Securing Neferefre's W3gy Feast Date

#### Neferefre's W3gy Date

As noted in the previous chapter, *w3gy* dates are always associated with a Sothic rising date and a new moon date. There is another *w3gy* date from Abusir (near Memphis) inscribed in the tomb of a king known as Neferefre (or Raneferef) who is the fifth king of the 5th Dynasty. The new moon date associated with the *w3gy* date can pinpoint the year of the feast once the appropriate time period has been ascertained, and this can be done with the aid of the Sothic rising with which the *w3gy* date is associated.

The special significance of the *w3gy* feast in Neferefre's reign is that it appears to provide the earliest *secure* date for the Egyptian chronology. From this date it becomes possible to work backward and forward using the Turin Canon and other sources to gain dates for the other kings of the early dynasties.

The length of Neferefre's reign must also be ascertained. The king's name is now lost from the Turin Canon, although it can be positioned with the help of the associated fragmentary text. The upper tip of a vertical stroke that has a space between it and the year sign is read by some scholars as the stroke for year one.<sup>1</sup>

#### Neferefre's Premature Death

A short reign for Neferefre is inferred because the construction of Neferefre's pyramid at Abusir was cut short with only the lowest level partially completed,<sup>2</sup> suggesting that Neferefre died prematurely. The building was hastily converted to a square-shaped mastaba (a flat-roofed tomb) and Neferefre's mummy in his red granite sarcophagus was installed in its funerary apartments.<sup>3</sup>

After the king's demise, a mortuary temple was erected in front of the eastern side of the pyramid by Niuserre, Neferefre's successor. Papyri, recording the temple's archives of Neferefre's successors, mostly those of the late 5th Dynasty: Niuserre, Menkauhor, Djedkara, and Unas; and from the early 6th Dynasty: Teti and Pepi I, were found there. Clay sealings from their reigns were stored in its many rooms. Possibly in the 6th Dynasty, robbers ransacked the archive and the papyri were thrown about and trampled underfoot only to be covered by layers of dust and debris, which saved them from utter destruction in the ensuing 4500 years.<sup>4</sup>

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<sup>1</sup> A.H. Gardiner, *The Royal Canon of Turin* (Oxford: Griffith Institute, 1959) pl. II, col. III, line 21; J. Malek, "The Original Version of the Royal Canon of Turin," *JEA* 68 (1982) 95, col. 6, line 3.

<sup>2</sup> For a description of Neferefre's pyramid and mortuary temple see M. Verner, *The Pyramids: The Mystery, Culture, and Science of Egypt's Great Monuments* (tr. Steve Rendall; New York: Grove Press, 2001) 301-10; A. Winston, "The Pyramid of Neferefre (Raneferer) at Abusir," at <http://www.touregypt.net/featurestories/neferefrep.htm>.

<sup>3</sup> "Czech Egyptologists Open Shaft Tomb" at <http://archive.archaeology.org/online/news/egypt2.html>; online news May 27, 1998, of the Archeological Institute of America.

<sup>4</sup> P. Posener-Kriéger, M. Verner and H. Vymazalová, *Abusir X: The Pyramid Complex of Raneferef: The Papyrus Archive* (Prague: Czech Institute of Egyptology, Charles University, 2006) 20-23.

In 1982, a Czech expedition from the Prague Egyptological Institute, led by Miroslav Verner, excavated the Abusir site, one of the main cemeteries for ancient Memphis. In the pyramid's substructure, Verner noted that a year one had been inscribed by a mason. It was found "on a large corner block situated at the end of the tunnel for the [pyramid's] descending corridor ... at about two thirds of the height of the extant core of the monument."<sup>5</sup> Pauline Posener-Kriéger, who later was largely responsible for the cleaning, conserving, and translation of papyri found in Neferefre's tomb, stated that the inscription indicated a reign no longer than one or two years.<sup>6</sup> Anthony Spalinger, however, noted that both the cult of Neferefre's mortuary temple and sun temple were in operation and stated, "I would think that a reign of at least a few years is more probable as the traces in the Turin Canon (verso III 21) seem to indicate a reign greater than one year."<sup>7</sup>

However, Verner reports two recently discovered inscriptions from Neferefre's unfinished pyramid, "on a big block of fine white limestone discovered *in situ* as part of the northern wall of the pit for the burial chamber." The first (no. 7) on the east side of the block refers to the "Year of the first occasion of the count," and the second (no. 8) also written in black paint and on the south side, refers to "Year of the first occasion (of the count), 4th month of the inundation, day 1+x."<sup>8</sup> Although there was no king's name, Verner attributes these two counts to Neferefre.<sup>9</sup> Since census counts are generally understood to begin in a king's *second* year, his "first count" refers to his second regnal year. It is possible that Neferefre can be attributed at least two years, and perhaps more.

Analysis from tiny remains of Neferefre's mummy wrappings and bones found in the mortuary temple ruins indicate that Neferefre died at the age of about 20–23 years indicating a *short reign* for the king.<sup>10</sup> This fact is significant because the moveable *w3gy* date is determined by a *new moon date* in the Egyptian civil calendar that always equates to October in the Julian calendar. Therefore, there are only a limited number of years to which the *w3gy* date in the reign of Neferefre can apply.

The Czech expedition found over 2000 papyri fragments in Neferefre's unfinished mortuary temple, many concerning daily services, festivals, inventories of furnishings, registers of accounts, and activities undertaken after the king's burial.<sup>11</sup> Of these, three were later found to refer to Neferefre's *w3gy* date.

### Neferefre's *W3gy* Date

After Posener-Kriéger first published the *w3gy* dates in 1982, followed by a lexicon article in 1986,<sup>12</sup> there has been ongoing interest by scholars, particularly in the hope that the *w3gy* date might lead to an absolute date. Ulrich Luft attempted to date the

<sup>5</sup> M. Verner, "Archaeological Remarks on the 4th and 5th Dynasty Chronology," *Archiv Orientalní* 69 (2001) 400, cited in "Neferefre," at <http://en.wikipedia.org/wiki/Neferefre>.

<sup>6</sup> Posener-Kriéger et al., *Abusir X*, 325.

<sup>7</sup> A.J. Spalinger, "Dated Texts of the Old Kingdom," *SAK* 21 (1994) 298 n. 60.

<sup>8</sup> Posener-Kriéger et al., *Abusir X*, 319.

<sup>9</sup> *Ibid.*, 332.

<sup>10</sup> Verner, *The Pyramids*, 305-6.

<sup>11</sup> "Dynastic Periods: Old Kingdom: Neferefre," at <http://www.aldokkan.com/egypt/neferere.htm>, 1.

<sup>12</sup> P. Posener-Kriéger, "Remarques préliminaires," *Ägypten: Dauer und Wandel. Symposium anlässlich des 75jährigen Bestehens des Deutschen Archäologischen Instituts, Kairo am 10. und 11. Oktober 1982*, (Mainz: von Zabern, 1985) 35-43; *idem*, "Wag-Fest" in *Lexikon der Ägyptologie* (eds. W. Helck and W. Westendorf; Wiesbaden: Harrassowitz, 1986) Vol. 6, 1135-39. Posener-Kriéger died in 1996.

Abusir archive in a 1994 article.<sup>13</sup> Krauss interacted with Luft's article in 1998,<sup>14</sup> and Depuydt discussed more extensively the w3gy feast dates in 2000.<sup>15</sup> The edition of Neferefre's archive, published jointly by Posener-Kriéger (posthumously), Verner, and Vymazalová in 2006, designates the w3gy fragments as 11E and 12A.<sup>16</sup> More recently (2008), Hana Vymazalová updated some aspects of the texts and I use these as the basis for discussion.<sup>17</sup>

Vymazalová refers to three texts (11A, 11E, and 12A) but only two dates. The badly damaged fragment 12A, formerly known as Document III by Posener-Kriéger, is one of the largest of its kind, consisting of approximately 15 partial lines. Vymazalová supplies a drawing.<sup>18</sup> The beginning of the scroll has not survived but a partial heading is present at the top right of the first line. It reads, "Month I of the 3 $\dot{h}t$  season, day 26: the scribe of the treasury, Tjeneni and the inspector of the custodians of the property, Khenty."<sup>19</sup>

The day is not clear but day 26 is most probable because of the traces of ink and the positioning of the strokes for the number.<sup>20</sup> Luft thought the reading in Document III (12A) could allow for more than one month-stroke, and opted for a date in III 3 $\dot{h}t$  the same as for the w3gy feast in Document IV. However, Depuydt points out that Luft did not have access to the text, and that Posener-Kriéger, who did, unambiguously read I 3 $\dot{h}t$ .<sup>21</sup> I 3 $\dot{h}t$  has been affirmed by Vymazalová.<sup>22</sup>

The fragment records "the distribution of linen to the phyles of the funerary temple."<sup>23</sup> Vymazalová goes on to note that the association with the feasts of  $\underline{d}hwtyt$  and w3g is not clear. The way the two festivals (unnamed) are written out seem to suggest that they were held at the same time. The attribution of the festivals to  $\underline{d}hwtyt$  and w3g seems to be predicated on their association with a partly preserved heading in large semi-hieratic signs on the right side of the fragment designated as 11A. It reads, "... after the w3g-festival ..."<sup>24</sup> Vymazalová understands this to refer to an annual temple transaction in which temple attendants received quantities of linen that were recorded in an account table.<sup>25</sup> Thus the linen distribution of 12A is tied to the w3gy feast of 11A. If so, the date of I 3 $\dot{h}t$  26 refers to the distribution of linen after a w3gy festival. But which w3gy festival?

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<sup>13</sup> Luft, "Date of the W3gy Feast: Considerations on the Chronology of the Old Kingdom," *Revolutions in Time: Studies in Ancient Egyptian Calendrics* (ed. A.J. Spalinger; San Antonio, TX: Van Siclen, 1994), 39-42.

<sup>14</sup> R. Krauss, "Wenn und Aber: Das Wag-Fest und die Chronologie des Alten Reiches," *GM* 162 (1998) 53-58.

<sup>15</sup> L. Depuydt, "Sothic Chronology and the Old Kingdom," *JARCE* 37 (2000) 172-80.

<sup>16</sup> Posener-Kriéger et al., *Abusir X*, 222-24, 402-3.

<sup>17</sup> H. Vymazalová, "Some Remarks on the w3g-festival in the Papyrus Archive of Raneferef," *Chronology and Archaeology in Ancient Egypt (The Third Millennium B.C.)*, (eds. H. Vymazalová and M. Bárta; Prague: Czech Institute of Egyptology, Charles University, 2008) 137-43.

<sup>18</sup> *Ibid.*, 139.

<sup>19</sup> *Ibid.*

<sup>20</sup> *Ibid.*, 139-40.

<sup>21</sup> Depuydt, "Sothic Chronology," 174; citing Krauss, "Wenn und Aber," *GM* 162 (1988) 54.

<sup>22</sup> Vymazalová, "Some Remarks," 141.

<sup>23</sup> *Ibid.*, 140.

<sup>24</sup> *Ibid.*

<sup>25</sup> *Ibid.*

Posener-Kriéger at first associated this with the fixed *w3gy* feast, which always fell on I *3ht* 17/18, but then she considered that a date of I *3ht* 26 was too far removed.<sup>26</sup> Since there are only two *w3gy* festivals in any given year (the fixed and the moveable) the date of I *3ht* 26—if it does refer to the *w3gy* feast—must refer back to the *fixed w3gy* feast on the 18th since the second date refers to the moveable *w3gy*.

The second fragment, 11E, is the one of most interest. Vymazalová gives a drawing of this small fragment.<sup>27</sup> At the upper edge a date is written of which the month and day are preserved but not the season. The papyrus is completely broken away at this point. It reads “IIIrd month [...] day 28.” Underneath the date is the sign of the *w3gy* festival.<sup>28</sup> The *season* that the *w3gy* date referred to is important in determining when the *w3gy* festival took place in the reign of Neferefre. It can only be III *3ht* 28, III *pṛt* 28, or III *šmw* 28. This date is not a fixed *w3gy* date falling on the 17th/18th day of I *3ht*, so it must be a *moveable w3gy* date.

As determined previously, the moveable *w3gy* feast in the 12th Dynasty fell on the 17th day (or the 18th if the 17th referred to the eve of the *w3gy* feast) after the date of a *new moon* in the *civil* calendar. If we apply the date of III *3ht* 28 to the *w3gy* festival we need to look for a new moon on III *3ht* 11 or 12.<sup>29</sup>

### Third New Moon after the Rising of Sothis

This date implies a *w3gy* feast *early* in the Sothic cycle since the new moon for a *w3gy* festival is the *third* new moon after the rising of Sothis, so Sothis would have risen heliacally either at the end of IV *šmw* or at the beginning of I *3ht* in a month that equated to July in the Julian calendar. The III *3ht* 28 date would have to fall on some day in the second half of the third seasonal month or the first half of the fourth seasonal month, which equates to October in the Julian calendar.

The question arises, when did the new moon of III *3ht* 11 or 12 fall near to the *beginning of a Sothic cycle at Memphis* in the 5th Dynasty? I have already identified the commencement of a Sothic cycle that was inaugurated at Memphis in 1314 (see chapter 10, page 163ff.). The previous Sothic cycle would have begun somewhat less than 1460 years before, approximately 1456 years, indicating a Sothic cycle starting ca. 2770 BCE. Thus Neferefre’s reign would have fallen sometime before or after this date. The new moon on III *3ht* 11 falls only in one year in any 25-year lunar cycle. In this period of history, III *3ht* 11 fell in dates ending in years 75, 50, 25, 00, which is the 25 cycle-year. The closest date to 2700 is 2775; that is, five years *before* the earliest date for the Sothic rising, right at the end of a Sothic cycle. See Casperson’s table here (Table 14.1).

**Table 14.1: New moon dates in –2774**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2774	6	29	-2774	6	6	6	12	17	7	1916	5:05	256	5:04	147	5:04	65
-2774	<b>7</b>	<b>29</b>	-2774	7	6	7	1	12	2	10:42	5:02	218	5:02	118	5:02	26
-2774	8	28	-2774	8	5	7	2	12	4	1:36	5:16	188	5:17	84	5:18	-20
-2774	<b>9</b>	<b>26</b>	-2774	9	3	7	<b>3</b>	<b>11</b>	5	15:23	5:41	263	5:42	153	5:42	<b>41</b>
-2774	10	26	-2774	10	3	7	4	11	7	3:49	6:09	224	6:10	103	6:11	-17

DoW = day of week; ToD = time of day.

<sup>26</sup> Depuydt, “Sothic Chronology,” 174; Vymazalová, “Some Remarks,” 140.

<sup>27</sup> Vymazalová, “Some Remarks,” 141.

<sup>28</sup> *Ibid.*, 140-41.

<sup>29</sup> Luft cites III *3ht* 11 (“Date of the W3gy Feast,” 42); Krauss, “Wenn und Aber,” 54.



In 2775, the date of III 3 $\dot{h}t$  11 corresponds to *September 26* in -2774 (2775 BCE). According to our previous analysis the *w3gy* date always corresponded to a day in *October*; thus, this date is not applicable. Looking at the next closest date, 2750, in Casperson's table below (Table 14.2), the line for -2749 9 20 (2750 BCE) also has a new moon date on III 3 $\dot{h}t$  11.<sup>30</sup>

**Table 14.2: New moon dates in -2749**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2749	6	24	-2749	6	1	31	12	18	5	0:14	5:07	145	5:06	37	5:06	-46
<b>-2749</b>	<b>7</b>	<b>23</b>	-2749	6	30	32	<b>1</b>	<b>12</b>	6	10:54	5:01	258	5:01	108	5:01	2
-2749	8	21	-2749	7	29	32	2	11	7	21:08	5:12	355	5:12	190	5:13	66
<b>-2749</b>	<b>9</b>	<b>20</b>	-2749	8	28	32	<b>3</b>	<b>11</b>	2	7:30	5:35	256	5:36	129	5:37	<b>8</b>
-2749	10	19	-2749	9	26	32	4	10	3	18:14	6:02	312	6:03	185	6:04	63

DoW = day of week; ToD = time of day.

Eighteen days later, the *w3gy* feast would have been held on III 3 $\dot{h}t$  28. This date equates to 7 October, so it falls in the third lunar month after the rising of Sothis on 11 July 11; thus, being in the appropriate month. Neferefre's new moon date fell in -2749 on III 3 $\dot{h}t$  11.

The date of 2750 BCE meets the criteria for a *w3gy* feast in Neferefre's reign. A date 25 years later is not applicable because in the year 2725 the new moon fell on III 3 $\dot{h}t$  10; therefore, not an exact date. The relevant lines are shown below in Table 14.3.

**Table 14.3: New moon dates in -2724**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2724	8	14	-2724	7	22	57	2	11	4	11:58	5:08	290	5:09	163	5:09	48
-2724	9	12	-2724	8	20	57	<b>3</b>	<b>10</b>	5	21:34	5:29	329	5:30	208	5:31	<b>88</b>
-2724	10	12	-2724	9	19	57	4	10	7	9:05	5:56	253	5:57	135	5:58	18
-2724	11	10	-2724	10	18	57	5	9	1	22:56	6:24	299	6:25	187	6:26	76

DoW = day of week; ToD = time of day.

A date of III 3 $\dot{h}t$  11 would have fallen on the *second* lunar day and there are no instances of a record of a new moon falling after conjunction in the records studied. This exercise, surveying three 25-year periods, confirms that the date of 2750 BCE meets the criteria for a *w3gy* feast in Neferefre's reign. A new moon on III 3 $\dot{h}t$  11 in 2750 BCE with a *w3gy* festival 18 days later on III 3 $\dot{h}t$  28 meets the criteria of fragment 11E, indicating that the season of 3 $\dot{h}t$  was originally written into the date.

The date of 2750 BCE for Neferefre's *w3gy* date, possibly the king's first or second regnal year, can be further confirmed by the chronology for the succeeding kings—some of whom have lunar dates recorded in specific years of the kings' reigns. Neferefre's successor, Niuserre, has a new moon date. The eighth king of the 5th Dynasty, Djedkare Isesi, also has a new moon date, and following him, Unas, the last king of the 5th Dynasty has two new moon dates.

In the 6th Dynasty, its third king, Pepi I, has a full moon date, and its fifth king, Pepi II, has both a new moon and a full moon date. In the following 8th Dynasty (the 7th not belonging to this line of kings) the penultimate king, whose name will be established, has a full moon date. Supplied with this number of lunar dates, and paying attention to regnal years in king-lists, we are able to determine the number of years and dates for the

<sup>30</sup> Casperson's tables show only new moon dates on III 3 $\dot{h}t$  11 not III 3 $\dot{h}t$  12, so III 3 $\dot{h}t$  12 can be eliminated from consideration.

reigns of the kings following Neferefre to the end of the 8th Dynasty, which the following chapters detail.

## Chapter 15

### Working with Egyptian King-lists

Before formulating a chronology of Egyptian kings, we need to understand problems associated with the counting of kings' regnal years in the Old Kingdom. An introduction to how kings were named, as given in a titulary, is also necessary.

#### Counting Regnal Years

Regnal years were originally identified by special events that occurred in them, rather than by number.<sup>1</sup> This is illustrated by the Palermo Stone, the largest of the surviving fragments of the Royal Annals, which mentions particular events in each year's compartments. For example, the words *rnpt sm3 t3wy* mean "The Union of the Two Lands" referring to a king's accession year; that is, the part of the civil year the king reigns after the death of his predecessor, and before the new calendar year begins. Another example is the king's *sed*-festival referred to in the sixth compartment of register 3 recto, coming from the reign of Den, generally understood to refer to a king's 30th regnal year.

Some reigns shown on the Royal Annals have alternating years exhibiting the signs for the "following of Horus." This event is understood to be the king's travel through his land with his officials, meeting the people, assessing the political and economic climate, and recording a census count probably for the purpose of taxation. The "following of Horus" is accompanied with a census count when both are represented in the same year in the Annals.

The census or cattle count began in a king's second year and took place every second year of his reign. The words *rnpt zp* refer to the year of a census count, and *rnpt m-ht sp* refer to the year after such a count.<sup>2</sup> These are demonstrated in the reigns of Ninetjer in register four recto (2nd Dynasty), and in the reign of Khasekhemwy in register five recto of the Palermo Stone (late 2nd Dynasty).

The nature of the census count is not always stated but appears to have been of gold and fields in the earlier dynasties and cattle counts by the 5th Dynasty. The latter is specifically mentioned in the reign of Userkaf, first king of the 5th Dynasty on the verso

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<sup>1</sup> A.H. Gardiner, "Regnal Years and Civil Calendar in Pharaonic Egypt," *JEA* 31 (1945) 12; The Editors, "Methods of Dating and the Egyptian Calendar," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 45; J. Kahl, "Dynasties 0-2," *AEC* (2006) 99-100.

<sup>2</sup> See Gardiner, "Regnal Years," 11-23; A.J. Spalinger, "Dated Texts of the Old Kingdom," *SAK* 21 (1994) 225-319; J.S. Nolan, "The Original Lunar Calendar and Cattle Counts in Old Kingdom Egypt," *Aegyptiaca Helvetica* 17 (2003) 75-97; idem, "Lunar Intercalations and 'cattle counts' during the Old Kingdom: the Hebsed in Context," *Chronology and Archaeology in Ancient Egypt (The Third Millennium B.C.)*, (eds. H. Vymazalová and M. Bárta; Prague: Czech Institute of Egyptology, 2008) 44-60; P. Posener-Kriéger, M. Verner, and H. Vymazalová, *Abusir X: The Pyramid Complex of Raneferef*, (Prague: Czech Institute of Egyptology, 2006) 327; M. Verner, "Dynasties 4 to 5," *AEC* (2006), 124-43; idem, "The System of Dating in the Old Kingdom," *Chronology and Archaeology*, 23-43; M. Baud, "Dynasties 6 and 8," *AEC* (2006), 144-58.

of fragment C1 of the Royal Annals (register 2), referring to the year after the first occasion of *the cattle count* in Userkaf's third year.

However, three preserved compartments for the reign of Sneferu in register six recto (5th Dynasty) refer to census counts on two *consecutive* years, prompting scholars to speculate whether census counts were in fact biennial, or perhaps annual, or merely that unforeseen contingencies interrupted a routine biennial process, and these adjacent compartments were compensating for a delayed count on the previous year and then returning to the usual procedure. The views of scholars diverge on this question, which will be considered as the Annals are reconstructed in the following chapters.

Census counts appear in various contexts, such as in papyri, the South Saqqara Stone, and in masons' marks on bricks.

### Kings' Titularies

The ancient kings of Egypt were often known by up to five names—the latter two being those with which Egyptologists are more familiar. An inscription giving their names is called a titulary. Since some of these different names are used in discussing the king-lists, an explanation is provided here.<sup>3</sup>

A full titulary consisted of a king's five names. The first is his *Horus* name usually written in a box-like structure representing the façade of a palace, called a *serekh*, above which sits a Horus falcon, signifying that the king is the reincarnation of the god Horus. The second is his *nebt* name indicating he is protected by "Two Ladies;" that is, the goddess Nekhbet (a vulture) in Upper Egypt, and the goddess Wadjet (a cobra) of Lower Egypt. The third is the king's *golden Horus* name, which reflects a divine aspect of his individuality. The fourth is his *prenomen* or throne name enclosed in a cartouche, preceded by the *nswt-bity* signs: the sedge plant (Upper Egypt) and the bee (Lower Egypt), indicating that he is king of Upper and Lower Egypt. The king took this name when he ascended the throne and it is the name by which Egyptians referred to their king. *Re* (the sun-god) is often included in the title. The fifth is his *nomen*, also in a cartouche, preceded by the sign of the *sa-re* title, indicating he is the son of Re and his heir on earth. This is his birth name by which Egyptologists know him today. Since kings often took on the birth names of their predecessors, Roman numerals are added to distinguish one king from another, such as Ramesses I and II.

An example of a full titulary is that of Sesostris I of the 12th Dynasty: "Horus, 'Life-of-births', Two Ladies 'Life-of-births', Horus of gold 'Life-of-births', King of Upper and Lower Egypt 'Kheperkare', Son of Re 'Sesostris', (may he be) granted life, stability, and wealth like Re eternally."

The kings of the pre- and early Dynastic period were usually known by their Horus names when alive, and by their *nebt* name when deceased. The Turin Canon and Abydos King-list (AbKL) give the *nebt* names of the kings, not their Horus names.<sup>4</sup> Anedjib, sixth king of the 1st Dynasty, is the first king known to have held a *nswt-bity* name ("King of Upper and Lower Egypt"): Merpabia. The throne name, encircled by a cartouche resembling an oval or magical rope, is not known until the reign of Sneferu of the 4th Dynasty.<sup>5</sup>

Since each king was understood by the Egyptians to be a combination of the divine and mortal, a tradition of royal ancestor worship developed where "the current ruler made obeisance to his predecessors," which was "the reason for the creation of the

<sup>3</sup> Collated from I. Shaw, *The Oxford History of Ancient Egypt* (Oxford: Oxford University Press, 2000) 8-9; "Pharaoh," <http://en.wikipedia.org/wiki/Pharaoh>

<sup>4</sup> "Menes," <http://en.wikipedia.org/wiki/Menes>

<sup>5</sup> Shaw, *Oxford History*, 9.

so-called king-lists ... recorded on the walls of tombs and temples,... papyri,... or remote desert rock carvings.”<sup>6</sup>

We now review ancient king-lists that may be helpful in reconstructing the chronology of ancient Egypt.

### **Royal Annals or Old Kingdom Annals**

The earliest existing record of Egyptian rulers is called the Royal or Old Kingdom Annals.<sup>7</sup> Only seven fragments survive. The largest one, known since 1866, is currently in the Palermo Archaeological Museum, Sicily, Italy, from whence it gets its name: the Palermo Stone. Smaller pieces discovered in 1910 are known as the Cairo fragments C1–C4. The largest, C1, is similar in size to the Palermo Stone. They are in the Egyptian Museum in Cairo. Another piece, purchased in 1963, is in the Petrie Museum in London, known as the London Fragment. The provenance of the annals is not known, although the C4 fragment was discovered at Memphis. The annals were once inscribed on a basalt stela assumed to have been originally about 210 (or 220) cm long, 61 cm high, and 6.5 cm thick. However, differences in thickness suggests that they do not all derive from the same original, and some may be much later copies. The artistic style is suggestive of the 25th Dynasty.<sup>8</sup>

Inscribed on both sides in early hieroglyphic writing, the annals began with rows of mythological rulers covering thousands of years and predate Menes, the first king named on the Turin Canon, understood to be the unifier of Upper and Lower Egypt, and first ruler of the 1st Dynasty.

It is not clear whether Menes was once represented on the annals, but the first preserved king on the Palermo Stone is his assumed successor, Aha. Contemporaneous records cite a king called Narmer, not Menes, as the predecessor of Aha, giving the impression that Menes and Narmer are the same.<sup>9</sup> Some say that Aha is Menes because Aha's *nebt* name is Min (*mn*), understood as Menes.<sup>10</sup>

Kings are named and their reigns displayed in chronological order from Aha down to Neferirkare Kakai of the 5th Dynasty, at which section the annals break off. The annals are arranged in rows or registers so that each year is in a compartment divided by vertical lines in the shape of a palm-rib curving at the top to the left, which is the hieroglyphic sign *renpet* meaning “year.”<sup>11</sup> The existing compartments within each register have a uniform size (except for register six of which one of only three compartments is larger than the other two). Each register has compartments that are narrower or wider than those of other registers, so the number in each register varies according to the width of the individual compartments. Each compartment represents one year.<sup>12</sup> I have reconstructed the Royal Annals in Figure 15.1 on page 210.

<sup>6</sup> Ibid., 9.

<sup>7</sup> Description mainly compiled from: T.A.H. Wilkinson, *Royal Annals of Ancient Egypt: the Palermo Stone and its Associated Fragments* (Routledge, London: 2000) 18-65; also: I. Shaw, “Introduction: Chronologies and Cultural Change in Egypt,” *Oxford History*, 4-5; The Editors, “Royal Annals,” *AEC* (2006), 19-20; “Palermo Stone,” [http://en.wikipedia.org/wiki/Palermo\\_stone](http://en.wikipedia.org/wiki/Palermo_stone); A. Winston, “The Palermo Stone,” <http://www.touregypt.net/featuresstories/palermo.htm>; J.S. Nolan, “Original Lunar Calendar,” 75-82; Spalinger, “Dated Texts,” 275-83; S-W. Hsu, “The Palermo Stone: The Earliest Royal Inscription from Ancient Egypt,” *Altorientalische Forschungen* 37 (2010) 68-89.

<sup>8</sup> Wilkinson, *Royal Annals*, 23.

<sup>9</sup> Kahl, “Dynasties 0-2,” 97.

<sup>10</sup> “Menes,” <http://en.wikipedia.org/wiki/Menes>

<sup>11</sup> Register 1 with mythological rulers has straight dividing lines.

<sup>12</sup> There is one known exception: that of Aha's last partial year followed by Djer's first partial year—the two compartments comprising just one year. This is discussed in chap. 19, pp. 268-269.



Figure 15.1: My reconstruction of the Royal Annals. The nine registers on the left are the recto side, with the verso side to the right. Closer views of the Annals appear in chapters 18–21.

Large gaps between the extant fragments of the annals have resulted in the absence of many compartments; the presence of which would have enabled the precise numbering of a king's regnal years.

In the first six registers on the recto, each king's titulary was written in the horizontal space (titulary band) between the registers, as shown on the Palermo Stone (see Figure 15.2) and the C1 fragment. The preserved titularies cover about seven compartments centred above each king's regnal years, and it is assumed that the lost titularies were of much the same length. However, the compartments on the verso of the Palermo Stone and C1 fragments are very much larger than those on the recto, and in these the titulary was written within and along the top of the king's first compartment. Some scholars think that this may also have been the position of the titularies on the seventh to ninth registers on the recto (reigns of Khufu to Menkaure of the 4th Dynasty) but since very little of the registers is preserved, the position of the titularies remains debateable.

Each compartment from register two recto onward contains inscriptions designating one or more important events for that year. In the larger compartments of the verso, the descriptions become very comprehensive. Included is information on cult ceremonies, offerings, taxation, sculpture, buildings, warfare, and the like.<sup>13</sup>

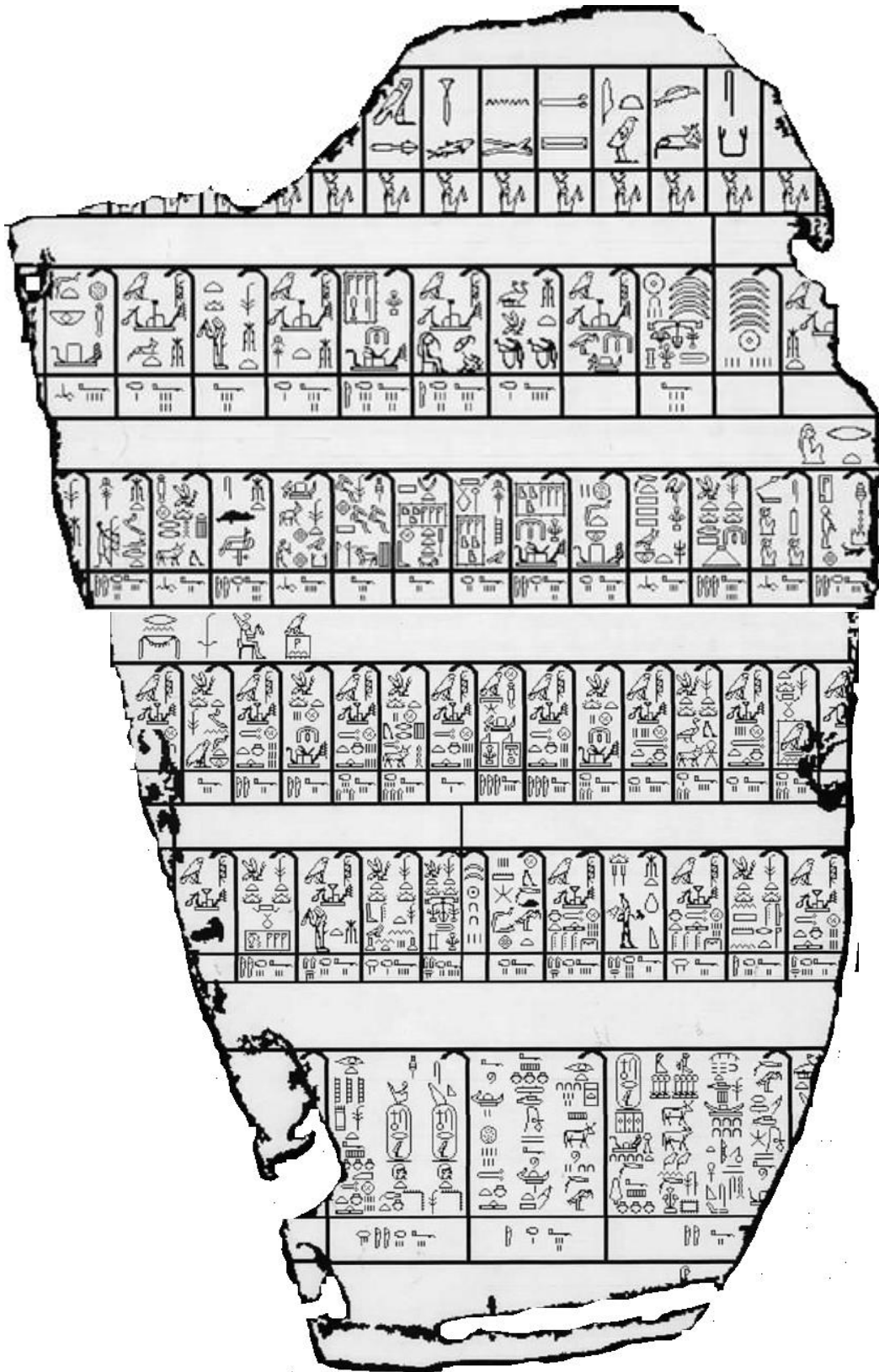


**Figure 15.2:** The Palermo Stone, by permission of The Museum photographic archive Archeologico Regionale “Antonio Salinas” in Palermo.

<sup>13</sup> D.B. Redford, *Pharaonic King-Lists Annals, and Day-books: A contribution to the Study of the Egyptian Sense of History*, (SSEA 4; Mississauga, ON: Benben, 1986) 87.



The third feature of each register is the height of the Nile flood. This is written under each compartment except for the first register of the recto where it is missing (see Figure 15.3).



**Figure 15.3:** Michael St John's representation of the Palermo Stone from his *The Palermo Stone: An Arithmetical View*. London: University Bookshop Publications, 1990.



Toby Wilkinson, whose account of the annals was published in 2000, summarized the attempts of scholars over the previous century to reproduce the Royal Annals giving the appropriate number of compartments for each ruler.<sup>14</sup> He writes: “It seems highly unlikely that a definitive, or even plausible reconstruction of the annals will ever be possible, infuriating as that may be. Nevertheless, there are certain elements of a reconstruction about which we may be relatively confident.”<sup>15</sup> Further on he states: “It is highly unlikely that the annals were ever intended as an objective historical record, and it is naïve to use them in this way. Where the annals do come into their own is as a source for early Egyptian élite culture.”<sup>16</sup>

However, with the help of the king-lists and the Turin Canon in particular, plus Wilkinson’s own commentary on the fragments, I have attempted a chronological reconstruction of the annals giving what I believe are the number of appropriate compartments, using the data at my disposal.<sup>17</sup> This composition is reproduced in Figure 18.3 on pages 258–259, with higher definition excerpts throughout chapters 19–21. I shall be interacting extensively with the Royal Annals and the Turin Canon when I seek to date the kings of the 1st–5th Dynasties (prior to Neferefre). So I leave further discussion until then.

### The South Saqqara Stone

The South Saqqara Stone (see Figure 15.4) is one of the earliest inscriptions to survive to the present. In 1932–1933, archaeologist G. Jequier discovered a basalt slab in the westernmost of five storerooms south of the pyramid of Queen Iput II within the pyramid complex of Pepi II of the 6th Dynasty. The stone measures 243 cm by 92 cm and is 6 cm thick. It is inscribed on both sides, much of which is illegible, especially the central lines on the verso because the inscription was erased before being used as a sarcophagus lid of one of Pepi II’s wives, either Ankhesenpepi I or Ankhesenpepi IV.<sup>18</sup> It reads from right to left. With the help of modern photographic equipment, Michel Baud and Vassili Dobrev, French Egyptologists, were able to make out many of the words and published the annals in 1995.<sup>19</sup> The South Saqqara Stone is housed in the Egyptian Museum in Cairo and registered as JE 65908.<sup>20</sup>

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<sup>14</sup> Wilkinson, *Royal Annals*, 28–60.

<sup>15</sup> *Ibid.*, 77.

<sup>16</sup> *Ibid.*, 80.

<sup>17</sup> The Editors of *AEC* (2006) have written a short chapter (“Royal Annals,” 19–25) mostly taken from Wilkinson’s *Royal Annals*.

<sup>18</sup> M. Baud and V. Dobrev, “De nouvelles annals de l’Ancien Empire égyptien. Une ‘Pierre de Palerme’ pour la Vie dynastie,” *BIFAO* 95 (1995) 23–63. F. Raffaele translated and summarized their description of “South Saqqara Stone” at Wikipedia; M. Baud. “Dynasties 6 and 8,” 144; Posener-Kriéger et al., *Abusir X*, 330–31; J. Dunn writing as A. Winston, “The Pyramids of Pepi II’s Queens at South Saqqara,” <http://www.touregypt.net/featurestories/pepi2squeensp.htm>

<sup>19</sup> Baud and Dobrev, “De nouvelles annals,” 23–63.

<sup>20</sup> Posener-Kriéger et al., *Abusir X*, 330.

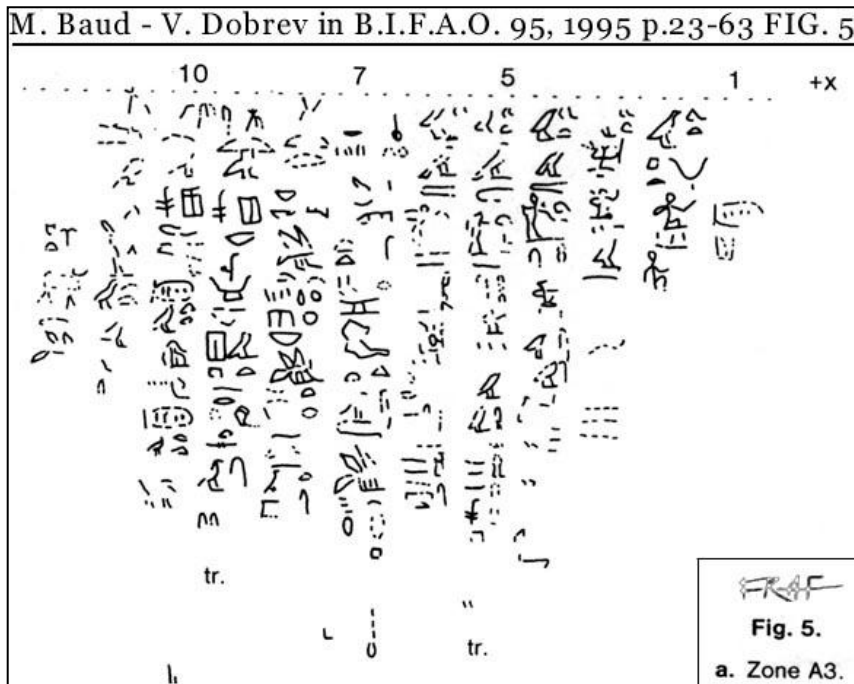


Figure 15.4: The South Saqqara Stone.

The South Saqqara Stone begins with a column on the right of the recto (above), which contained the titulary of a king, probably Pepi II, of which only the initial Horus sign of his name is preserved. To the left of the middle of the slab in this same row are the names of King Userkare and further left the titles of Meryra Pepi (Pepi I) and the name of Pepi's mother, Iput.

The registers below, which record the events of each year, have no horizontal or vertical dividing lines, but six rows can be recognized because of traces seen of memorial formulas (*mnw*). Referring to the reign of Pepi I, Baud writes:

The twelve surviving formulae (M3-M14) are spaced at rather regular intervals ( $\times 2$  or  $\times 3$  where one, or perhaps two formulae are lacking), which supports an estimate of the original number up to 25. Since both "occasion" and "after-occasion" years are known for the reign, obviously each *mnw*-formula was associated with a pair of years, a census year and a post-census year, presumably a regular biennial system.<sup>21</sup>

Baud goes on to say that it is not certain "that a single heading systematically covered two years."<sup>22</sup> The year blocks give an estimation of the length of the kings' reigns according to the number of blocks originally allocated for each. The six rows on the recto refer to these kings: Teti, with an estimated 12 years; Userkare, with 2–4 years; Pepi I, with 49–50 years; and Merenra (Nemtiemsaf) I, with 11–13 years. The verso begins with the second part of Merenra's reign and the first part of Pepi II's reign, although there is room for a longer inscription. The engraving is presumed to date from Pepi II's reign, which explains why his successor, Merenre Nemtiemsaf II, the last king of the 6th Dynasty, is not mentioned.

<sup>21</sup> Baud, "Dynasties 6 and 8," 147.

<sup>22</sup> *Ibid.*, 147.

### The Turin Canon

The Turin Canon, also known as the Turin Royal Canon or Turin King-list, was a papyrus apparently discovered in a tomb<sup>23</sup> by Italian collector and diplomat, Bernardino Drovetti ca. 1823–1824, and acquired by the Egyptian Museum in Turin—hence its name. It was designated papyrus no. 1874. The papyrus deteriorated rapidly with handling, so that now an estimated 50% of the original papyrus remains, reduced to about 300 fragments. The papyrus as now constituted is 170 cm long and 41 cm high. The Turin Canon is written in hieratic on the back of a tax roll dating to the reign of Ramesses II, and listed ancient Egyptian rulers, including gods and demigods, spirit kings, and human kings. Part of the Turin Canon is shown below in Figure 15.5.

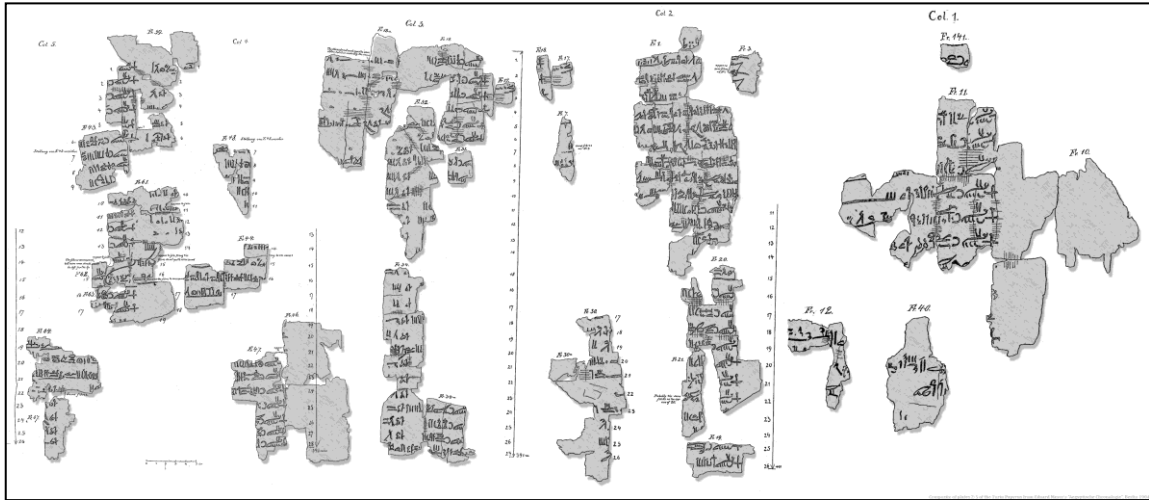


Figure 15.5: A portion of the Turin Canon.

In 1825, the French Egyptologist, Jean-François Champollion, attempted to reconstruct the Turin Canon, followed later that year by the German–American Egyptologist, Gustav Seyffarth, and later still by Munich Egyptologist, Jens Peter Lauth.<sup>24</sup> Publications by Farina, Gardiner, and Malek followed.<sup>25</sup> Malek points out that the Turin Canon papyrus that we now possess is not the original, evidenced by the layout of the columns. The original, for example, had shorter columns.<sup>26</sup> Redford discusses the Turin Canon in his description of king-lists.<sup>27</sup>

Of special importance is the recent work done by K. Ryholt in his examination of fragments of the Turin Canon in which he matched the directions of fibres resulting in some new alignments of text. He discovered another column so that what was previously column two is now column three. In the discussion below, Ryholt’s new numbering is used. After examining the fibres, Ryholt published a new interpretation in 1997 particularly of the kings of the Second Intermediate Period.<sup>28</sup> An article in 2000

<sup>23</sup> K. Ryholt, “The Turin King-List,” *Ä und L* 14 (2004) 135.

<sup>24</sup> “Turin King List,” [http://en.wikipedia.org/wiki/Turin\\_King\\_List](http://en.wikipedia.org/wiki/Turin_King_List).

<sup>25</sup> G. Farina, *Il papiro dei re restaurato* (Rome: Bardi, 1938); A.H. Gardiner, *The Royal Canon of Turin* (Oxford: Griffith Institute, 1959); J. Malek, “The Original Version of the Royal Canon of Turin,” *JEA* 68 (1982) 93-106.

<sup>26</sup> Malek, “Original Version,” 93-94.

<sup>27</sup> Redford, *Pharaonic King-Lists*, 1-18, 197-98.

<sup>28</sup> K. Ryholt, *The Political Situation in Egypt During the Second Intermediate Period, c.1800-1550 B.C.* (Carsten Niebuhr Institute of Near Eastern Studies Publications 20; Copenhagen: University of Copenhagen and Museum Tusulanum Press, 1997). Review by A. Spalinger in *JNES* 60 (2001) 296-300.

presented further results based on a new alignment of some of the fragments,<sup>29</sup> plus a detailed discussion in 2004,<sup>30</sup> followed by a chapter in *Ancient Egyptian Chronology* in 2006.<sup>31</sup> In 2009, unpublished fragments in good condition were found in a storage room of the Egyptian Museum in Turin. “A new edition of the papyrus is expected.”<sup>32</sup>

The Turin Canon is a primary source for the kings and their regnal years from the 1st to the 12th Dynasty, since it originally gave what appears to have been a continuous line of kings from Menes, first king of the 1st Dynasty in column three, line 11 (3.11), down to a User ... at 12.17. The kings from Menes down to Queen Sobeknefru at 7.2 (with a summation at 7.3) are recognizable from the kings’ cartouches on the AbKL (Figure 15.6), except that the latter has a so-called 7th Dynasty, which is not given in the Turin Canon. Where names are missing from the Turin Canon they are mostly filled in by the AbKL or from other contemporary sources.

The kings from 7.4 to 12.17 in the Turin Canon supposedly from the Second Intermediate Period and reflecting the 13th–17th Dynasties are missing in the AbKL and only partially remain in the Turin Canon. These kings are not well known and most of them do not have their regnal years intact except for a section from 7.24 to 8.8.<sup>33</sup>

The gaps in the papyrus and regnal year numbers given to some kings, which may be annual or biennial (as in census counts), do not inspire confidence in the reliability of the Turin Canon data. Miroslav Verner writes: “Obviously, comparison of data from the very damaged papyrus with contemporaneous evidence can hardly be expected to provide a definitive version of OK chronology.”<sup>34</sup>

### The Abydos King-list (AbKL)

A list of 76 kings written in cartouches is engraved on the walls of Seti I’s temple at Abydos, where Seti I and his son Ramesses (to become Ramesses II), are shown worshipping their ancestors. There are two rows of 38 cartouches under which is another row that repeats the prenomen and nomen of Seti I, all aligned neatly both vertically and horizontally (see Figure 15.6).

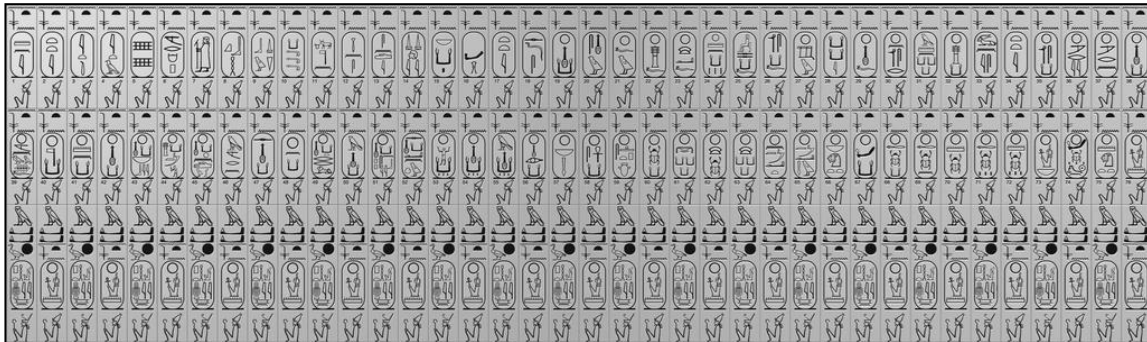


Figure 15.6: A drawing by Peter Lundström of a reconstructed Abydos King-list.

<sup>29</sup> Idem, “The Late Old Kingdom in the Turin King-list and the Identity of Nitocris,” *ZÄS* 127 (2000) 87-100.

<sup>30</sup> Idem, ‘The Turin King-List.’ *Ä und L* 14 (2004) 135-55.

<sup>31</sup> Idem, “The Turin King-list or so-called Turin Canon (TC) as a Source for Chronology,” *AEC* (2006), 26-32.

<sup>32</sup> Four columns are shown above. See [http://en.wikipedia.org/wiki/Turin\\_King\\_List](http://en.wikipedia.org/wiki/Turin_King_List) showing eleven columns.

<sup>33</sup> See Jacques Kinnaer, “Turin Kinglist,” [http://www.ancient-egypt.org/history/turin\\_kinglist/index.html](http://www.ancient-egypt.org/history/turin_kinglist/index.html) where one can click on the links provided to access any of 16 groups of kings in hieroglyphic form with commentary.

<sup>34</sup> M. Verner, “Contemporaneous Evidence for the Relative Chronology of Dyns. 4 to 5,” *AEC* (2006) 126.



The kings' names are inscribed using their prenomens, though they are often better known by their nomen or birth name. The cartouches are arranged in the same order as in the Turin Canon except the AbKL appears to include a 7th Dynasty, which is not given elsewhere or in the Turin Canon.<sup>35</sup> The 8th Dynasty is not followed by kings of the First Intermediate Period, understood to be the 9th and 10th Dynasties, but by the 11th and 12th Dynasties of which many names are missing. Then the Second Intermediate Period is missing—that is the 13th–17th Dynasties—so that the 18th Dynasty follows on from the 12th. However, Queen Hatshepsut (co-regent with Thutmose III) and the Amarna (heretical) kings, Akhenaten, Smenkhare, Tutankhamun, and Ay, are not included, so that the 18th Dynasty ends with Haremhab/Horemheb. The list of cartouches concludes at nos. 75 and 76, giving the prenomens of Ramesses I and Seti I, the first kings of the 19th Dynasty.

The 18th Dynasty kings of the AbKL are noticeably different from those designated in *Manetho* (see page 219),<sup>36</sup> both in name and regnal years, but those of the AbKL are the same as those known from inscriptions on monuments or other sources. Thus the AbKL corroborates the Turin Canon (except for the 7th Dynasty) for the 1st–12th Dynasties but not *Manetho*'s king-lists.

A similar list to the AbKL was inscribed in the temple of Ramesses II at Abydos. Now very damaged, only three partial registers of four survive.<sup>37</sup> It is kept in the British Museum.

### Saqqara Tablet

A tablet was found at Saqqara in 1861 in the tomb of Tjuneroy (or Tjenry) a court official and “Overseer of Works on all Royal Monuments” of Ramesses II. Figure 15.7 is an image of the relief decoration of the mastaba, which shows a scene in which Tjuneroy was being presented before Ptah, preceded by two rows of cartouches comprising a list of 58 kings from Anedjib and Qaa (fifth and seventh kings of the 1st Dynasty) to Ramesses II (19th Dynasty).<sup>38</sup>

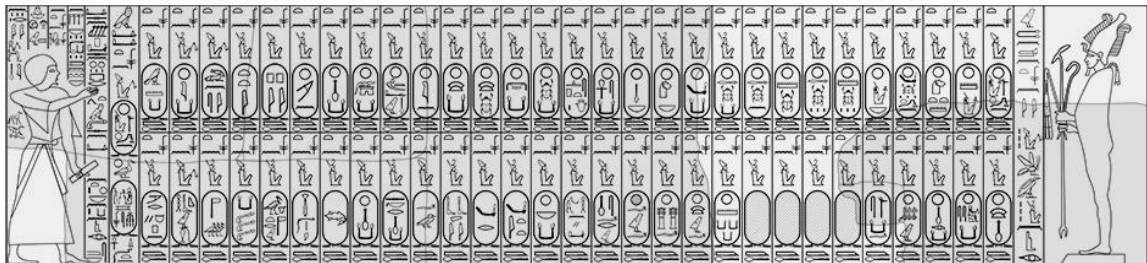


Figure 15.7: Saqqara King-list as seen in 1864 by A. Mariette.

In this list, only 47 cartouches survive with names, and many known rulers are missing altogether. The tablet begins with Ramesses II at the top left and continues in reverse chronological order with the 1st Dynasty kings at the end of the bottom row. It omits rulers from the Second Intermediate Period (13th–17th Dynasties including the Hyksos kings), Queen Hatshepsut of the 18th Dynasty (reign of Thutmose III), as well as those of the heretic dynasty begun by Akhenaten in the mid-to-late 18th Dynasty.<sup>39</sup> The tablet is now housed in the Cairo Museum.

<sup>35</sup> See “Abydos King List,” [http://en.wikipedia.org/wiki/Abydos\\_king\\_list](http://en.wikipedia.org/wiki/Abydos_king_list)

<sup>36</sup> Manetho refers to the historian, *Manetho* refers to copies of the history attributed to him.

<sup>37</sup> Redford, *Pharaonic King-Lists*, 20-21.

<sup>38</sup> “Saqqara Tablet,” [http://en.wikipedia.org/wiki/Saqqara\\_Tablet](http://en.wikipedia.org/wiki/Saqqara_Tablet).

<sup>39</sup> J. Malek suggests how the list came to be arranged and why some of the names are missing in “The Special Features of the Saqqara King-List,” *JSSEA* 12 (1982) 21-28.

In our designation, we number the kings in reverse, that is, from Anedjib (1) to Ramesses II (58). This list is helpful in confirming names in the Turin Canon and AbKL or in identifying some missing names.

### Karnak King-list

The Akh-Menu Hall at Karnak was originally inscribed with a list of 61 kings starting with Sneferu, the first king of Egypt's 4th Dynasty, of which only 39 kings are now legible. It was composed during the reign of Thutmose III (18th Dynasty), but it is not a list of all the kings, although it is valuable as it gives the names of kings of the First and Second Intermediate Periods, which are not included elsewhere in other king-lists.

It was first described by James Burton in 1825. In 1843, a Frenchman, Emil Prisse, dismantled the blocks at night and stole them for France so that the German expedition led by K.R. Lepsius, which was rapidly approaching Karnak, could not have them. They are now severely damaged and on display in the Louvre in Paris.<sup>40</sup>

The kings are not arranged in a strictly chronological order, and with the large gaps due to damage the list is not very helpful for reconstructing the kings of the 1st–8th Dynasties (see Figure 15.8).

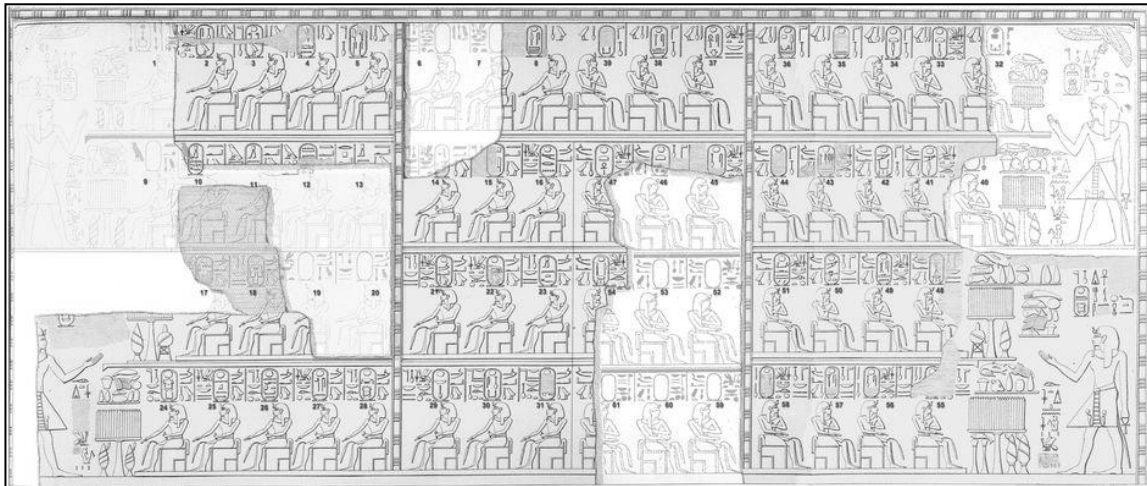


Figure 15.8: Karnak King-list as reconstructed by Peter Lundström.

### Papyrus Westcar (pBerlin 3033)

Though not a king-list, the Westcar papyrus (Figure 15.9) is mentioned here because it gives the names of several early kings. The papyrus was discovered in Egypt in 1823 or 1824 by a British adventurer, Henry Westcar. Sometime around 1838 or 1839, the German Egyptologist, Karl Richard Lepsius, acquired the papyrus, possibly from Westcar's niece. Lepsius apparently never made the papyrus public and after he died it was bought by German Egyptologist Adolf Erman in 1866 who left it to the Berlin Museum.<sup>41</sup>

<sup>40</sup> See "Karnak king list" [http://en.wikipedia.org/wiki/Karnak\\_king\\_list](http://en.wikipedia.org/wiki/Karnak_king_list).

<sup>41</sup> Google "Westcar Papyrus" for Wikipedia information.

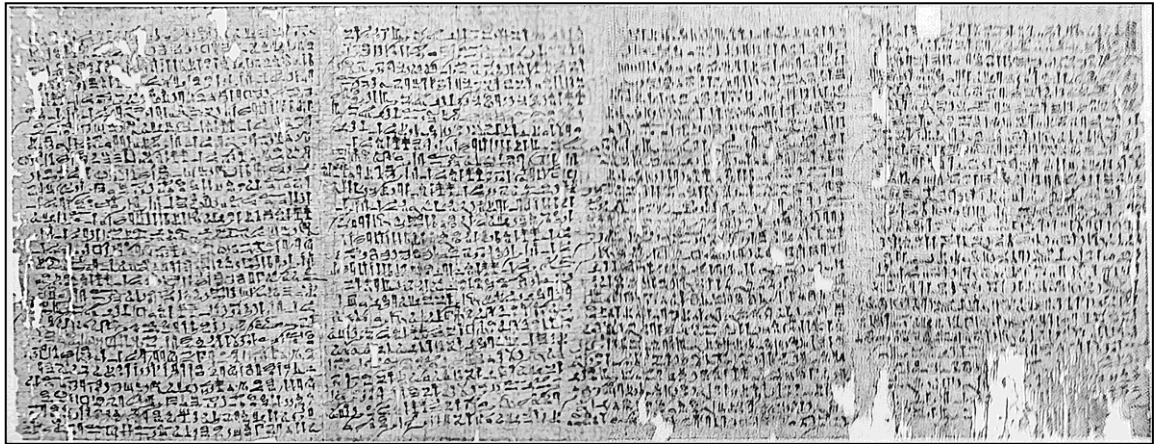


Figure 15.9: Westcar papyrus.

The papyrus is a palimpsest having been written over a prior text in red lettering. It consists of 12 rolls and contains five stories that were told at the royal court of Cheops (Khufu; second king of the 4th Dynasty). The papyrus has been dated to the Hyksos Period (pre-18th Dynasty) but appears to date back to the 12th Dynasty. The author is not known. The papyrus mentions the 3rd Dynasty kings, Nebka and Djoser; the 4th Dynasty kings, Sneferu and Khufu; and 5th Dynasty kings, Userkaf, Sahure, and Neferirkare Kakai. Historians have used the papyrus to reconstitute the history of the 4th Dynasty.<sup>42</sup> Its chronological interest lies in its attestations of early kings.

### Manetho's *Aegyptiaca*

Manetho was an Egyptian priest who lived 305–285 BCE in the reigns of Ptolemy I and Ptolemy II.<sup>43</sup> He served in the Temple of Sebennytos in the Delta where he had access to ancient records and king-lists. Although he was familiar with Egyptian hieroglyphic writing, he wrote a history of Egypt in Greek. His most important work was his *Aegyptiaca*; that is, *The History of Egypt*, written in the reign of Ptolemy II.

Unfortunately, none of this original work has survived (perhaps burnt in a fire in the library at Alexandria). However, it is understood by scholars that Flavius Josephus, the 1st century CE Jewish historian, wrote a polemic against Manetho recorded in his book *Contra Apionem* (*Against Apion*). At about the same time, a summary of Manetho's work, the *Epitome*, was circulated. Sections of Josephus' writings are preserved in the *Epitome* (fragments 42, 50, and 54).

The *Epitome* recorded dynastic lists going back to gods and demi-gods who ruled before the 1st Dynasty, the latter beginning with Menes, the first king of a united Egypt. The *Epitome* was preserved by Sextus Julianus Africanus, Bishop of Caesarea (ca. 220 CE), which was secondarily preserved by Syncellus, known as George the Monk, in the ninth century CE. It was also preserved by Eusebius, Bishop of Caesarea (ca. 320 CE) and then it too was preserved by Jerome in the 4th–5th centuries, with an Armenian translation in the 6th–8th centuries.

The *Epitome* covers the 1st Dynasty down to the 31st Dynasty ending with three Persian kings of Egypt. It has further appendages and appendices, the one of most interest being Appendix IV, *The Book of Sothis*, recorded by Syncellus. It has a very mixed up tabulation of kings with only some recognizable as coming from the same dynasty. While not afforded the same level of credibility as those of Africanus and Eusebius, and considered by some as an ancient forgery, it too has similarities with the

<sup>42</sup> Ibid.

<sup>43</sup> *Manetho* vii-xxviii; "Manetho," <http://en.wikipedia.org/wiki/Manetho>



versions of *Manetho*, and, as we shall see, it has reign lengths in the 20th Dynasty not found now in Manetho's other copies.

Manetho is credited with dividing the rulers into dynasties—apparently based on different locations or common origin—a dynasty being introduced when there was a discontinuity of some sort. In scholarly discussion, these divisions have been appropriated to the kings of the other ancient king-lists, though only the Turin Canon utilizes divisions (shown by summation lines). But, as we shall see, they are not all the same divisions as those given by Manetho.

The *spelling* of kings' names in the versions of Africanus and Eusebius are often somewhat different from each other, as are the regnal years attributed to the kings. Africanus is usually (but not always) the more credible, probably because it is based on an older copy of *Manetho*, and it has more complete lists. Sometimes Africanus is the only version giving names of kings and their regnal years, with the other versions merely giving truncated accounts of the number of kings and the total regnal years for the given dynasty.

Despite all the errors that have crept in over the centuries of transmission and recopying, the versions handed down from Manetho giving the names of kings, their regnal years, and their dynastic divisions, are still used as the basis for Egyptian chronology.

### Divisions of the Turin Canon and the AbKL

I mentioned above that the Turin Canon and the AbKL appear to refer to the same lineage of kings in contrast to those appearing in the dynastic lists of Manetho. It becomes important in reconstructing the chronology to determine whether the kings represented by the Turin Canon, AbKL, and the other lists mentioned are also represented in Manetho's dynasties, or whether the latter are in fact from a different line(s) of kings. I now make a comparison of the names in the Turin Canon and AbKL and then compare them with Manetho's kings.

Table 15.1 compares the names of the Turin Canon with those of the AbKL whose common name has been recognized by scholars.<sup>44</sup> The two names are understood to be the king's Horus name and his throne name (nomen).

**Table 15:1: The Turin Canon compared to the AbKL**

Sections 3.11–4.26 of the Turin Canon			Abydos King-list		
Ref	King	Years lived	Cartouche no.	King: listed name	King: common name
3.11	Menes	lost <sup>45</sup>	1	Meni	Menes
3.12	It[...]	lost	2	Teti	Hor-Aha
3.13 & 14	lost	10 [+ x] 28 d	3	Iti	Djer
3.15	[I]tiui	lost	4	Ita	Djet
3.16	Semti	lost	5	Septi	Den
3.17	Merbiapen	74	6	Meribiap	Anedjib

<sup>44</sup> The table is based on the Turin Canon given at "Turin King List, or Turin Royal Canon," [http://www.narmer.pl/tur/turyn\\_en.htm](http://www.narmer.pl/tur/turyn_en.htm) (with the numbering updated as explained above) compiled by Darius Sitek. Sitek asserts "The most important publications are: G. Farina, *Il papiro dei re restaurato* (Rome: Bardi, 1938), A.H. Gardiner, *The Royal Canon of Turin* (Oxford: Griffith Institute, 1959) and J. Malek, "The original version of the Royal Canon of Turin" in *JEA* 68 (1982) 93-106. Also consulted was "Turin Kinglist: Columns II,11 to III,26/27" at [http://www.ancient-egypt.org/history/turin\\_kinglist/index.html](http://www.ancient-egypt.org/history/turin_kinglist/index.html) and "Turin Kinglist: columns IV,1 to IV,17," at [http://www.ancient-egypt.org/history/turin\\_kinglist/0401\\_0417.html](http://www.ancient-egypt.org/history/turin_kinglist/0401_0417.html) (both created by Jacques Kinnaer); and the Abydos King List at "Abydos King List," [http://en.wikipedia.org/wiki/Abydos\\_king\\_list](http://en.wikipedia.org/wiki/Abydos_king_list). The cartouches are displayed here.

<sup>45</sup> The column reads "Menes, may he live, prosper and be healthy, has functioned..."



3.18	Semsem	72	7	Semsu	Semerkhet
3.19	[Ke]behu	63 [ ]	8	Qebeh	Qa'a
3.20	Baw[netjer]	95	9	Bedjau	Hotepsekhemwy
3.21	Ka]ka[w]	lost	10	Kakau	Raneb
3.22	[Ba]netjer	95	11	Banetjer	Ninetjer
3.23	[unknown]	54	12	Wadjnas	Wneg
3.24	Sened	70 (?)	13	Sendi	Senedj
3.25	Aaka	lost		[not given]	
		<b>Years reigned</b>			
4.1	Neferkasokar	8 yr 3 mo		[not given]	
4.2	'Hudjefa' (a)	"Erased", 1 yr, 8 mo, 4 d. Lived 34 yr		[not given]	
4.3	Bebti	27 yr, 2 mo, 1 d. Lived 40 + x yrs	14	Djadjay	Khasekhemwy
4.4	Nebka	19	15	Nebka	Sanakhte
4.5	Djoser-It	19 yr, 1 mo	16	Netjerikhet Djoser	Djoser
4.6	Djoser-Ti	6	17	Teti	Sekhemket
4.7	'Hudjefa' (b)	"[Erased]" 6 yr	18	Sedjes	Khaba
4.8	Huni	24	19	Neferkara	Huni
4.9	Snofru	24	20	Sneferu	Sneferu
4.10	lost	23	21	Khufu	Khufu
4.11	lost	8	22	Djedfre	Djedfre
4.12	Kha[fre]	lost	23	Khafre	Khafre
4.13	lost	lost		[not given]	
4.14	lost	18	24	Menkaure	Menkaure
4.15	lost	4	25	Shepseskaf	Shepseskaf
4.16	lost	2		[not given]	[not given]
4.17	[User]kaf	7	26	Userkaf	Userkaf
4.18	lost	12	27	Sahure	Sahure
4.19	lost	lost	28	Kakai	Neferirkare Kakai
4.20	lost	7		[not given]	[not given]
4.21	lost	lost	29	Neferefre	Neferefre
4.22	lost	10 + x	30	Niuserre	Niuserre Ini
4.23	Menkauhor	8	31	Menkauhor	Menkauhor Kaiu
4.24	Djed	28	32	Djedkare	Djedkare Isesi
4.25	Unas/Wenis	30	33	Unis	Unas
4.26	Summation	Total of kings beginning with Menes down to [Unas, their years ...]			

x = An uncertain number. "Hudjefa" means name lost to copyist. Two instances are (a) and (b).

There is general concordance between the Royal Annals and the list in Table 15.1. Where names exist, the table demonstrates that the Turin Canon and the AbKL once recorded the same kings. The common names provided for the AbKL kings are attested on the Royal Annals (where extant), demonstrating that all three king-lists record the same lineage of kings. This same lineage is also applicable to the South Saqqara Stone, Saqqara Tablet, Karnak King-list and Westcar papyrus.

### Turin Canon 3.11–4.26 Compared with the 1st–5th Dynasties of Manetho

The Turin Canon has groups of kings that are separated by summation lines, whereas Manetho has lists of dynasties. In the Turin Canon, the first two columns contain the names of gods, spirits, and mythical kings.<sup>46</sup> These can be understood as comprising the first division. At section 3.10, there is a heading for the "Kings of the house of Menes," with Menes being named at section 3.11. This second division continues down to section 4.26 where there is a summation that once gave the total number of kings and the years they reigned for the kings from Menes to Unas, the latter

<sup>46</sup> Note that the TC columns are advanced by one, due to Kim Ryholt's recent analysis which led him to insert another column between column one and column two (K. Ryholt, "Late Old Kingdom," 87). Also note that the lines of each king in column three are adjusted so that Djer is allocated lines 3.13 and 3.14 as explained in chap. 19.

named at section 4.25. The total number of kings and years is now missing. This division once comprised the names of about 38 kings. Scholars equate these kings with Manetho's 1st–5th Dynasties, though the Turin Canon does not indicate the disjunctions that led Manetho to record new dynasties. Unas is the fourth king after Neferefre whose reign is already dated to 2750 BCE (see chapter 14). The next division, from section 4.1 to section 5.13, is equated by scholars with Manetho's 6th and 8th Dynasties, which we shall discuss in later chapters.

Table 15.2 lists the names and years of the kings of the Turin Canon (where extant) from Menes down to Unas (sections 3.11–4.25) and aligns the earlier kings with those of Manetho's 1st–3rd Dynasties. The 4th and 5th Dynasties are aligned with the later part of the Turin Canon kings, discussed in a later chapter. It is assumed that the Turin Canon kings, as well as those recorded by Manetho, are consecutively reigning kings.

**Table 15.2: Names and years of the kings of the Turin Canon from Menes to Unas compared with *Manetho***

Sections 3.11–4.26 of Turin Canon			1st–5th Dyn. from <i>Manetho</i>		
Ref	King	Regnal years	No.	King	Regnal years
3.11	Menes	lost	1st Dyn. of Thinis 1	Menes	Afr. 62, Eu. 60, Arm. 30
3.12	Aha or It[...]	lost	2	Athothis	Afr. 57, Eu. & Arm. 27
3.13 & 14	Djer or Iti	lost	3	Kenkenes	Afr. 31, Eu. & Arm. 39
3.15	Djet or [I]tiui	lost	4	Euenephes	Afr. 23, Eu. & Arm. 42
3.16	Den or Senti	lost	5	Usaphaidos	All 20
3.17	Andjib or Merbiapen	lost	6	Miebidos	All 26
3.18	Semerkhet or Semsem	lost	7	Semempses	All 18
3.19	Qaa or [Ke]behu	lost	8	Bieneches	All 26
	[no gap here]		Total 1st Dyn.		Afr. 253 act. 263; Eu. 252 act. 258, Arm. 252 act. 228
3.20	Hotepsekhemwy or Baw-[netjer]	lost	2nd Dyn. of Thinis 1	Boethos	Afr. 38; Eu. & Arm. absent
3.21	Reneb or [Ka]ka[w]	lost	2	Kaiechos	Afr. 39; Eu. & Arm. absent
3.22	Ninetjer or [Ba]netjer	lost	3	Binothis	Afr. 47; Eu. & Arm. absent
3.23	unknown	lost	4	Tias	Afr. 17; Eu. & Arm. king and yrs absent
3.24	Senedj or Sened	lost	5	Sethenes	Afr. 41; Eu. & Arm. absent
3.25	Aaka	lost	6	Chaires	Afr. 17; Eu. & Arm. king & yrs absent
4.1	Neferkasokar	8 yr, 3 mo	7	Nepher-cheres	Afr. 25; Eu. & Arm. king and yrs absent
4.2	“Hudjefa” (a)	“Erased” 1 yr, 8 mo, 4 d	8	Sesochris	All 48
4.3	Khasekhemwy or Bebti	27 yr, 2 mo, 1 d	9	Cheneres	Afr. 30; Eu. & Arm. absent
	[no gap here]		Total 2nd Dyn.		Afr. 302; Eu. & Arm. 297
	[no gap here]		Total 1st & 2nd Dyn.		Afr. 555; Eu. 549; Arm. absent
4.4	Sanakht or Nebka	19	3rd Dyn. of Memphis 1	Necherophes	Afr. 28; Eu. & Arm. absent
4.5	Djoser or Djoser-It	19 yr, 1 mo	2	Tosorthros	Afr. 29; Eu. & Arm. absent
4.6	Sekhemkhet or Djoser-Ti	6	3	Tyreis	Afr. 7; Eu. & Arm. absent

4.7	“Hudjefa” (b)	“[Erased]” 6 yr	4	Mesochris	Afr. 17; Eu. & Arm. absent
4.8	Huni	24	5	Soyphis Neferkara	Afr. 16; Eu. & Arm. absent
4.9	Snefru (or Snofru)	24	6	Tosertatis	Afr. 19; Eu. & Arm. absent
4.10	Khufu	23	7	Aches	Afr. 42; Eu. & Arm. absent
4.11	Djedefre (or Djed)	8	8	Sephuris	Afr. 30; Eu. & Arm. absent
4.12	Khafre	lost	9	Kerperes	Afr. 26; Eu. & Arm. absent
	[no gap here]		Total 3rd Dyn.		Afr. 214; Eu. 8 kings for 198; Arm. 197
	[no gap here]		Total 1st– 3rd Dyn.		Afr. 769; Eu. 747; Arm. absent
4.13	Baka	lost	4th Dyn. of Memphis “belonging to a different line”	For kings of the 4th & 5th Dynasties aligned with the Turin Canon from Huni onwards, see Table 15.3.	
4.14	Menkaure	18			
4.15	Sheseskaf	4			
4.16	Djedefptah	2			
4.17	Userkaf	7			
4.18	Sahure	12			
4.19	Neferirkare Kakai	lost			
4.20	Shepseskare	7			
4.21	Neferefre	lost			
4.22	Niuserre	10 + x yr			
4.23	Mankauhor	8			
4.24	Djedkare Isesi	28			
4.25	Unas	30			
4.26	Summation	Total of kings from Menes down to [Unas...]			

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Originally, all the kings were given regnal years, but from Menes to the end of column three (reign of Aaka) no numbers survive, although some have their life-spans still preserved. Those kings beginning with column four (reign of Neferkasokar) down to Unas mostly have their regnal years preserved, but their name is often missing. Most of these names can be filled in from the AbKL and/or the Saqqara Tablet, where the kings are recognized by their names on consecutive cartouches.

Apart from the fact that both documents begin with the name Menes, it is hard to identify any of the kings of the Turin Canon with those given by Manetho, with the possible exception of the second king—Aha being the same as Athothis. Even if the names *could* be explained as alternatives for the same king in both lists, the regnal years, where preserved, *are all different*. How, then, can they refer to the same kings? Notwithstanding this lack of identification, scholars use Manetho’s dynastic divisions to group the kings in the Turin Canon to conform to Manetho’s account of history.

The evidence in contemporary records would suggest that there was no break in the Turin Canon corresponding to where the 1st Dynasty ends in *Manetho*. Bieneches is the last king of the 1st Dynasty aligned with Qaa in the Turin Canon at section 3.19, and the 2nd Dynasty starts with Boethus, its ninth king, equated with Hotepsekhemwy (also known as Baw[netjer]) in the Turin Canon at section 3.20. Jochem Kahl writes, “The sequence of three Dyn. 2 kings is secure: Hetep-sekhemwy, who buried Qa<sup>c</sup>a at Umm el-Qaab—Ra<sup>c</sup>-neb—Ny-netjer.”<sup>47</sup> The sequence is “secure,” so why is the 2nd Dynasty introduced here when there is no break? Apparently, it is because Manetho’s 2nd

<sup>47</sup> Kahl, “Dynasties 0-2,” 102.

Dynasty starts with the ninth king, so a break is assumed in the Turin Canon between its eighth and ninth king, also, on the assumption that they are the same kings in the different documents.

Similarly, where Manetho's 2nd Dynasty ends after its ninth king, Cheneres, and begins the 3rd Dynasty with Necherophes, a similar break is presumed after the next nine kings in the Turin Canon, after Khasekhemwy (section 4.3), and the following king Nebka, also known as Sanakht (section 4.4). However, scholars such as Seidlmayer note that all attestations concerning Nebka come from near the *end* of the 3rd Dynasty, so that Nebka's presence in the AbKL is either a duplication or a shift out of its correct position.<sup>48</sup> Nebka is now inserted three lines further down where a "Hudjefa" (meaning "name lost to copyist") with six years now appears. Nebka's transfer makes Netjerikhet (Djoser I) the successor of Khasekhemwy. Netjerikhet is aligned with Manetho's Necherophes (section 4.5 to become section 4.4). Seidlmayer writes, "Recent excavations at Abydos revealed unequivocal evidence that Horus Netjery-Khet buried Kha<sup>c</sup>-sekhemwy, the last king of Dyn. 2, there, making it certain that no reign (and especially a chronologically significant one as shown in TC) could have intervened between them."<sup>49</sup>

The point established here is that there is no indication of any interruption to the succession of kings in the Turin Canon between Khasekhemwy and Netjerikhet. But Seidlmayer (in keeping with other Egyptologists) describes Khasekhemwy as the last king of the 2nd Dynasty and his successor, Djoser Netjerikhet, as the first king of the 3rd Dynasty.<sup>50</sup> Referring to Manetho, he earlier wrote, "The surviving epitomes are unfortunately marred by erratic repetitions and inflated reign lengths."<sup>51</sup> Nevertheless, Manetho is trusted to the extent that his dynastic divisions are transferred to the kings of the Turin Canon.

At the beginning of column 4 starting with the name of Neferkasokar the Turin Canon has preserved regnal years for a good number of its kings down to section 5.17 (equated with the end of Manetho's 8th Dynasty). The years of the Turin Canon kings can be compared with the years given the kings in Africanus' copy of *Manetho*, albeit with different names (regnal years not given in *Eusebius* or the Armenian version).<sup>52</sup> The alignment of the Turin Canon's kings and Manetho's kings for the 3rd Dynasty continues, but notice the difference in the regnal years attributed to them. For example, Necherophes, the first king of Manetho's 3rd Dynasty at Memphis, reigned 28 years according to Africanus, but Netjerikhet, with whom he is aligned, reigned 19 years and 1 month with a difference of about nine regnal years between them.<sup>53</sup>

The odd alignment continues (see Table 15.2). Netjerikhet's successor, Sekhemkhet (Djoser II) with six years (section 4.6) is aligned with Manetho's Tosorthros with 29 years, a difference of 23 years. "Hudjefa" understood to be the aforementioned Nebka with six years (section 4.7) is aligned with Manetho's Tyreis with seven years—a difference of one year. Huni with 24 years (section 4.8) is aligned with Manetho's Mesochris with 17 years—a difference of seven years.

<sup>48</sup> Later evaluation of the Royal Annals and the Turin Canon demonstrates that Nebka is indeed misplaced between Khasekhemwy and Netjerykhet, even though the AbKL gives the cartouche (15) of Nebka Sanakht between Khasekhemwy and Netjerykhet, as does the Turin Canon (sections 4.3–4.4).

<sup>49</sup> S.J. Seidlmayer, "The Relative Chronology of Dynasty 3," *AEC* (2006) 118.

<sup>50</sup> *Ibid.*, 118.

<sup>51</sup> *Ibid.*, 116.

<sup>52</sup> *Manetho*, 40–41.

<sup>53</sup> For the actual reign length see further discussion in chap. 20, pp. 287ff.

At this point, scholars place a new dynasty in the Turin Canon between Huni and Sneferu. Seidlmayer writes, “As the last ruler of Dyn. 3, the TC and the Saqqara list cite Huni.”<sup>54</sup> This infers a dynastic break, but it is not indicated by a summation in the Turin Canon or the Saqqara Tablet. Furthermore, Huni’s daughter, Hetepheres I, married Sneferu, Huni’s successor, so the lineage was unbroken through the important maternal line. Nor does a break appear to occur in Manetho’s list at this point since the 3rd Dynasty, starting with Necherophes, does not end until eight kings later with the reign of Kerpheres.

However, the 4th Dynasty begins with kings of Memphis “belonging to a different line.”<sup>55</sup> This proposes that the last four kings of the 3rd Dynasty, namely Tosertatis, Aches, Sephuris, and Kepheres, were contemporary with the first three kings of the 4th Dynasty, namely Soris, Suphis I, Suphis II, and Mencheres.

**Table 15.3: Kings of the Turin Canon beginning with Huni aligned with kings of Manetho’s 4th and 5th Dynasties**

Ref	King	Regnal years	No.	King	Regnal years
4.8	Huni	24	5	Soyphis Neferkara	Afr. 16; Eu. & Arm. absent
4.9	Snefru (or Snofru)	24	4th Dyn. of Memphis “belonging to a different line” 1	Soris	Afr. 29; Eu. & Arm. absent
4.10	Khufu	23	2	Suphis I	Afr. 63; Eu. & Arm. absent
4.11	Djedefre (or Djed)	8	3	Suphis II	Afr. 66; Eu. & Arm. absent
4.12	Khafre	lost	4	Mencheres	Afr. 63; Eu. & Arm. absent
4.13	Baka	lost	5	Ratoises	Afr. 25; Eu. & Arm. absent
4.14	Menkaure	18	6	Bicheris	Afr. 22; Eu. & Arm. absent
4.15	Sheseskaf	4	7	Sebercheres	Afr. 7; Eu. & Arm. absent
4.16	Djedefptah	2	8	Thamphthis	Afr. 9; Eu. & Arm. absent
4.17	Userkaf	7	5th Dyn. of Elephantine 1	Usercheres	Afr. 28; Eu. & Arm. absent
4.18	Sahure	12	2	Sephres	Afr. 13; Eu. & Arm. absent
4.19	Neferirkare Kakai	lost	3	Nephercheres	Afr. 20; Eu. & Arm. absent
4.20	Sheseskare	7	4	Sisires	Afr. 7; Eu. & Arm. absent
4.21	Neferefre	lost	5	Cheres	Afr. 20; Eu. & Arm. absent
4.22	Niuserre	10 + x yr	6	Rathures	Afr. 44; Eu. & Arm. absent
4.23	Mankauhor	8	7	Mencheres	Afr. 9; Eu. & Arm. absent
4.24	Djedkare Isesi	28	8	Tancheres	Afr. 44; Eu. & Arm. absent
4.25	Unas	30	9	Onnus	Afr. 33; Eu. & Arm. absent
4.26	Summation	Total of kings from Menes down to [Unas...]	Total for 5th Dyn.: 248 yr, (The actual total is 218 yr).		

x = An uncertain number. Manetho is represented by Afr. = Africanus, Eu. = Eusebius, and Arm. = the Armenian.

The first king of the 4th Dynasty is Soris equated with Sneferu, and the second king is Suphis I equated with Khufu, otherwise known as Cheops. Manetho records that, “The third of these kings, Suphis, was the builder of the great pyramid, which Herodotus declares to have been built by Cheops.”<sup>56</sup> In the Turin Canon, Khufu appears as

<sup>54</sup> Seidlmayer, “Relative Chronology,” 121.

<sup>55</sup> *Manetho*, 44, 49.

<sup>56</sup> Eusebius and the Armenian cite Suphis as the *third* king of the Fourth Dynasty (*Manetho*, 48, 49). In this case *Huni* would have been the *first* king.

Sneferu's successor, who is alternatively known as Cheops. Therefore, Cheops/Khufu had to be equated with Manetho's Suphis I (or II) "the builder of the great pyramid." The positioning of Suphis/Khufu as second or third king of the 4th Dynasty, meant that a break was assumed to have occurred in the Turin Canon between the reigns of Huni and Sneferu.

The identification of Suphis with Cheops/Khufu rests on the assertion of Herodotus who wrote about 450 BCE, so no credibility can be taken from his statement. However, if Soris is the first king of the 4th Dynasty equated with Sneferu, the eight kings of the 4th Dynasty can be understood to be approximately contemporary with the nine kings from Huni to Djedefptah (section 4.16) followed by Userkaf (section 4.17).

Nevertheless, scholars see the need for a transposition. Baka of section 4.13 is identified by scholars with Bicheris, fifth king of the 4th Dynasty, and Menkaure of section 4.14 is identified with Mencheres, two kings *earlier* than Bicheris. However, these two kings, Ratoises and Bicheris, are deemed to be in the wrong place, and they are transposed to precede Mencheres so that they become the fourth and fifth king of Manetho's list instead of fifth and sixth. Verner writes, "Bicheris, preceded by Ratoises, was inserted by Manetho between Mycerinus and Shepseskaf."<sup>57</sup>

### Manetho Lists a Different Line of Kings

Manetho's 5th Dynasty is located at Elephantine, not Memphis, as in the 4th Dynasty, and begins with Usercheres given 28 years, who is supposed to be the same as Turin Canon's Userkaf with 7 years (section 4.17; see Table 15.3). The 5th Dynasty has nine kings ending with Onnus with 33 years. Onnus is identified by scholars with Turin Canon's Unas with 30 years (section 4.25), even though the intermediate years in both lists have different names and regnal years for its kings. For example, Neferefre (with the Abusir *w3gy* date) at section 4.21—and who appears to have reigned about two years (as discussed in chapter 14)—is the fourth king after Userkaf, and is equated by scholars with the fourth king after Usercheres, a certain Cheres, attributed 20 years. None of these Elephantine kings can be easily recognized as the kings of the Turin Canon at sections 4.17–4.25 who lived in Lower Egypt near Memphis.<sup>58</sup> This lack of identification stands in contrast to later dynasties (the 12th Dynasty, and from the 21st Dynasty onward), where, even with damaged copies, the kings named by Manetho can be identified with those of contemporary records.

This discussion leads to the conclusion that the dynastic divisions given by scholars to the *Turin Canon* are based on Manetho's arrangement and not on the Turin Canon itself. The first summation line in the Turin Canon comes at section 4.26 after the reign of Unas. It is only here that the first "dynastic break" is recorded using a summation of the years of the preceding kings. There is no reason, therefore, to attribute Manetho's dynastic divisions to the Turin Canon or to the other king-lists that give the same kings as the Turin Canon. The very mention in *Manetho* that the 4th Dynasty kings of Memphis come from "a different line" of kings from the 3rd Dynasty also "at Memphis" indicates that kings of different ancestry ruled over various parts of Egypt in these early centuries. What is more significant is that there is no observable identification of Manetho's kings with those of the Turin Canon (apart from Menes). The kings of the Turin Canon are not the same kings as those recorded by Manetho in the 1st–5th Dynasties. The reconstruction of the chronology of the Turin Canon cannot be advanced by utilizing the regnal years of the kings given by Manetho. The Turin Canon demonstrates one line of kings that are also found in other king-lists such as the Royal

<sup>57</sup> Verner, "Dynasties 4 to 5," 134.

<sup>58</sup> Some scholars suggest that Manetho was mistaken in locating the 5th Dynasty to Elephantine.

Annals, the AbKL, the Saqqara Tablet, the Karnak King-list and the South Saqqara Stone. Manetho stands alone in giving kings of other lineages and/or locations.

Nevertheless, because of the custom of scholars in attributing the dynastic arrangement used by Manetho to the kings of the Turin Canon, it is easier to discuss the Turin Canon kings as though they belong to the attributed dynastic divisions than to divest them of these imposed cut-off points. They lived in the same period of history by which we can attribute to them a certain “correspondence” between the dynasties of Manetho and the divisions of the Turin Canon.

### **Order of Discussion Considering Neferefre’s Anchor Date of 2750 BCE**

Having determined the nature of the information in the king-lists prior to the reign of Neferefre, I will next discuss the kings from Neferefre down to Unas—the remainder of the 5th Dynasty, and the kings of the 6th and 8th Dynasties. Beginning with Neferefre, whose *w3gy* date fell in 2750 BCE, these kings are *able to be dated* through a combination of data from the Turin Canon, lunar dates, other sources such as mason’s inscriptions, and the census counts as provided by the South Saqqara Stone.

At the end of the 8th Dynasty, there are summation lines in the Turin Canon giving the number of years given to the whole period from Menes down to the last (unnamed) king of the 8th Dynasty (sections 5.16–5.17) This period is recorded as 955 years and 10 days (sections 5.16–5.17). Bearing this number of years in mind, I will later return to the 1st–5th Dynasties and an intensive discussion of the Royal Annals to determine the years between Menes and Neferefre. The Royal Annals ends (in its preserved part) with Neferirkare Kakai who reigned just two kings before Neferefre, so the period is largely covered by the Annals. Having determined the number of years from Menes to Neferefre, and from Neferefre to the last king of the 8th Dynasty, they can be added together to discover whether the Turin Canon figure of 955 years has any credibility.





## Chapter 16

### Recasting the 5th and 6th Dynasties

This chapter discusses the kings of the second half of the 5th Dynasty and continues with the kings of the 6th Dynasty. The next chapter reconstructs the 8th Dynasty. I follow this procedure because some of the kings of the later 5th Dynasty have lunar dates, which, together with information from other sources help reconstruct their regnal years.

Once the kings of the 5th, 6th, and 8th Dynasties are dated, the chronology of the earlier kings of the 1st–4th Dynasties plus the first half of the 5th Dynasty (Userkaf to Shepsefkare) can be attempted. The regnal years attributed to these earlier kings incorporate the data of the Royal Annals, the Turin Canon, and contemporary sources, but no lunar or Sothic dates are known. On the other hand, census counts exist that assist in reckoning the years of some of the kings.

The kings of the latter half of the 5th Dynasty are listed in Table 16.1 with lunar dates referenced to the Sothic cycle. The discussion later in this chapter will determine the regnal years and dates of Neferefre, Niuserre, Menkauhor, Djedkare Isesi, and Unas, which do not appear in this table.

**Table 16.1: Latter half of 5th Dynasty reconstructed from the Turin Canon and lunar dates**

Ref. Turin Canon	King	Regnal years	Dates BCE	Lunar and sothic cycle anchor points
4.21	Neferefre			From <i>w3gy</i> date: new moon III <i>3ht</i> 11 in 2750 after beginning of Sothic cycle I <i>3ht</i> 1 in 2750
4.22	Niuserre			
4.23	Menkauhor			
4.24	Djedkare Isesi			1. 1st lunar day IV <i>šmw</i> 17 in 8th yr ( <i>rnpt zp</i> 4) in 2700 referred to in Louvre E 25279 recto. 2. 1st lunar day II <i>šmw</i> 18 assumed to be <i>rnpt ht zp</i> 16, or 33rd year in 2675 referred to in pBM 10735 recto
4.25	Unas (Wenis)			1. New moon III <i>prt</i> 3 in 22nd yr ( <i>rnpt zp</i> 11) in 2630. 2. New moon, II <i>šmw</i> 7 in 28th yr ( <i>rnpt zp</i> 14) in 2624

I begin with Neferefre whose reign has been discussed in chapter 14 in connection with the *w3gy* date in his reign.

#### Neferefre (Raneferef)

The Turin Canon entry appropriate for Neferefre (section 4.21) is damaged giving no name. Only a tip of a vertical stroke has survived above a torn-off piece of the papyrus, indicating one year.<sup>1</sup> However, it is possible that the space might have indicated a longer reign. The king is named Neferefre in the Abydos King-list (AbKL) (no. 29). In the Saqqara Tablet (no. 29) he is called Khaneferre.

<sup>1</sup> A.H. Gardiner, *The Royal Canon of Turin* (Oxford: Griffith Institute, 1959) pl. 2.

In discussing *w3gy* feasts, the date of 2750 BCE for Neferefre was established by a Sothic rising date and a new moon date (see chapter 14). An inscription from Neferefre's unfinished pyramid refers to a "Year 1," and two more refer to a "Year of the first occasion of the count."<sup>2</sup> Using biennial dating, the latter refer to Neferefre's second regnal year, indicating that at least two years can be attributed to his reign. Scholars believe he had a short reign, presuming his pyramid was unfinished due to an early death, and because tests of bone fragments reveal he died at the age of about 22–23 years.<sup>3</sup>

The Sothic date of 2750 BCE in the reign of Neferefre is a starting point for dating his successors in the 5th Dynasty.

### Niuserre

The name of Neferefre's successor is also lost in the Turin Canon, but the king is given a reign of 10 + x (an uncertain number) of years (section 4.22). The AbKL identifies him as Niuserre (Nyuserre) (no. 30). His name is absent in the Saqqara Tablet, where he should have been either the last king in the bottom row after Neferefre, or the first king in the top row before Menkauhor (no. 30 in the Saqqara Tablet). Niuserre was Neferefre's younger brother, both of whom were sons of Neferirkare Kakai.

Miroslav Verner has recently proposed that Shepseskare, named *before* Neferefre in the Saqqara Tablet (no. 28), should be placed *after* Neferefre and before Niuserre with a reign of several months.<sup>4</sup> In the Turin Canon, Shepseskare's name is missing though the king is given seven years (section 4.20). This matter is more appropriately discussed under Shepseskare's reign in a later chapter, but one of the deciding factors is whether Shepseskare fits into the chronology after Neferirkare Kakai and before Neferefre, or between Neferefre and Niuserre. I return to that shortly.

Verner cites instances inferring a lengthy reign for Niuserre. First is the twin statue of Niuserre both as a young man as the sun-god, and as an older king as a terrestrial ruler.<sup>5</sup> Second, the *first* building stage of the mastaba of his vizier and director of his building projects, Ptahshepses, was noted on a mason's block as occurring in the "year of the fifth cattle count;" that is, the king's 10th year. The representation of Niuserre's daughter, Khamerernebti, was found on the *second* stage of the building of the mastaba, probably at about the time she married Ptahshepses.<sup>6</sup>

Third, the state records of Niuserre's extensive building activities at Abusir argue for him having reigned about 30 years.<sup>7</sup> Fourth, a carved relief in Niuserre's solar temple represents him celebrating a *sed*-festival,<sup>8</sup> which may infer that he reigned 30 years, and although some scholars are skeptical about attributing a 30-year reign to the relief, the

<sup>2</sup> P. Posener-Kriéger, M. Verner and H. Vymazalová (eds.), *Abusir X: The Pyramid Complex of Raneferef: The Papyrus Archive* (Prague: Czech Institute of Egyptology, Charles University, 2006) 20-23.

<sup>3</sup> M. Verner, "Archaeological Remarks on the 4th and 5th Dynasty Chronology," *Archiv Orientální* 69 (2001) 400.

<sup>4</sup> *Ibid.*, 397; *idem*, *The Pyramids: The Mystery, Culture, and Science of Egypt's Great Monuments* (New York: Grove Press, 2001) 310.

<sup>5</sup> *Idem*, "Once More to Niuserre's Dyad (München, ÄS 6794)," *Egyptian Museum Collections around the World*, Vol. 2 (eds. M. Eldamaty and M. Trad; Cairo: Supreme Council of Antiquities, distributed by the American University in Cairo Press, 2002) 1194-203.

<sup>6</sup> *Ibid.*, 1199-200; *idem*, "Archaeological Remarks," 403-4.

<sup>7</sup> *Ibid.*, 1201.

<sup>8</sup> P. Posener-Kriéger et al., *Abusir X*, 326; description by J.S. Nolan, "Lunar Intercalations and 'Cattle Counts' during the Old Kingdom: the Hebsed in Context," *Chronology and Archaeology in Ancient Egypt (The Third Millennium B.C.)*, (eds. H. Vymazalová and M. Bárta; Prague: Czech Institute of Egyptology, Charles University, 2008) 55-58; Verner, "Archaeological Remarks," 404.

other factors point to Niuserre having reigned for over 30 years.<sup>9</sup> To determine how many years Niuserre reigned, I must first discuss the remaining kings and the number of years that compose this latter part of the 5th Dynasty. In the Turin Canon, the kings are Menkauhor with eight years (section 4.23), Djedkare Isesi with 28 years (section 4.24), and Unas with 30 years (section 4.25). These years must be confirmed, and extant lunar dates for the dynasty help here (we return to the strict order of the kings shortly).

### A Lunar Date and a Regnal Year Assigned to Djedkare

Two dates found in a roster from the Neferirkare archive were identified as lunar by Pauline Posener-Kriéger. Unfortunately, they do not name the king in whose reign they were recorded.<sup>10</sup> But it seems that Posener-Kriéger presumed that both of the dates came from the reign of Djedkare Isesi or his successor, Unas, since many of the papyri found in Neferirkare's mortuary temple are attributed to Djedkare though without direct evidence.<sup>11</sup> Both dates are from duty-tables written in a grid compiled for a month of daily duties for the temple staff.<sup>12</sup> The duties start with the first day of a lunar month dated to the civil calendar, hence the dates can be seen as new moon days.

The first date is from a papyrus now in the British Museum, known as pBM 10735.<sup>13</sup> The heading has five lines divided into eight sections separated by a horizontal red line from the remainder underneath. The section beneath is divided into 3 groups of 10 compartments representing 30 days. "The arrangement of the table assigns to each day a compartment for each of the tasks specified in the top lines."<sup>14</sup> There are other secondary columns. The column important for our study is designated column *h*, which appears on the recto and "deals with only one day of the month—the day on which the rites for the royal statutes were performed."<sup>15</sup> The first line of the heading for the column has the date II *šmw* 18,<sup>16</sup> which corresponds to the first day of the lunar month; that is, a new moon day.

The regnal year *proposed* for II *šmw* 18 is found on the lower part of the verso of the papyrus where a damaged number is either *rnpt zp* 21 or 22—the latter being preferred since there is a trace of another vertical stroke on the edge of a tear in the papyrus.<sup>17</sup> After the census year comes the date of IV *3ht* 12 followed by a perforation, which may or may not have contained further strokes.

On biennial dating, *rnpt zp* 21 or 22 refers to a king's 42nd or 44th year. However, there is no immediate connection of this date with the date of II *šmw* 18 on the recto, though it is assumed by Egyptologists that II *šmw* 18 also applies to the king's 21st or 22nd year. The date does not come with a king's name, but Posener-Kriéger, Verner,

<sup>9</sup> Verner, "Once More," 1201-2.

<sup>10</sup> P. Posener-Kriéger, "Les archives du temple funéraire de Néferirkarê-Kakaï," *Les papyrus d'Abousir* (Vol. 2, BdÉ 65, Cairo: Institut français d'archéologie orientale du Caire, 1976) 491; R. Krauss, "Lunar Dates," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 429.

<sup>11</sup> Posener-Kriéger et al., *Abusir X*, 333.

<sup>12</sup> P. Posener-Kriéger and J. L. de Cenival, *The Abu Sir Papyri* (HPBM 5; London: British Museum, 1968) xiii, 2.

<sup>13</sup> *Ibid.*, 2, pl. 3 and 4.

<sup>14</sup> *Ibid.*, 2.

<sup>15</sup> *Ibid.*

<sup>16</sup> *Ibid.*, pl. 4 and 4A.

<sup>17</sup> *Ibid.*, pl. 41 and 41A; Verner, "Archaeological Remarks," 406 and n. 316; *idem*, "Dynasties 4 to 5," *AEC* (2006), 141 n. 144.

Spalinger, and Krauss have attributed the date to Djedkare Isesi.<sup>18</sup> Spalinger writes, “This is the highest regnal year recorded in the extant papyri from Neferirkare’s funerary temple and it definitely is assigned to Djedkare.”<sup>19</sup>

### Another Lunar Date

Momentarily leaving that aside, the second date identified by Posener-Kriéger is also lunar. It is found on a papyrus registered as Louvre E 25279 recto, and is also a monthly duty-table written out for the staff of a temple, compiled somewhat like pBM 10735. However, the month consists of 35 days indicating that it refers to IV *šmw*—the last month of the civil year. Column *f* refers to *pśdyw* in lines 17 and 18 indicating that *pśdyw* (new moon) fell on IV *šmw* 17 or 18 in the civil calendar. Since the date begins in line 17, IV *šmw* 17 would seem to be preferable to day 18. Two years stated on the verso are both *rnpt zp* 4, which, on biennial dating would be the eighth year.<sup>20</sup>

The new moon dates of II *šmw* 18 and IV *šmw* 17 are both applicable to the 24th year of the 25-year lunar cycle. This is the same cycle year in which Neferefre’s new moon date fell on III *3ht* 11, which in this period of history had years ending in 50, 25, 00, and 75.

Because the king is not named on the papyri, and a question remains whether the *rnpt zp* years should be doubled, several options deserve consideration. The papyri found in Neferirkare’s archive are usually attributed to Djedkare or Unas, but it is also recognized that they might cover a much longer period, coming from both before and after their reigns, even into the 6th Dynasty, since the recovered papyri are only a small fraction of what was originally written.<sup>21</sup>

While the day and month dates are certain, the years they refer to are not. When did these dates occur in the reigns of the kings of the 5th Dynasty? Do they concur with the years given on the first papyrus notation?

Returning to the date of 2750 BCE of Neferefre’s reign, I first look at the reign of Niuserre who appears to have reigned at least 30 years. His 22nd year, on *annual* dating, can be considered for a date in II *šmw* 18 in accordance with pBM 10735. Twenty-five years after Neferefre’s new moon date, a new moon fell the day before conjunction on II *šmw* 18 and on IV *šmw* 17 in 2725 BCE (see Caspersen’s Table 16.2).

<sup>18</sup> Posener-Kriéger et al., *Abusir X*, 328; Verner, “Archaeological Remarks,” 406, 410, 414; A. Spalinger, “Dated Texts of the Old Kingdom,” *SAK* 21 (1994) 300; Krauss, “Lunar Dates,” 430.

<sup>19</sup> Spalinger, “Dated Texts,” 300.

<sup>20</sup> According to Krauss, the day-date corresponds to the year *before rnpt zp* 4. He refers this to a biennial count of either year seven or six, but prefers the seventh. This infers a biennial count having taken place in the king’s accession year or first full year, although a first census count starts in a king’s *second* year as shown on the Royal Annals (to be discussed)—the first year being given over to rites of accession and coronation. Michel Baud thought there was a possible exception to this practice in the reign of Merenre (Nemtiemsaf I), fourth king of the 6th Dynasty, but on closer examination he found that the first count probably took place in the king’s second year (M. Baud, “Ménès la mémoire monarchique et la chronologie du III<sup>e</sup> millénaire,” *Archéo-Nil* 9 (1999) 125; idem, “Dynasties 6 and 8,” *AEC* (2006), 151-52). Krauss refers to this exception (“Lunar Dates,” 429 n. 141). Krauss sought to date these lunar days according to his own chronology. For his first option he assigned the date of IV *šmw* 17 and 18 to lunar day 1 and 2 in Djedkare’s year seven in 2339. He teamed this with Djedkare’s year 21 (not 22) in 2325 and the date of II *šmw* 18 in lunar *day* 2 (not 1). Krauss’ second option was to team year seven with a date of 2314 or 2339 for Unas (Djedkare’s successor) with a lunar day 1 on IV *šmw* 17 or 18 with a year 40 (not 42 or 44) of Djedkare on II *šmw* 18 as lunar *day* 2 (“Lunar Dates,” 429-31).

<sup>21</sup> Posener-Kriéger and de Cenival, *Abu Sir Papyri*, xvi.

**Table 16.2: Niuserre’s 22nd year –2724 (new moon listing from –2724)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-2724	3	20	-2724	2	26	56	9	19	4	14:42	6:22	186	6:22	56	6:21	-14
<b>-2724</b>	<b>4</b>	<b>19</b>	-2724	3	27	56	<b>10</b>	<b>19</b>	6	1:59	5:56	115	5:55	<b>25</b>	5:54	<b>-35</b>
-2724	5	18	-2724	4	25	56	11	18	7	11:24	5:31	230	5:30	80	5:29	6
<b>-2724</b>	<b>6</b>	<b>16</b>	-2724	5	24	56	<b>12</b>	<b>17</b>	1	19:41	5:10	417	5:10	157	5:09	<b>55</b>
-2724	7	16	-2724	6	23	57	1	12	3	3:36	5:01	237	5:01	111	5:01	11

DoW = day of week; ToD = time of day.

The year 2725 BCE would be Niuserre’s 22nd year based on an accession in 2747. This would be consistent with Neferefre having a reign of about 2½ years. Thus the date of II *šmw* 18 could be applicable if the year count was *annual* not *biennial*. Obviously, the date of IV *šmw* 17 is not applicable as Niuserre’s fourth or eighth year and therefore must refer to some other king.

While dating Niuserre’s 22nd year to the date on the pBM 10735 seems plausible, the lack of a name on the papyrus could mean that the date belongs to another king’s reign. Furthermore, if the date referred to a biennial count it would exclude Niuserre because his 44th year—had he reigned that long—would not have fallen on II *šmw* 18. It is not clear either, whether records of Niuserre’s reign were kept in Neferirkare’s archive, and, furthermore, Spalinger wrote that the date “definitely is assigned to Djedkare.”<sup>22</sup> It remains then to determine if the date of II *šmw* 18 in the 22nd or 44th year applies to Djedkare or another king—or if the date actually applies to either of these years since II *šmw* 18 appears on the recto and the 21st or 22nd year appears on the verso followed by the date of IV *3ht* 12.

Whether or not the new moon date applies to his reign, evidence for Niuserre suggests he reigned *at least* 30 years, thus the damaged 10 + 1 years of the Turin Canon could be amended to 31 years (with two 10-signs added). This would give him the years 2747–2716 BCE.

### Menkauhor

Between Niuserre and Djedkare Isesi, the Turin Canon names Menkauhor and gives him eight regnal years (section 4.23). He is also named on the AbKL (no. 31) and on the Saqqara Tablet (no. 30). He is understood to have had a short reign, though he did build a sun temple and a pyramid, and a considerable number of sealings bearing his name have been found in Neferefre’s mortuary temple.<sup>23</sup>

If the 31 years given to Niuserre is correct, the eight years attributed to Menkauhor give him a reign of 2716–2708 BCE. In this period, there are no new moon dates falling on II *šmw* 18 or IV *šmw* 17 since it does not include cycle year 24 in 2700—so the lunar dates are not applicable to his reign.

### Djedkare Isesi

A Djed is preserved in the Turin Canon at section 4.24 and given a reign of 28 years. The AbKL has a Djedkare (no. 32) and the Saqqara Tablet has a Djedkare Maatkare in the appropriate place (no. 31).

According to the dates suggested above for Neferefre, Niuserre, and Menkauhor, Djedkare Isesi’s accession will have fallen on or around 2708. The dates for II *šmw* 18 and IV *šmw* 17 fall in the year 2700, which is Djedkare’s eighth year, which agrees with

<sup>22</sup> Spalinger, “Dated Texts,” 300.

<sup>23</sup> Posener-Kriéger et al., *Abusir X*, 326; Verner, “Archaeological Remarks,” 405.

the *rnpt zp* 4 in papyrus Louvre E 25279 for the first day of the lunar month. We see this in Casperson's Table 16.3 in year -2699.

**Table 16.3: New moon dates in Djedkare Isesi's eighth year in -2699 (new moon listing from -2699)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2699	3	14	-2699	2	20	81	9	19	1	12:52	6:28	263	6:27	116	6:26	41
-2699	4	12	-2699	3	21	81	<b>10</b>	<b>18</b>	2	20:46	6:02	454	6:01	171	6:00	<b>77</b>
-2699	5	12	-2699	4	20	81	11	18	4	3:25	5:36	235	5:35	108	5:34	28
-2699	6	10	-2699	5	19	81	<b>12</b>	<b>17</b>	5	10:04	5:14	303	5:13	141	5:13	<b>43</b>
-2699	7	9	-2699	6	17	81	1	11	6	17:53	5:01	356	5:01	180	5:01	65

DoW = day of week; ToD = time of day.

II *šmw* 18 can be assigned to Djedkare's eighth year in 2700 BCE. Biennial dating is used for this date and we would also expect it to be used for the second date of II *šmw* 18. IV *šmw* 17 applies to the same cycle year as II *šmw* 18, but coming from a different papyrus we expect that it refers to a different year. Egyptologists attributed the date to Djedkare's reign and proposed the year *rnpt zp* 21 or 22 found on the verso of pBM 10735, which, on biennial dating, is his 42nd or 44th year. If the eighth year of Djedkare's reign is 2708, his 42nd or 44th years will have fallen in 2666 or 2664. This is not applicable to the 24th lunar-cycle year. Furthermore, the Turin Canon only attributes 28 years to Djedkare (section 4.24). In order for the date of II *šmw* 18 to fall in Djedkare's reign he must have reigned at least 33 years, when the next applicable date falls in 2675. So how long, then, did Djedkare reign?

According to an inscription on an alabaster vessel, Djedkare Isesi celebrated a first *Sed*-festival, which infers that he reigned at least 30 years.<sup>24</sup> At Abusir, an inscription on the lid of the sarcophagus of Idu, scribe to Djedkare's children, has the reading *rnpt (m-)ht sp* 17, *3bd* 1 *šmw* (?), *šw* 23; that is, the "Year after the 17th count, I *šmw* 23."<sup>25</sup> This has been attributed to Djedkare Isesi by Posener-Kriéger and Verner, and others.<sup>26</sup> On biennial dating, this would refer to Djedkare's 35th year.

Even more significant is a graffito, also on the sarcophagus of Idu at Abusir, which refers to a *year of the 28th count*, with a date of III *3ht* 5. Though the king is not named, it mentions Neferirkare's sun and mortuary temples, and the ancient hieratic writing identifies it as belonging to the 5th or 6th Dynasty.<sup>27</sup> Verner proposed that the graffito belonged to Djedkare Isesi, having dismissed Unas, Pepi I, and Pepi II.<sup>28</sup> If the "28th count" is biennial, it refers to Djedkare's 56th regnal year.<sup>29</sup> On this premise, Djedkare could have had a biennial count in his 42nd or 44th year in which we might expect to find II *šmw* 18. I refer to Casperson's Table 16.4.

<sup>24</sup> Ibid., 328-29.

<sup>25</sup> Ibid., 328; Verner, "Archaeological Remarks," 406, 410, 414; idem, "Dynasties 4 to 5," 141; idem, "The System of Dating in the Old Kingdom," *Chronology and Archaeology in Ancient Egypt (The Third Millennium BC)*, (eds. H. Vymazalová, M. Barta; Proceedings of the Conference Held in Prague [June 11-14, 2007]; Prague: Czech Institute of Egyptology, 2008) 23-43.

<sup>26</sup> This badly damaged inscription was previously read as *rnpt sp* 14, but on re-examination it was found to be *rnpt (m-)ht sp* 17 (Posener-Kriéger et al., *Abusir X*, 328 n. 54).

<sup>27</sup> Spalinger, "Dated Texts," 301.

<sup>28</sup> Ibid., 301, cited from "Die Königsmutter Chentkaus von Abusir und einige Bemerkungen zur Geschichte der 5. Dynastie," *SAK* 8 (1980) 258-60 and pl. XVI.

<sup>29</sup> This inscription is not mentioned by Verner in his later works.

**Table 16.4: Options for II šmw 18 in Djedkare Isesi's 42nd and 44th years (new moon listing from –2665 to –2663)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2665	3	28	-2665	3	6	115	10	11	1	11:26	6:16	291	6:15	88	6:14	10
-2664	4	15	-2664	3	24	116	10	30	7	11:56	5:59	299	5:58	112	5:57	35
-2663	4	5	-2663	3	14	117	10	20	5	3:53	6:08	182	6:07	82	6:06	18

DoW = day of week; ToD = time of day.

The dates given in the month of II šmw for the first lunar days are 10, 30, and 19, so none fall on II šmw 18, although the last date is only one day later and might be feasible if a mistake in the date had been made on the papyri. But the date is clearly II šmw 18 in the heading of column *h* in pBM 10735. And by analogy with the *pśdtyw* date in Louvre E 25279 when the ritual care of the images took place on the first lunar day, the date of II šmw 18 should be the first lunar day in Louvre E 25279 recto, not the last. A mistake on the duty-list would surely have been noticed and rectified.

If we dismiss Niuserre's 22nd year-date because it is applicable only to an annual or regnal year reckoning (and we have already dismissed its applicability to biennial reckoning), and if we must eliminate Djedkare's 42nd and 44th years because they do not comply with the date given in pBM 10735 recto, then we are returned to the 33rd year of Djedkare when II šmw 18 date would have fallen in the year in 2675. Casperson supplies Table 16.5.

**Table 16.5: New moon dates in Djedkare Isesi's 33rd year in –2674 (new moon listing from –2674)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2674	3	8	-2674	2	14	106	9	19	5	3:47	6:33	228	6:32	93	6:31	3
-2674	4	6	-2674	3	15	106	10	18	6	11:17	6:08	299	6:07	107	6:06	12
-2674	5	5	-2674	4	13	106	11	17	7	18:48	5:42	435	5:41	129	5:40	22

DoW = day of week; ToD = time of day.

The date is correct for II šmw 18. If we separate the 21st or 22nd *rnpt zp* years from II šmw 18 in pBM 10735 there is nothing to prevent the assigning of 2675 to Djedkare's 33rd year. On biennial dating, this would have been "the year after the 16th count."

This exercise has explored several options:

- Niuserre's 22nd year on annual dating, which is in conflict with the *biennial* dating of *rnpt zp* 4 for Djedkare's eighth year and the correct date of IV šmw 17;
- Biennial dating of Djedkare's 22nd year, which gives the *incorrect* date of II šmw 19; biennial dating of Djedkare's 42nd or 44th years does not provide the date of II šmw 18;
- Djedkare's 33rd year, which has the correct date of II šmw 18 and is consistent with the lunar cycle 25 years previously with years ending in 00, 25, 50, and 75. With this option, the date on the recto must be differentiated from the 21st or 22nd year on the verso of pBM 10735. However, these do not seem to be directly connected.

Of these options, only the latter seems satisfactory, and is the year proposed here.

### Interim Summary of Years from Lunar References

The distance between Neferefre in 2750 (*w3gy* date) and the eighth year of Djedkare dated to 2007 by the Louvre E 25279 recto enables us to allocate years to the respective kings. About 2½ years can be attributed to Neferefre giving him the years 2750–2747, 31 years to Niuserre with the years 2747–2716, and eight years to Menkauhor with the years 2716–2708 and the yet-to-be-resolved number of years to Djedkare Isesi (but at least 33 years coinciding with the year 2675).

Now, is the inscription on the sarcophagus of Idu at Abusir, which refers to a year of the 28th count, indicating a reign of 56 years for Djedkare, compatible with the lunar dates and years attributed to Unas, his successor? If Djedkare began to reign in 2708 and reigned 56 years, the date of his death and Unas's accession would be ca. 2652 BCE.

### Unas

The Turin Canon names Unas, and attributes to him a 30-year reign (section 4.25). The next line contains a summation for the period from Menes to Unas, but the number of years has been lost. This break is presumed to indicate a significant change, possibly of succession, the location of the capital or royal residence, or culture.<sup>30</sup> Unas appears in the AbKL (as “Unis,” no. 33) and in the Saqqara Tablet (no. 32). Scholars regard him as the last king of the 5th Dynasty.

Not many inscriptions come from Unas's reign. His highest attested date from Neferirkare's mortuary temple refers to a census count of his eighth year and the fourth month of *šmw*, indicating his 16th year.<sup>31</sup> However, there are two new moon dates assigned to his reign. An article by Patrick O'Mara cites an unpublished manuscript by the late Klaus Baer.<sup>32</sup> According to O'Mara, “Baer ascribed to the reign of Unas two pieces lacking royal identification but bearing fully recorded dates.”<sup>33</sup>

The first from the *serdab* of Rawer II is dated to III *pri* 3 of *sp* 11.<sup>34</sup> (The *sp* here is the aforementioned *zp*). O'Mara assumed that *sp* indicated a biennial count, thus *zp* 11 is Unas's 22nd year. With Unas's reign beginning in 2652, his 22nd year will be ca. 2630. Casperson's table (Table 16.6) shows that a new moon fell on III *pri* 3, exactly the date given.

<sup>30</sup> D.B. Redford, *Pharaonic King-Lists, Annals and Day-Books* (SSEA Publication 4; Ontario, Canada: Benben Publications, 1986) 136.

<sup>31</sup> Posener-Kriéger et al., *Abusir X*, 329; Verner, “Archaeological Remarks,” 410-11; idem, “Dynasties 4 to 5,” 143; idem, “System of Dating,” 35; Spalinger, “Dated Texts,” 301. The day date is lost.

<sup>32</sup> P.F. O'Mara. “Can the Gizeh Pyramids be Dated Astronomically? Logical Foundations for an Old Kingdom Astronomical Chronology,” *DE* 33 (1995) 73-85, citing Klaus Baer, *A Chronology of the Fourth, Fifth, and Sixth Dynasties* (unpublished ms, Univ. of Chicago) [n.d.].

<sup>33</sup> Baer, *Chronology*, 43; The rationale behind affording lunar dates to unspecified new moon or full moon dates is explained by O'Mara: “If two or more calendar dates from different *sp* years would agree in placing *sp* 1 in the same Julian year, then the dates are probably lunar in nature. In the case of Unas, for instance, only two dated inscriptions survive from his long reign of three decades. When treated astronomically they both converge at *sp* 1” (“Dating the Sed Festival: Was there only a Single Model?” *GM* 136 [1993] 62-63).

<sup>34</sup> O'Mara. “Can the Gizeh Pyramids,” 76.



**Table 16.6: Unas's 22nd year in -2629 (new moon listing from -2629)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-2629	11	11	-2629	10	20	152	6	3	1	20:45	6:25	244	6:25	148	6:26	53
<b>-2629</b>	<b>12</b>	<b>11</b>	-2629	11	19	152	<b>7</b>	<b>3</b>	3	16:16	6:48	228	6:49	122	6:50	<b>24</b>
-2628	1	10	-2629	12	19	152	8	3	5	9:25	6:59	192	6:59	76	6:59	-16

DoW = day of week; ToD = time of day.

Unas's second new moon date comes from, "an Abusir manuscript bearing the uncertain and controversial dating II *šmw* 17 of *sp* 14 ... Despite awkward uncertainties, it is highly probable that the two pieces are from the same reign and are lunar in nature."<sup>35</sup>

O'Mara understood *zp* 14 to refer to a biennial count in the king's 28th year.<sup>36</sup> Unas's 28th year must then fall six years after his 22nd year in 2630; thus, in 2624 or 2623—depending on when he acceded to the throne. Since his 22nd year included the date of II *prt* 3, any date after this could qualify as the beginning of the next year. As noted, O'Mara indicated that the date is controversial. In -2623, the date for the new moon is II *šmw* 7, not II *šmw* 17, shown in Casperson's Table 16.7.

**Table 16.7: New moon in Unas's 28th year in -2623 (new moon listing from -2623)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-2623	2	12	-2623	1	21	157	9	8	3	3:02	6:49	198	6:49	86	6:48	10
<b>-2623</b>	<b>3</b>	<b>13</b>	-2623	2	19	157	<b>10</b>	<b>7</b>	4	13:38	6:28	266	6:27	127	6:26	<b>53</b>
-2623	4	12	-2623	3	21	157	11	7	6	1:03	6:02	171	6:01	86	6:00	23

DoW = day of week; ToD = time of day.

Since the year-date is compatible with Unas's 22nd year in 2630, II *šmw* 7 appears as the original date for his 28th year in 2624. Two years later, Unas's 30th year fell in 2622. These dates are compatible with the 56-year reign of Djedkare Isesi, indicating a biennial census count.

However, the 56 years conflicts somewhat with Djedkare's presumed age at death. Skeletal remains were discovered in his pyramid in the mid-1940s. They have been subjected to independent anthropological examinations, firstly by A. Batrawi (prior to 1947), and later by E. Strouhal, who both confirmed that the man died aged about 50–60 years.<sup>37</sup> If Djedkare reigned 56 years then he must have come to the throne as a child, or his age at death was somewhat more advanced than estimated—unless the bones belonged to someone else.

The incorrect rendering of Djedkare Isesi's reign as lasting 28 years in the Turin Canon and not 56 was perhaps due to damage to the list from which the numbers were copied (perhaps half the number was missing), or numbers that were written so poorly or had become so difficult to read that they were not transmitted correctly.

<sup>35</sup> Ibid., 76.

<sup>36</sup> O'Mara's table gives the date as 14+, that is, the year *after* the cattle count, indicating the 29th year of Unas, but this appears to be a mistake as he still uses the same Julian dates as for the 28th year. O'Mara looks to the *psdntyw* dates starting in 2550 and working downward in 50/25 year increments to 3735 for Unas ("Can the Gizeh Pyramids," 76, 84), which are not applicable to the present chronology.

<sup>37</sup> M. Verner and V.G. Callender, *Abusir VI: Djedkare's Family Cemetery* (Prague: Czech Institute of Egyptology, 2002) 108 n.19, 127-32; referenced to A. Batrawi, "The Pyramid Studies—Anatomical Reports," *ASAÉ* 47 (1947) 98; Posener-Kriéger et al., *Abusir X*, 329 and n. 60; Verner, "Archaeological Remarks," 405-10.

It may be noted that the lunar dates are based on biennial census counts. Annual or irregular counts could not have produced the Julian year-dates that correspond to the Egyptian new moons. Further confirmation of the biennial nature of the census counts is demonstrated from an analysis of the data on the South Saqqara Stone referring to kings of the 6th Dynasty, and the Royal Annals (recto and verso) covering the 1st–5th Dynasties discussed in later chapters.<sup>38</sup>

The years for Unas’s reign based on lunar dates confirm that Djedkare Isesi reigned 56 years from 2708 to 2652 BCE, and that Unas reigned *at least* 28 years, which is only two years less than the 30 years given to him in the Turin Canon (section 4.25). The 30 years for Unas is borne out by the years to be attributed to the first three kings of the 6th Dynasty, Teti, Userkare, and Pepi I, dated by a full moon in the reign of the latter. Thus we can confidently attribute to Unas 30 years as reported on the Turin Canon and the dates 2652–2622 BCE.

With Neferefre’s reign beginning in 2750 and Djedkare’s beginning in 2708, there are 42 years to be distributed between Neferefre, Niuserre, and Menkauhor. Neferefre can be attributed approximately two to three years, and Menkauhor approximately eight years, which leaves approximately 31 years for Niuserre. The damaged total in the Turin Canon for his reign of 10 + x years can now be reinstated as 31 years, which is in line with projections for the length of his reign of at least three decades. It was noted above that Verner wanted to place Shepsekare after Neferefre and before Niuserre. This is clearly impossible based on the other kings’ regnal years confirmed by lunar dates.

The reign of Unas brings to an end the kings assigned to the 5th Dynasty. Their regnal years and dates are shown in Table 16.8.

**Table 16.8: Neferefre to Unas: Latter half of the 5th Dynasty reconstructed from the Turin Canon and lunar dates**

Ref. Turin Canon	King	Regnal years	Dates BCE	Lunar and Sothic cycle anchor points
4.21	Neferefre	2½	2750–2747	From <i>w3gy</i> date: new moon III <i>3ht</i> 11 in 2750 after beginning of Sothic cycle I <i>3ht</i> 1 in 2750
4.22	Niuserre	31	2747–2716	
4.23	Menkauhor	8	2716–2708	
4.24	Djedkare Isesi	56	2708–2652	1. 1st lunar day IV <i>šmw</i> 17 in 8th yr ( <i>rnpt zp</i> 4) in 2700 referred to in pLouvre E.25279 recto. 2. 1st lunar day II <i>šmw</i> 18 assumed to be <i>rnpt ht zp</i> 16, or 33rd year in 2675 referred to in pBM 10735 recto.
4.25	Unas (Wenis)	30	2652–2622	1. New moon III <i>pwt</i> 3 in 22nd yr ( <i>rnpt zp</i> 11) in 2630. 2. New moon, II <i>šmw</i> 7 in 28th yr ( <i>rnpt zp</i> 14) in 2624.
<b>Total</b>		<b>128</b>	<b>2750–2622</b>	

After the line for Unas in the Turin Canon at section 4.25, the Turin Canon has a summation line. All that remains is, “Total of kings from Menes until [Unas...].”<sup>39</sup> The years for this can be determined because the next summation at section 5.14 gives the total of 187 years, 6 months, and 3 days for section 5.1–5.13, which takes in the 6th and 8th Dynasties. (There is no 7th Dynasty as given in *Manetho*.) The second summation in

<sup>38</sup> This is contrary to Verner’s opinion that, “No matter how cautiously may the conclusions be drawn, the dated written documents seem to indicate that in the 4th and 5th Dynasty the dating system was irregular.” (“Archaeological Remarks,” 414).

<sup>39</sup> Ryholt notes that, “There is not space enough for this figure to have included years, months and days; possibly even the years were excluded and simply the number of kings recorded.” (“Royal Canon of Turin,” *AEC* [2006], 29 n. 12). However, the intention seems to be to give two subtotals at sections 4.26 and 5.14–5.15 that add up to the total at section 5.16–5.17. We do not have the original to know how much space was provided.

the next two lines (5.16–5.17), with a total of 955 years and 10 days, spans from Menes to the end of the 8th Dynasty. Thus, the total at section 4.26 for the first section is 767 years, 6 months, and 7 days—assuming that the Turin Canon figures are correct.

We now move to discuss the 6th Dynasty following the same procedure as before.

### 6th Dynasty

The group of 6th Dynasty kings are shown in Table 16.9. (The regnal years and dates are shown in a later table, after the discussion.)

**Table 16.9: 6th Dynasty: Reconstructed from the Turin Canon, the South Saqqara Stone, and three lunar dates**

Ref. Turin Canon	King	Regnal years	Dates BCE	Lunar dates
5.1	Teti			
5.2	Userkare			
5.3	Pepi I			Full moon IV <i>3ht</i> 14 in 32nd year ( <i>rnpt zp</i> 16) in 2574
5.4	Merenre Nemtiemsaf I			
5.5	Pepi II			Full moon III <i>3ht</i> 15 in 4th yr ( <i>rnpt zp</i> 2) in 2538. New moon I <i>šmw</i> 20 in 63rd yr ( <i>tnpt (m)-ht zp</i> 31) in 2482
5.6	Merenre Nemtiemsaf II			

### Teti

Scholars recognize Teti as the first king of the 6th Dynasty. His name is lacking at the beginning of column six in the Turin Canon (section 6.1), which begins a new section. Teti's name follows that of Unas in the AbKL (no. 34) and in the Saqqara Tablet (no. 33). The years of Teti's reign are not preserved in the Turin Canon, except for "6 months and 21 days" of what was a longer reign.

This new section of the Turin Canon comprises only 13 lines for 13 kings before it ends with summations at section 5.14–5.15 and section 5.16–5.17. It includes the supposed 6th Dynasty having six kings (section 5.1–5.6) followed by the so-called 8th Dynasty having seven kings (section 5.7–5.13), although no division is given. The names of the kings from section 5.1–5.7 are all missing.

The South Saqqara Stone once recorded the years of the kings of the 6th Dynasty. Although the stone was subsequently used as a coffin lid with much of the original text erased, it is still possible to give an estimate of the length of reign from the size of the preserved year blocks and their location for the kings from Teti down to the reign of Pepi II (fifth king of the 6th Dynasty). Michel Baud and Vassili Dobrev estimated that Teti reigned at least 12 years. The mention of cattle counts in the reigns of Teti, Pepi I, and Merenre I, with a recurrent formula in the "year of" infer that biennial counting was used.<sup>40</sup> The 12 years agrees with Teti's highest attested date of a "Year after the 6th occurrence" dated to the third month of *šmw*, day lost, found on a graffito at the alabaster quarry of Hatnub.<sup>41</sup> This date indicates a 13th regnal year.<sup>42</sup>

A census-type count of an unnamed king refers to an 11th-year count (*h3t/rnpt zp* 11) and a date of I *3ht* 20 found on an ink inscription in the tomb of Nykau-Izezi. It

<sup>40</sup> M. Baud and V. Dobrev, "De nouvelles annales de l'Ancien Empire égyptien. Une 'Pierre de Palerme' pour la VIe dynastie," *BIFAO* 95 (1995) 23-92, with translated summary and extracts by F. Raffaele for internet access under "South Saqqara Stone" at <http://xoomer.virgilio.it/francescoraf/hesyra/ssannals.htm>

<sup>41</sup> Posener-Kriéger et al., *Abusir X*, 330; Spalinger, "Dated Texts," 303; Baud, "Dynasties 6 and 8," 146.

<sup>42</sup> Baud, "Dynasties 6 and 8," 156. If a census year refers to the 2nd, 4th, 6th years, and so on, then a *post* census year infers odd-numbered years.

reads, “The eleventh count, first month of the inundation season, day 20. Burial in the necropolis of the hereditary prince, the treasurer of the king of Lower Egypt, Nikauisesi.”<sup>43</sup>

On biennial counting, this refers to a king’s 22nd regnal year. The tomb is located in Teti’s cemetery built during Teti’s reign.<sup>44</sup> The king under whom Nykau-Izezi was buried is not stated, but it could only be Teti or his son Pepi I. Since the highest date for Teti is the year after his sixth count (above), which is compatible with the 12–13 years of the South Saqqara Stone, the tomb inscription could only refer to Teti if the count was annual, but this is contradicted by the use of *zp* in the date. Furthermore, it is contradicted by the two biennial datings of Djedkare Izezi and the one biennial dating accorded Unas already referred to in our discussion of the 6th Dynasty. Eliminating Teti from consideration makes it Nykau-Izezi who must have died in the 22nd year of Pepi I.

As we shall determine, Pepi I’s 22nd year fell in 2584 confirmed by a full moon in his 32nd year (biennial dating) in 2574. Two independent examinations of the skeletal remains of Nykau-Izezi revealed that he was aged about 35–45 years when he died.<sup>45</sup> Assuming that Nykau-Izezi was 45 years of age when he died in 2584, he would have been born in 2629, which falls in the 23rd year of Unas, which is confirmed by his 22nd year-date of a new moon in 2630.

Not being aware of the lunar dates and biennial counting attached to the reigns of Djedkare Izezi and Unas, Egyptologist Naguib Kanawati cited 10 pieces of evidence relating to the tomb of Nykau-Izezi that led him to believe that Nykau-Izezi “was born and most probably started his career under King Isesi,”<sup>46</sup> (i.e. Djedkare Izezi) after whom Nykau-Izezi was named.<sup>47</sup> In order to effect this, Kanawati proposed annual dating for the kings of the 6th Dynasty. He explained the “year after” a census counts as the year *before* the next count took place,<sup>48</sup> which is unprecedented. He makes no reference to the South Saqqara Stone and the cattle counts therein.

In order for Nykau-Izezi to be buried in the 11th year of the reign of Teti, Kanawati proposed that Unas must have had a much shorter reign than 30 years; he suggests about 15 years.<sup>49</sup> Since we have established a 28th year for Unas based on a lunar date and biennial dating, Kanawati’s proposal cannot stand.

Teti’s first year began on the death of Unas in 2622 BCE. According to the South Saqqara Stone he reigned 12–13 years. The Turin Canon has lost his years but gives him 6 months and 21 days (section 5.1), so his reign can be set at 12½ years and the dates 2622–2610/2609.

### Userkare

The name and regnal years of Teti’s successor is lost in the Turin Canon (section 5.2), but the existence of a king called Userkare is attested in the AbKL (no. 35). There is no space for his name in the Saqqara Tablet between Teti and Pepi I. But Userkare is also attested in the South Saqqara Stone. Baud writes:

The available space between the titularies of Teti and Pepy I, when compared to the size of an average year compartment of the latter, indicates that Userkare’s reign must have

<sup>43</sup> N. Kanawati, “A New *h3t/rnpt-zp* for Teti and its Implication for Old Kingdom Chronology,” *GM* 177 (2000) 28.

<sup>44</sup> *Ibid.*, 29–30.

<sup>45</sup> *Ibid.*, 29.

<sup>46</sup> *Ibid.*, 27.

<sup>47</sup> *Ibid.*, 29; see also Baud, “Dynasties 6 and 8,” 154–55.

<sup>48</sup> *Ibid.*, 31.

<sup>49</sup> *Ibid.*, 30, 31.

been brief, from two to four years. This conclusion is consistent with the very few monuments of the king, mostly seal impressions, so far recovered.<sup>50</sup>

Userkare does not appear to have any other known dates recorded from his reign. The time between Teti and Pepi I (who has a lunar date) defines the length for Userkare's reign as 3½ years. Thus Userkare can be attributed the dates of 2610/2609–2606. It is thought that Teti was murdered by his guards, so Userkare may have been a usurper, subsequently ousted by Teti's son, Pepi I.<sup>51</sup>

### Pepi I (Meryre)

The Turin Canon has lost Pepi's name but attributes to him 20 years (section 4.3). He is known as Meryre in the AbKL (no. 36) and as Pepi in the Saqqara Tablet (no. 34). His highest date comes from the South Saqqara Stone annals, which, in the block allocated to Pepi, mentions *rnpt zp 25* at the end of a column, and after this date no more space in the compartment is allowed for further records.<sup>52</sup> On biennial counting, the date refers to his 50th year, and is consistent with the biennial dating already observed for Teti and Userkare. However, this is inconsistent with the 20 years allotted him by the Turin Canon. How long then did Pepi I reign?

Pepi I celebrated a first jubilee, normally understood to refer to a king's 30th regnal year. However, the texts mentioning his jubilee raise problems. Two expedition graffiti refer to the *year after the 18th occurrence*, one from Wadi Hammamat (no. 107) (*rnpt ht zp 18*) giving the date of III *šmw 27* and mentioning the first jubilee, and the other from Sinai graffito (no. 16) (*rnpt m- ht zp 18*) giving the date IV *šmw 5*, also mentioning the first jubilee.<sup>53</sup> Both texts indicate a year 37 associated with the first jubilee.

There is also a record of an expedition to the Hatnub quarry on the date of *rnpt zp 25 1 3ht* with the day-date missing on a graffito (no. III), apparently referring to Pepi I's first jubilee.<sup>54</sup>

On biennial dating, the 25th year would be Pepi's 50th year, which concurs with his years on the South Saqqara Stone, but not consistent with a 30th-year jubilee 20 years previously. However, Baud points out that, "There is no direct equation between the first jubilee and the date of the [Hatnub] expedition."<sup>55</sup> Furthermore, he notes that there was "a tendency to mention the jubilee repeatedly in the years following its celebration."<sup>56</sup> Concerning the South Saqqara Stone annals, he observes that there is *only half* the usual space between year 18+ and 19 at the end of register D (in Pepi I's reign), and not appropriate for a jubilee celebration, whereas at the beginning of register D the compartment is *more than half* the average length, corresponding to the 30th/31st year on a biennial count.<sup>57</sup> Thus the jubilee can be credited to Pepi I's 30th/31st years since the discrepancy caused by the dates need not be inexplicable.

Baud also refers to a year 32 on a block found at Pepi I's pyramid at Saqqara. Since this block appears to have come from an *early* stage of construction, and the other

<sup>50</sup> Baud, "Dynasties 6 and 8," 146.

<sup>51</sup> N. Grimal, *A History of Ancient Egypt* (Oxford: Blackwell, 1992) 81.

<sup>52</sup> Baud and Dobrev, "De nouvelles annales,"; Posener-Kriéger et al., *Abusir X*, 331.

<sup>53</sup> Posener-Kriéger et al., *Abusir X*, 331; Spalinger, "Dated Texts," 303-4; Baud, "Dynasties 6 and 8," 148.

<sup>54</sup> Spalinger, "Dated Texts," 304; Baud, "Dynasties 6 and 8," 148. Posener-Kriéger et al., *Abusir X*, 331.

<sup>55</sup> Baud, "Dynasties 6 and 8," 149.

<sup>56</sup> *Ibid.*, 150.

<sup>57</sup> *Ibid.*

counts are no greater than Pepi I's 50th year—therefore, no 64th year—Baud concludes that there were two counting systems: the annual, and the biennial.<sup>58</sup>

In connection with the king's 32nd year, O'Mara writes, "A casing block from the Meidum pyramid bearing the date of IV 3 $h$ t 14 from *sp* 16 of an unknown king requires a more complex analysis."<sup>59</sup> He attributes this date to a *full moon* (*šmdt*).<sup>60</sup> Since the previous new moons of *zp* 11 and *zp* 14 that O'Mara placed with Unas's 22nd and 28th years, respectively, were, according to biennial dating, by analogy, *zp* 16 refers to a king's 32nd year.

There are only three kings in this period of history to which the date of IV 3 $h$ t 14 might apply: Djedkare Isesi, Pepi I, and Pepi II. A *full moon* on IV 3 $h$ t 14 occurs in cycle year 1 with years ending in this period of history in 74/49/24/99.<sup>61</sup> Djedkare Isesi's first year began in 2708 BCE; thus, his 32nd year was 2676, which is not applicable. Pepi I's first year began in 2606 BCE; thus, his 32nd year fell in 2574, which is applicable. We have yet to discuss the reign of Pepi II, but, as we shall see, his first year began in 2542; thus, his 32nd year fell in 2510, which is not applicable. Therefore, the only king whose 32nd year had a full moon date on IV 3 $h$ t 14 is Pepi I in 2574. Caspersen's Table 16.10 shows the date.

**Table 16.10: Full Moon date in Pepi I's 32nd year in -2573 (full moon listing from -2573)**

Memphis; Lat. 29.9, Long. 31.2.												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-2573	8	10	-2573	7	20	208	3	14	6	19:48	5:07	18:07
-2573	9	9	-2573	8	19	208	4	14	1	13:50	5:28	18:28
-2573	10	9	-2573	9	18	208	5	14	3	8:50	5:56	18:56

DoW = day of week.

The 32nd year-date proves that Pepi I reigned longer than 25 years; thus, his 25th cattle count refers to his 50th year on biennial dating, which would give the date of 2556 to his final year. Why, then, does the Turin Canon assign him just 20 years? See the next section.

### Merenre Nemtiemsaf I

The fourth king of the 6th Dynasty is not named in the Turin Canon, but it gives to this king a broken [...]4 years. He is known as Merenre in the AbKL (no. 37) and in the Saqqara Tablet (no. 35). He is otherwise known as Merenre Nemtiemsaf I, the latter being his nomen.

Based on the number and size of the last preserved year blocks in the South Saqqara Stone, (register F of the recto), Baud and Dobrev estimate that Merenre reigned 11–13 years.<sup>62</sup>

Merenre's highest attested year is the "year after the 5th count" found on Hatnub graffito no. VI<sup>63</sup> indicating that he reigned at least 11 years. This suggests that the Turin

<sup>58</sup> Ibid., 148-49.

<sup>59</sup> O'Mara, "Dating the Sed Festival," 65.

<sup>60</sup> Ibid.

<sup>61</sup> O'Mara used a different time-frame based on his chronology and different 25-year cycle dates (2452/27/02) and tentatively proposed Teti I as the unnamed king providing he had a co-regency with Pepi I for the first or second year, although he admitted that there was no direct evidence. He noted a co-regency of Pepi I and Merenre ("Dating the Sed Festival," 65-66).

<sup>62</sup> Spalinger, "Dated Texts," 307; Baud, "Dynasties 6 and 8," 151.

<sup>63</sup> Baud, "Dynasties 6 and 8," 152, 156.

Canon originally credited Merenre I with [1]4 regnal years. However, Kim Ryholt, who has made a study of the fragments of the Turin Canon, points out that with regard to the damaged regnal years for Nemtiemsaf I, “The trace immediately before ‘4’ is quite incompatible with ‘10’. The sign in question is clearly a dot.”<sup>64</sup>

Ryholt explains that the traces for the word year (*rnpt*) align perfectly with this group of kings’ regnal years, as well as aligning with the line above and two lines below. He continues, “As for the damaged numeral following *rnpt*, the reading ‘40’ proposed by Gardiner would suit the dot perfectly, since ‘40’ in hieratic is written with a dot above a horizontal stroke. In this case the reign was recorded as ‘44 years’.”<sup>65</sup>

How then are we to understand the 44 years when the South Saqqara Stone indicates about 13, perhaps giving [1]4 years to Merenre? It may be noted that the 20 years of the Turin Canon for Pepi I plus 44 years for Merenre give 64 years. On the other hand, the 50 years given Pepi I in the South Saqqara Stone plus 14 years also give 64 years. This suggests that there was a co-regency between father and son, and that their regnal years have been allocated differently in the Turin Canon and the South Saqqara Stone. That would allow 64 years between the accessions of Pepi I and Pepi II, and concurs with Pepi I’s reign beginning in 2606 and Pepi II’s beginning in 2542. Pepi I reigned 20 years followed by a 30-year co-regency with Merenre I. After Pepi’s death Merenre reigned a further 14 years, reigning 44 years altogether.

Hans Goedicke considered it to be “fairly certain” that Pepi I and his son Merenre Nemtiemsaf I had a co-regency.<sup>66</sup> He points out that “a gold trinket with both royal names written on it and the famous copper statue of Pepi I found at Hieraconpolis, which had a smaller figure accompanying it,” are specific evidence of the co-regency.<sup>67</sup>

### **Pepi II (Neferkare)**

Merenre Nemtiemsaf I was succeeded by Pepi II. His name is missing in the Turin Canon but it attributes to the king 90 regnal years (section 5.3). The AbKL refers to him as Neferkare (no. 38) as does the Saqqara Tablet (no. 36). Only a part of Pepi II’s reign was carved on the verso of the South Saqqara Stone after those of Merenre’s and his years are not given.

There are various known years for Pepi II ranging from *rnpt zp 2* to *rnpt (m)ht zp 31* with an additional *rnpt zp 33* or 24.<sup>68</sup> So even without the latter giving him 66 years, Pepi II has an attested 63rd regnal year.

O’Mara recognizes two lunar dates from Pepi II’s reign because they both number back to the same first year. The earlier of the two lunar dates comes from Pepi II’s fourth year. O’Mara writes, “The well-known ‘pygmy letter’ of the child Pepi to his expedition commander Harkhuf is highly suggestive of a Full Moon dating, inasmuch as its dispatch was on the 15th day of the civil month: III *3ht* 15 of *sp* 2. Might this have been as well the 15th day (*smdt*) of the natural lunar month, a sort of reinforcement of the symbolic date?”<sup>69</sup>

<sup>64</sup> K. Ryholt, “The Late Old Kingdom in the Turin King-List and the Identity of Nitocris,” *ZÄS* 127 (2000) 90.

<sup>65</sup> Ryholt, “Late Old Kingdom,” 90, and see n. 17.

<sup>66</sup> H. Goedicke, “The Death of Pepi II-Neferkare,” *SAK* 15 (1988) 118.

<sup>67</sup> *Ibid.*, 118.

<sup>68</sup> Spalinger, “Dated Texts,” 307-8; Baud, “Dynasties 6 and 8,” 152-3.

<sup>69</sup> O’Mara. “Can the Gizeh Pyramids,” 77. Harkhuf captured a pygmy on one of his expeditions to Nubia. On hearing of this, the young king, Pepi II, sent word to Harkhuf that he would be greatly rewarded if he brought the pygmy back alive, presumably to be used for court entertainment.

As noted above there were 64 years between the accessions of Pepi I and II, with Pepi II's first year beginning in 2542 BCE. This date comes from his fourth year (*zp* 2) falling in 2538. Caspersen provides the full moon information in Table 16.11.

**Table 16.11: Pepi II's fourth year in –2537 (full moon listing from –2537)**

Memphis; Lat. 29.9, Long. 31.2.												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–2537	7	4	–2537	6	13	244	2	16	7	4:39	5:02	18:02
–2537	8	2	–2537	7	12	244	3	15	1	18:18	5:04	18:04
–2537	9	1	–2537	8	11	244	4	15	3	10:45	5:22	18:22

DoW = day of week.

A full moon fell on III *3ht* 15 in Pepi II's fourth year in 2538 BCE confirming his accession in 2542, and also confirming that biennial dating was used for the king's regnal years.

Referring to the second lunar date for Pepi II, O'Mara writes, "A graffito inscription from Hatnub by a local official bears the name Neferkare in a cartouche and a portrait of the king seated on his throne. The date is I *šmw* 20 of the year after the 31st count (*sp* 31+), regnal year 62 or 63."<sup>70</sup> Since Pepi II's first year dates to 2542 BCE his 62nd or 63rd year will date to ca. 2479–2478 BCE (see Table 16.12).

**Table 16.12: Pepi II's 63rd year in –2477 (new moon listing from –2478 and –2477)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–2478	12	21	–2478	12	1	303	8	21	6	17:58	6:54	236	6:55	118	6:55	12
–2477	1	20	–2478	12	31	303	9	21	1	11:52	6:58	190	6:58	78	6:58	–2
–2477	2	19	–2477	1	30	303	10	21	3	3:10	6:44	139	6:44	51	6:43	–13

DoW = day of week; ToD = time of day.

A new moon date of I *šmw* 20 fell in January 20 in 2478 BCE, thus confirming Pepi II's 63rd year. This concurs with biennial dating (*zp* 31+), the *year after* the 31st count.

### How Long did Pepi II Reign?

From the Hatnub graffito, we know Pepi II reigned at least 63 years.<sup>71</sup> But did he reign the 90 years given him in the Turin Canon (section 5.5)? Noted above is another less certain year count of *rnpt zp* 33 (?) or 24 (?) found in a decree for the mortuary cult of Queen Udjebten at Saqqara.<sup>72</sup> If it is 33 then on biennial dating it refers to Pepi II's 66th year.

Goedicke, who proposed that Pepi II reigned only 64 years, objected to the reading of the 33rd year on the basis of the arrangement of the numerals, and preferred the reading of the 24th year because it would "place the concern for Queen Udjebten into a more probable context; she did not belong to the late reign of Pepi II, but had died long before him."<sup>73</sup> Goedicke also points out that if Pepi II had reigned 90 years, there are no records for the last 30 years of his reign, which "is difficult to accept."<sup>74</sup> Goedicke

<sup>70</sup> O'Mara. "Can the Gizeh Pyramids," 76–77. O'Mara attributes this to Rudolf Anthes', *Die Felsinschriften von Hatnub nach den Aufnahmen Georg Möllers*; Leipzig: 1928, pl. 12, 12a.

<sup>71</sup> Spalinger, "Dated Texts," 308; Baud, "Dynasties 6 and 8," 153.

<sup>72</sup> Goedicke, "Death of Pepi II," 112; Spalinger, "Dated Texts," 308; Baud, "Dynasties 6 and 8," 153.

<sup>73</sup> Goedicke, "Death of Pepi II," 112.

<sup>74</sup> *Ibid.*, 112.



suggests limiting Pepi II's reign to 64 years on the basis of a scribal error, reducing the figure of 94 years given to a Phiops by Manetho,<sup>75</sup> whom he assumes is the same king.<sup>76</sup>

Lacking any higher counts than his 63rd (or 66th?) year, the length of Pepi II's reign has to be determined on the basis of the number of years allocated to the 6th Dynasty and to the following 8th Dynasty which *together* are attributed 187 years, 6 months, and 3 days by the Turin Canon in its summation at section 5.14–5.15. If Pepi II reigned 90 years, he may be assigned the dates 2542–2452 BCE. Following Pepi II, there is just one more king in the 6th Dynasty.

### Merenre Nemtiemsaf II

The name of Pepi II's successor is lost in the Turin Canon, but he is given a reign of one year and one month (section 5.6). He is referred to as Merenre Saemsef in the AbKL (no. 39), and is known as Merenre Nemtiemsaf II. In the Saqqara Tablet, his name and that of successive kings down to the 12th Dynasty are lacking—apart from two 11th Dynasty kings (nos. 45 and 46) that come *after* the listing of the 12th Dynasty rulers (nos. 37–44).

Posener-Kriéger's discussion concerning the papyrus from Neferefre's mortuary temple ended with Pepi I.<sup>77</sup> The South Saqqara Stone ends with the reign of Pepi II. From Pepi II onward we have only the names of the kings in the Turin Canon and the AbKL for the last king of the 6th Dynasty and those of the 8th Dynasty that follow.

Neither Spalinger nor Baud mention Merenre II in their discussion of texts and years in the aforementioned literature. The Turin Canon assigns one year and one month to Merenre II. If Merenre's one year followed Pepi II's 90th year Merenre may be attributed the years 2452–2451 BCE. On the above dates, the 6th Dynasty lasted a period of 171 years and 1 month. That leaves ca. 16 years for the 8th Dynasty. If this can be shown to be the correct number of years, then Pepi II can be given a reign of 90 years. (This number of years is established in the next chapter.) On this basis, Table 16.13 below provides the years for the kings of the 6th Dynasty, together with two other summaries arising from the foregoing discussion.

### Summary 1: The Kings' Regnal Years and Dates of the 6th Dynasty

**Table 16.13: 6th Dynasty: Reconstructed from the Turin Canon, the South Saqqara Stone, and three lunar dates**

Ref. Turin Canon	King	Regnal years	Dates	Lunar dates
5.1	Teti	12 yr, 6 mo, 21 d	2622–2610/9	
5.2	Userkare	3½	2610/2609–2606	
5.3	Pepi I	20 (50 SSS; co-regent 30yrs)	2606–2586; or 2606–2556	Full moon IV <i>3ḥt</i> 14 in 32nd year ( <i>rnpt zp</i> 16) in 2574
5.4	Merenre Nemtiemsaf I	44 (14 SSS; co-regent 30 yr)	2586–2542; or 2556–2542	
5.5	Pepi II	90	2542–2452	Full moon III <i>3ḥt</i> 15 in 4th yr ( <i>rnpt zp</i> 2) in 2538. New moon I <i>šmw</i> 20 in 63rd yr ( <i>tnpt (m)-ḥt zp</i> 31) in 2482
5.6	Merenre Nemtiemsaf II	1 yr, 1 mo.	2452–2451	
<b>Total</b>		<b>171 yr, 1 mo, 21 d</b>	<b>2622–2451</b>	

SSS = South Saqqara Stone.

<sup>75</sup> Manetho, 54–55.

<sup>76</sup> Goedicke, "Death of Pepi II," 115.

<sup>77</sup> Posener-Kriéger et al., *Abusir X*, 331.

The 6th Dynasty lasted approximately 171 years from 2622 to 2451 BCE. Caution is applicable to the summary statements in the Turin Canon as for every other name or length of reign. The summaries are neither to be accepted without question, nor summarily dismissed. In piecing together fragmentary evidence from a range of sources, each item must be treated with caution and taken on its merits. Corroboration then assumes great importance, which, in the cases of the 6th and 8th Dynasties, is helpfully supplied by astronomical detail from inscriptions that can be confirmed by fixed and factual tables such as those provided by Casperson, the HELIAC program, and other authorities.

### Summary 2: The System of Dating

Of the eight lunar dates that have been discussed in the latter half of the 5th Dynasty (from and including Neferefre) and the 6th Dynasty, six have been recorded using the biennial method of counting and a seventh is assumed by analogy. The exception is Neferefre's new moon date obtained from the *w3gy* date in his reign, which falls on the 18th day of a lunar month on an annual dating system. The analogous *biennial* date is that from the duty list of pBM 10735 where the date of II *šmw* 18 is presumed to have once been attached to a "year after the 16th count" of Djedkare's reign or his 33rd year, which agrees with the 25-year lunar cycle dates.

If the census counts had been irregular, and not every second year, then the lunar dates would not have coincided with the regnal years specified in the inscriptions. There is no basis to the idea of years being "skipped" in accordance with a theoretical intercalary lunar month about every third year as John Nolan proposed.<sup>78</sup>

When kings' regnal years are attested as "years of" and "years after" for census counts, it is evident that a biennial count is indicated. On the other hand, there is no evidence that the Turin Canon ever recorded the regnal years of the kings by anything other than annual dating.

Two methods of numbering kings' regnal years were being used in the early dynasties. We have witnessed this in the 5th and 6th Dynasties and, as we shall see, it is explicitly demonstrated in the compartments of the Palermo Stone in the Royal Annals in which not only is one compartment given to each separate year—and thereby using an annual count—but also some were numbered according to biennial census counts beginning with the king's second regnal year, which is his first census count.<sup>79</sup> See chapter 18.

### Summary 3: Data Comparisons for the 6th Dynasty between the Turin Canon and Manetho

We now compare the above table of Dynasty Six with the Dynasty Six provided by *Manetho*.<sup>80</sup> The six kings are listed only by Africanus, shown below. The last ruler is Queen Nitocris, whom Africanus alludes to as "The noblest and loveliest of the women of her time, of fair complexion, the builder of the third pyramid, [who] reigned for 12 years."<sup>81</sup>

The *Manetho* versions of Eusebius and the Armenian do not refer to the first five kings, mentioning only Queen Nitocris giving her much the same accolades as Africanus. Eusebius gives her three years, and 203 years in another copy, but the latter is

<sup>78</sup> J.S. Nolan, "The Original Lunar Calendar and Cattle Counts in Old Kingdom Egypt," *Aegyptiaca Helvetica*, 17 (2003) 75-97; idem, "Lunar Intercalations," 44-60.

<sup>79</sup> The problem of counting in Sneferu's seventh and eighth years will be addressed in the context of discussing the Royal Annals, chap. 20, pp. 292-294.

<sup>80</sup> *Manetho*, 54-57.

<sup>81</sup> *Ibid.*, 54-55.

the total of years for the 6th Dynasty as given by the Armenian, although the reigns as given add up to only 197 years.

**Table 16.14: Comparison of the 6th Dynasty from the Turin Canon and *Manetho* (Africanus)**

Turin Canon			Manetho (Africanus)		
Ref.	King-names supplied from AbKL and Saqqara Tablet	Years	No.	King	Years
5.1	Teti	12 yr, 6 mo	1	Othoes	30
5.2	Userkare	3½	2	Phius	53
5.3	Pepi I	20 (50 SSS; co-regent 30 yr)	3	Methusuphis	7
5.4	Merenre Nemtiemsaf I	44 (14 SSS; co-regent 30 yr)	4	Phiops	94
5.5	Pepi II	90	5	Menthesuphis	1
5.6	Merenre Nemtiemsaf II	1 yr, 1 mo	6	Q. Nitocris	12
<b>Total</b>		<b>171 yr, 1 mo</b>			<b>197</b>

AbKL = Abydos King-list.

The comparison of the dynasties given by *Manetho*, the AbKL, and the Saqqara Tablet (which give the names missing in the Turin Canon) demonstrate that the kings are not the same, neither by name nor by number of regnal years. While Pepi II with 90 years is identified by scholars with Phiops with 94 years, their place and years in the respective lists set them apart: 90 years precede Phiops in *Manetho*, and 80 years precede Pepi II in the Turin Canon, with different distributions of years to the preceding kings in both lists. I can only conclude that the kings of *Manetho*'s dynasties lived in different locations from those kings I have discussed above. I will have more to say about Queen Nitocris being identified by scholars with the first *king of the 8th Dynasty* in the Turin Canon (section 5.7) in the next chapter.

### 7th Dynasty

Scholars assign the kings of 5.7–5.13 in the Turin Canon to the 8th Dynasty because they find no evidence of a 7th Dynasty—apart from that referred to by *Manetho*. Africanus says that the 7th Dynasty consisted of 70 kings of Memphis who reigned 70 days. Eusebius says it consisted of five kings who reigned for 75 days, and the Armenian says it was five kings who “held sway” for 75 years!<sup>82</sup> From this garbled account we cannot come to any conclusion as to how long the 7th Dynasty lasted. However, since *Manetho*'s 5th and 6th Dynasties are not demonstrably the same as those assigned to the 5th and 6th Dynasties in the Turin Canon, there is no reason to believe that the 7th Dynasty given by *Manetho* is represented in the Turin Canon.

<sup>82</sup> Ibid., 56-59.



## Chapter 17

### Clarifying the 8th Dynasty

The last king of the 6th Dynasty, Merenre Nemtiemsaf II, with one year and one month in the Turin Canon at section 5.6 is followed—without the interruption of a summation line—by the next seven kings who are referred to by Egyptologists as the kings of the 8th Dynasty. The next summation comes at section 5.14–5.15 of the Turin Canon at the end of the 8th Dynasty. It attributes 187 years, 6 months, and 3 days to the period from the beginning of the 6th Dynasty (Teti) to the end of the 8th Dynasty. Since the 6th Dynasty lasted 171 years, 1 month, and 21 days, the 8th Dynasty would account for about 16–17 years.

#### New Join in Turin Canon

In Kim Ryholt's examination of the Turin Canon papyrus he matched fibres in fragments 43 and 40 of column five and discovered that fragment 43 should be *moved up a line* from what had previously been the alignment.<sup>1</sup> Fragment 43 is now adjoined on its left side by the only two lines of fragment 40. Had the lines been complete they would have ended between fragments 59 and 61 on the left. This places the line for Netiqerty (or Nitekrete) in its extant part under and to the right of the name of Nemtiemsaf II where previously there had appeared to be a line without surviving text.

Ryholt notes that the new join has disclosed that Netiqerty's nomen is Siptah (section 5.7) and that the nomen of his successor, Neferkare, is Khered-Sonb (section 5.8).<sup>2</sup> Ryholt considers the latter is a corruption of Pepi-Sonb,<sup>3</sup> seen in the Abydos King-list (AbKL; no. 51). Since Netiqerty Siptah and Neferkare Pepiseneb (Sonb) come from the same fragment, it appears that they reigned consecutively.

Table 17.1 shows a comparison of the names and years of the kings in the Turin Canon and their counterparts by name in the AbKL.

**Table 17.1: Comparison of names in the Turin Canon and Abydos King-list (AbKL) for the 8th Dynasty**

Turin Canon			AbKL	
Ref. no.	King	Years	No.	King
5.7	Netiqerty	lost	50	Neferkahor
5.8	Neferka[...]	lost	51	Neferkare Pepiseneb
5.9	Nefer[...]	lost	52	Sneferka Anu
5.10	Ibi I	2 yr, 1 mo, 1 d	53	Kaukare
5.11	lost	4 yr, 2 mo	54	Neferkaure
5.12	lost	2 yr, 1 mo, 1 d	55	Neferkauhor
5.13	lost	1	56	Neferirkare

<sup>1</sup> K. Ryholt, "The Late Old Kingdom in the Turin King-List and the Identity of Nitocris," ZÄS 127 (2000) 87-89.

<sup>2</sup> Ibid., 92-94.

<sup>3</sup> Ibid., 94.

It is important to note that Netiqerty (section 5.7) is identified with Neferkahor (no. 50). This suggests that Netiqerty was known also as Netiqerty Neferkahor Siptah. The names of the remaining kings are identifiable: Neferka at section 5.8 is Neferkare-Pepiseneb, and Nefer at section 5.9 is Sneferka Anu. Their years are now lost. Ibi I at section 5.10 is Kaukare. He is identified with Kaukare (or Qakaure) because his prenomen is written in a pyramid text. He was known as Qakare Ibi.<sup>4</sup> In the Turin Canon, due to the realignment of fragment 43 line 10 with fragment 61 line 10, Ibi I becomes the only king of the 8th Dynasty in the Turin Canon to have his name and his number of years preserved: two years, one month, and one day.

The remaining three kings whose *names* have survived only in the AbKL, have their regnal *years* in the Turin Canon. Neferkaure has four years and two months; Neferkauhor has two years, one month, and one day; and Neferirkare has one year, though the reading is uncertain.

### Comparison of Turin Canon Kings Section 5.6–5.13 with AbKL nos. 39–56

Between the name of Merenre Saemsaf (Merenre Nemtiemsaf II) at no. 39 in the AbKL are the names of 10 *kings* that are *not represented in the Turin Canon*. These are shown in the right column of Table 17.2, nos. 40–49.

**Table 17.2: Comparison of the Turin Canon and Abydos King-list (AbKL) after Merenre Nemtiemsaf II**

Turin Canon			AbKL		Additional kings in AbKL	
Ref. no.	King	Years	No.	King	No.	King
5.6	Merenre Nemtiemsaf II	1 yr, 1 mo	39	Merenre Saemsaf		
5.7	Netiqerty (Siptah)	lost	50	Neferkahor	40	Netjerirkare
5.8	Neferka[...] (Khered-Sonb)	lost	51	Neferkare Pepiseneb	41	Menkare
5.9	Nefer[...]	lost	52	Sneferka Anu	42	Neferkare II
5.10	Ibi I	2 yr, 1 mo, 1 d	53	Kaukara [Ibi]	43	Neferkare Neby
5.11	lost	4 yr, 2 mo	54	Neferkaure	44	Djedkre Shemai
5.12	lost	2 yr, 1 mo, 1 d	55	Neferkauhor	45	Neferkare Khendu
5.13	lost	1 (yr uncertain)	56	Neferirkare	46	Merenhor
					47	Sneferka
					48	Nikare
					49	Neferkare Tereru

The question is whether the kings in the far-right column are missing from the Turin Canon or whether they were *never in* the Turin Canon. Were they a collateral line of kings and not part of the Turin Canon lineage? In other words, is Nemtiemsaf II succeeded by Netiqerty (Neferkahor of the AbKL, no. 50) or by Netjerikare (no. 40)? The question can be resolved due to a full moon date that applies to one of the kings of the 8th Dynasty, who, however, is not named (see page 251 below). Therefore, I need to reconstruct the chronology given by the Turin Canon and ascertain which, if any, of those kings has the full moon date in his reign. If the full moon date applies to a king of the 8th Dynasty as given above (that is, Netiqerty to Neferirkare) it will anchor his reign and that will determine whether another 10 kings should come between Merenre Nemtiemsaf II and Netjerikare, or whether Merenre is immediately followed by Netiqerty. However, we first need to note the summation that appears at section 5.14–5.15 because it is essential to the understanding of the chronology.

Ryholt supplies the following. All that remains now is:

‘[Total] of kings [down to (?) ... X; their years] 181, 6 [months], 3 days: *wsf* 6; total [...]’<sup>5</sup>

<sup>4</sup> Ibid., 99.

<sup>5</sup> Ibid., 94.

The summation at section 5.14–5.15 gives a subtotal of 181 years, 6 months, and 3 days, to which is added a “lost” (*wsf*) six years, which would give the missing total of 187 years, 6 months, and 3 days. This total spans the section beginning with Teti (section 5.1) to the last king in this group (section 5.13). Of this total, 171 years, 1 month, and 21 days has been allocated to the 6th Dynasty leaving approximately 16½ years for the 8th Dynasty. The six *wsf* years would be included in the amount as they are needed for the total number. The only kings without regnal years in the 8th Dynasty are the first three who may then be assigned two years each since none of their individual reign lengths is known.

The second summation (section 5.16–5.17) includes the period of the 6th and 8th Dynasties plus the preceding period back to Menes, the first king of the 1st Dynasty. It reads, “[Total] of kings [beginning with] Menes, their kingship, their years [their (?)] *wsf*, [...] 9 months, 15 days, *wsf*: 6 years. Total [of kings, X], 955 [ye]ars, 10 days.”<sup>6</sup>

The subtotal before the six missing (*wsf*) years is partly lost ending only in a “9,” but it can be reclaimed by subtracting six years from the total, which gives 949 years for the subtotal.<sup>7</sup> By subtracting the 181 years, 6 months, and 3 days given for the 6th and 8th Dynasties from the total of 955 years, it provides 767 years, 6 months, and 7 days for the missing summation total at section 4.26—being the number of years from Menes down to Unas.

### Full Moon Date in the 8th Dynasty?

Having ascertained the regnal years for the kings, we can now return to the question of whose reign the full moon date fell in, in order to determine whether the 10 kings from the AbKL should be fitted in between Merenre Nemtiemsaf II (no. 39) and Neferkahor (no. 50)—the latter aligned with Netiqerty in the Turin Canon.

Hans Goedicke published a full moon date in 1994, which he attributed to the 8th Dynasty.<sup>8</sup> The inscription is now designated as Cairo JE 43290. The text is inscribed on a broken piece of stela made of “dark grey diorite typical of Coptic monuments from the very end of the Old Kingdom.” Because of its shape, Goedicke suggests the piece of stone came from a temple wall, being a copy of an original papyrus document. The stela describes a legal contract between two parties, the god Min and a certain *Htp-k3-Mnw*, described as the “king’s son,” which may or may not have been his actual status. That this contract was undertaken at the time of the full moon, a festive occasion, is not in doubt.

Goedicke translates from line one of the text, which gives the date of the document: “Year (1) 4th month of *3ht*, day 25—the day of the Half-moon feast.” The year-numeral is missing but the presence of a year two in line six indicates that the first line must refer to year one.<sup>9</sup> Thus the king in whose reign the feast occurred must have reigned at least into his second year if not longer. Goedicke attributes the inscription to the reign of *Nfr-k3w-Hr* of the 8th Dynasty; that is, Neferkauhor (section 5.12), whom he incorrectly states is the dynasty’s third ruler.<sup>10</sup> Neferkauhor is actually the sixth and penultimate king.

<sup>6</sup> Ibid.

<sup>7</sup> Ibid., 95. Ryholt notes that “No months were recorded, the number being zero.”

<sup>8</sup> H. Goedicke, “A Cult Inventory of the Eighth Dynasty from Coptos,” *MDAIK* 50 (1994) 71-84.

<sup>9</sup> Ibid., 71-72. Referring to the regnal year “*rmpt zp <1?>: IV 3ht 25*” in Goedicke’s article, M. Baud remarked that, “The numeral is omitted, but 1 is the most likely emendation ... This could refer to the first incomplete civil year—year 0 usually designated *zm3 t3wy*. This inscription presumably originates from Coptos or nearby Khozam” (Baud, “Dynasties 6 and 8,” *Ancient Egyptian Chronology* [eds. E. Hornung, R. Krauss, and D. Warburton; Leiden and Boston: Brill, 2006] 157 n. 79).

<sup>10</sup> Goedicke, “Cult Inventory,” 83-84.

Spalinger wrote in 1994: “This small text is extremely important as it provides a lunar equivalent (day 15) to the civil day of 4 *3ht* 25. Although no royal name is mentioned, a *z3 nsw* [king’s son] with the name *Htp-k3-Mnw* appears; the figure of 2 seems the most reasonable.”<sup>11</sup>

Goedicke says, “It is apparently *Htp-k3-Mnw*’s social standing in Coptos which is behind the contract with the god Min reflected in the text concerning us. The political background for the implicit emphasis on Min’s culture reflected here is in the importance of the Coptos district during the Eighth Dynasty.”<sup>12</sup>

Henry Fischer disputes the 8th Dynasty date, asserting it belongs to the early 11th Dynasty.<sup>13</sup> Does the full moon date apply to the 8th or early 11th Dynasty? If the full moon date applies to the “8th Dynasty” equated with Turin Canon’s section 5.8–5.13, it has to fall within the 16–17 years beginning in 2451/2450, and ending in 2435/2434 when the 187 years and 6 months period would end. The full moon of IV *3ht* 25 occurs every 25 years in dates ending in 64/39/14/89 (cycle year 14) in this period of history. Looking at Casperson’s Table 17.3, we see that a full moon fell on IV *3ht* 25 in the year –2438 (2439 BCE).

**Table 17.3: Full moon listing from –2438**

Thebes; Lat. 25.7, Long. 32.6.												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–2438	7	19	–2438	6	29	343	3	26	6	6:17	5:11	18:11
<b>–2438</b>	<b>8</b>	<b>17</b>	–2438	7	28	343	<b>4</b>	<b>25</b>	7	16:48	5:20	18:20
–2438	9	16	–2438	8	27	343	5	25	2	5:60	5:39	18:39

DoW = day of week.

This date applies to the reign of Neferkauhor, penultimate king of the “8th Dynasty” who reigned two years, one month, and one day (section 5.13) and confirms the identity of the king as suggested by Goedicke and von Beckerath.<sup>14</sup> Since the full moon is dated to the king’s year one, his first year must include 2439 BCE. Assuming his first year began in the second half of 2439 and he reigned for two years and one month, his successor, Neferirkare, would have reigned from 2437/2436–2434 BCE depending on the date of his accession.

The Turin Canon gives Neferirkare at least one year (section 5.13)—the actual number being uncertain. However, from the beginning of Teti’s reign at the start of the 6th Dynasty to the end of Neferirkare’s reign at the end of the 8th Dynasty, there are 187 years, 6 months, and 3 days according to Turin Canon section 5.14-5.15. Since Teti’s reign started in 2622, 187 years and 6 months later, Neferirkare’s reign would have ended in 2434, concurring with the full moon date in Neferkauhor’s reign in 2439.

### Summary of reigns

Reckoning backward from Neferkauhor, his predecessor, Neferkaure, had a reign of four years and two months, and can be dated to 2443–2439. His predecessor, Qakare Ibi, having a reign of two years and one month, can be dated to 2445–2443. The first three kings have been assigned the six *wsf* years giving them two years each. Neferkamin reigned two years from 2447 to 2445; Neferkare Pepi-Sonb reigned for two years from

<sup>11</sup> Spalinger had seen the citation before the stela was published by H. Goedicke. A.J. Spalinger, “Dated Texts of the Old Kingdom,” *SAK* 21 (1994) 312-13 and n. 102.

<sup>12</sup> Goedicke, “Cult Inventory,” 74.

<sup>13</sup> H.G. Fischer, “Notes on Some Texts of the Old Kingdom and Later,” *Studies in Honor of William Kelly Simpson* (ed. P. Der Manuelian, Boston: Museum of Fine Arts; 1996) 267-70.

<sup>14</sup> J. von Beckerath, “The Date of the End of the Old Kingdom,” *JNES* 21 (1962) 143.



2449 to 2447; and Netiqerty Neferkauhor Siptah reigned for two years from 2451 to 2449. Netiqerty's reign begins where Nemtiemsaf II's reign ends. This all seems fairly straightforward.

However, Ryholt wanted to include the 10 kings in the AbKL from Menkare (no. 41) to Neferkahor (no. 50), the predecessor of Neferkare Pepi-Sonb (no. 51). Ryholt separated Neferkahor from Pepi-Sonb and aligned *Netjerikare* (no. 40) with Netiqerty Siptah (section 5.7 Turin Canon) and fitted in the 10 “missing kings,” Menkare to Neferkahor, into the Turin Canon. Is it possible then that the full moon date should be applied to a later king, such as in the 11th Dynasty as suggested by Henry Fischer? A later date might provide years into which these kings between Netjerikare Siptah and Neferkare Pepi-Sonb might be inserted.<sup>15</sup>

The above time-frame given for the kings and the full moon date can now be compared with Fischer's alternative proposal that stela Cairo JE 43290 with the full moon date came from the early 11th Dynasty. This dynasty is represented in the Turin Canon in section 6.12–6.17. The full moon date has to fall in one of the years ending in 61/36/11/86. To pre-empt the later discussion, the first year of Mentuhotep II fell in 2186 BCE. This date is gained from the regnal years allocated to his predecessors and by a Sothic rising date attributed to the date of II *pri* 21, which fell in 2186 at Thebes. However, in the intervening years since the 8th Dynasty, the dates associated with cycle year 14 have moved by two days, so that the full moon fell on IV *3ht* 23, not 25. See Caspersen's Table 17.4.

**Table 17.4: Full moon listing from –2185**

Thebes; Lat. 25.7, Long. 32.6.												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–2185	5	14	–2185	4	26	596	3	23	4	15:03	5:35	18:35
<b>–2185</b>	<b>6</b>	<b>13</b>	–2185	5	26	596	<b>4</b>	<b>23</b>	6	5:45	5:18	18:18
–2185	7	12	–2185	6	24	596	5	22	7	21:42	5:11	18:11

DoW = day of week.

The 11th Dynasty does not fulfil the criteria of a full moon in the first year of Mentuhotep II or any of its other kings. We are then returned to Neferkauhor (section 5.12 in the Turin Canon) as the king in whose reign the full moon date fell in the year 2439 BCE. This date anchors the chronology. Consequently, there is no room for the 10 kings of the AbKL, Menkare to Neferkahor (nos. 41–50) to come between Netjerikare Siptah and Neferkare Pepi-Sonb. My conclusion is that the 10 kings from the AbKL are not part of the succession of kings represented in the Turin Canon. They appear to be from a collateral line of kings, probably approximately contemporary with the 8th Dynasty kings, perhaps located near Abydos.

### Ryholt's Proposal that Queen Nitocris is King Netiqerty-Siptah

Not being aware of the full moon date and the chronology that it supplies for the kings of the 8th Dynasty, Ryholt discussed two inter-related proposals. First, he seeks to identify Queen Nitocris, the sixth and last ruler of Manetho's Dynasty (“the noblest and loveliest woman of her time”)<sup>16</sup> with a ruler in the Turin Canon. Ryholt points out that Nitocris is not attested by contemporary sources, and that she is not named in the AbKL. Ryholt writes, “It is generally believed that Nitocris was recorded under another name. This is not surprising, in that Nitocris has been regarded as a nomen, whereas the kings

<sup>15</sup> See Table 1 in Ryholt, “Late Old Kingdom,” 99.

<sup>16</sup> *Manetho*, 54–57.

in the Abydos Canon were recorded under the prenomen alone.”<sup>17</sup> Ryholt states, “The earliest source to mention Nitocris is the Turin King-list, in the form of *nt-ikr.ti*, and she is otherwise mentioned only in the Greek Tradition, as Νιτωκρις.”<sup>18</sup>

Ryholt believed that the new fragment giving the nomen of Netiqerty as Siptah solved the problem of the “identity of Nitocris once and for all.” He writes, “It now emerges that the name Nitocris is actually followed by another name, Siptah. In all other cases where a king is recorded under two names in the king-list, these represent the prenomen followed by the nomen: i.e., the personal name of the king. Accordingly, we must identify Nitocris as the prenomen and Siptah as the nomen.... Since the name Siptah is masculine (meaning ‘Son of Ptah’), the obscure king ‘Nitocris’ must be regarded as a man rather than a woman.”<sup>19</sup>

He claims that because Nitocris can be used as a prenomen, “which it is clearly not by construction,” he suggests that the name is a corruption. Because of the phonetic similarity in the names he equates *nt-ikr.ti*/ Νιτωκρις, with the *ntr-ke-r<sup>c</sup>*/Netjerkare, successor of Merenre Nemtiemsaf II in the AbKL. He writes: “The identification between the two therefore seems inevitable.”<sup>20</sup> Ryholt concludes, “Accordingly, the female Nitocris never existed, but was instead a male king with the prenomen Netjerkare and the nomen Siptah.”<sup>21</sup> He proposes that the name had become corrupt in the Turin Canon but preserved in the AbKL, and since it was the Turin Canon that survived until the Late Period, “This destined king Siptah to be remembered as a woman, albeit a beautiful one for more than two millennia.”<sup>22</sup>

Ryholt adds an appendix to his article citing James P. Allen who discussed the proposed identification. Allen wrote, “Although the identification of Turin’s *nt-jkrtj z3-ptḥ* [Netiqerty Siptah] with Abydos’s *ntr-k3-r<sup>c</sup>* [Netjerkare] seems inevitable I’m still uncertain about the reasons for the apparent Turin ‘corruption’ of the name. Phonologically the two names are not as similar as it might appear from the transcription alone. Turin’s *nt-jkrtj* was presumably vocalized \**nitaqrati*, judging from the Greek Νιτωκρις.”<sup>23</sup>

After further discussion, Allen concludes that it was more likely that Netjerkare was the king’s prenomen and that Netiqerty Siptah was his nomen, rather than Netiqerty being corrupted from Netjerkare.<sup>24</sup> Another possibility that Allen considered was “the Nitocris entry might also represent ‘Nitiqerti (called) Siptah’.”<sup>25</sup>

Ryholt’s second proposal was that the 10 kings named *in the AbKL* at nos. 40–50 have been *omitted from the Turin Canon* and it is they to whom the six *wsf* years belonged. He writes, “Both summations include the ‘lacuna of 6 years’ which can be shown to refer to the ten successors of ‘Nitocris’ (col. 5/7) who are omitted: i.e., the kings of Dynasty VII/VIII who had been lost through a lacuna in the course of transmission of the king-list.”<sup>26</sup> He also writes, “It is, however, clear that the two summations cannot be original in their present form since they include a number of kings

<sup>17</sup> Ryholt, “Late Old Kingdom,” 92.

<sup>18</sup> Ibid.

<sup>19</sup> Ibid., 93.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid., 99.

<sup>24</sup> Ibid., 100.

<sup>25</sup> Ibid.

<sup>26</sup> Ibid., 96.

whose records were lost during the transmission of the text: i.e., the kings whose reigns were accounted for by the notation *wsf*, ‘lacuna’.”<sup>27</sup>

Since Ryholt has identified Queen Nitocris with Netiqerty Siptah, and she was the last king of the 6th Dynasty, Netiqerty Siptah now takes her place. Believing that the 10 kings of the AbKL (nos. 40–49) have been lost from the Turin Canon, Ryholt now has to place them *after Netiqerty Siptah* whom he has designated last king of the 6th Dynasty and *before Neferkare Pepi-Sonb*. In the AbKL, the 10 kings not represented in the Turin Canon are kings Netjerikare to Neferkare Tereru (nos. 40–49). Since Netjerikare comes after Merenre Nemtiemsaf II (no. 39) Ryholt identifies him with Nitocris/Netiqerty-Siptah. Netiqerty Siptah, otherwise known as Neferkahor in the AbKL at no. 50, is now removed to no. 40 and becomes the last king of the 6th Dynasty. This means that Netjerkare, the first of the 10 “missing kings” in the Turin Canon becomes represented *in the Turin Canon* by being identified with Netiqerty Siptah/Nitocris, the last ruler of the 6th Dynasty. The first of the “missing kings” becomes Menkare (no. 41). It is he who is presumed by Ryholt to be the first of the 10 kings inserted into the Turin Canon between Netjerkare Siptah and Neferkare Pepi-Sonb.<sup>28</sup>

Ryholt’s proposals cannot be sustained in view of the full moon date in the reign of Neferkauhor, which anchors the chronology and does not permit the insertion of another 10 kings. Ryholt’s identification of Nitocris with Netiqerty Siptah/Netjerkare Siptah seems to have arisen from his understanding that kings of Manetho’s dynasties should be identifiable with kings of the Turin Canon. This belief led to his hypothesis that Queen Nitocris was a man, whom he identified with Turin Canon’s Netiqerty Siptah and then again with Netjerkare Siptah in the AbKL. Once it is realized that Manetho’s dynasties and kings are not the same as those of the Turin Canon, these identifications are seen to be without substance.

### Turin Canon’s Kings from Section 5.7–5.13

The following table gives the kings of the Turin Canon’s 8th Dynasty with regnal years where supplied, and their names attributed by the AbKL where missing.

**Table 17.5: 8th Dynasty reconstructed from the Turin Canon and the Abydos King-list (AbKL)**

Turin Canon ref. no.	King	Regnal yr (lunar date)	Dates	AbKL cartouche no.	King
5.7	[Neferkahor] Netiqerty-Siptah	[2]	2451–2449	50	Neferkahor
5.8	Neferka(re) Khered-Sonb	[2]	2449–2447	51	Neferkare Pepi-Sonb
5.9	Nefer[kamin]	[2]	2447–2445	52	Neferkamin Anu
5.10	Ibi I	2 yr, 1 mo, 1 d	2445–2443	53	Qakaure [Ibi]
5.11	[Neferkaure]	4 yr, 2 mo, 0 d	2443–2439	54	Neferkaure
5.12	[Neferkauhor]	2 yr, 1 mo, 1 d. (Yr 1, full moon IV 3hr 25 in 2439)	2439–2437	55	Neferkauhor
5.13	[Neferirkare]	2 yr +	2437/2436–2434	56	Neferirkare
		<b>Total: 16½ yr</b>	<b>2451–2434</b>		

[ ] = names supplied from the AbKL, or regnal years as allocated.

These sections of the Turin Canon are joined to summary sections reproduced in Table 17.6.

<sup>27</sup> Ibid.

<sup>28</sup> Ibid., 99.

**Table 17.6: Summary of Reigns from Menes to the End of the 8th Dynasty in the Turin Canon**

Turin Canon ref. no.	King	Regnal yr (lunar date)	Dates
5.14–5.15	Summation for group	6th Dyn.: 171 yr + 8th Dyn.: 16½ yr = 187 yr, 6 mo	2622–2434
<b>5.16–5.17</b>	<b>Summation Total from Menes to end 8th Dyn.</b>	<b>955 yr, 0 mo, 10 d</b>	<b>3389–2434</b>

The 8th Dynasty lasted ca. 16½ years, which is the complement of the 171 years attributed to the 6th Dynasty—the two together having been assigned 187 years and 6 months in the Turin Canon in the summation at section 5.14–5.15. In the following summation (5.16–5.17), the total from Menes to the end of the 8th Dynasty is stated as ca. 955 years. By subtracting the total for the 6th and 8th Dynasties, 767–768 years remain for the 1st–5th Dynasties. This supplies the summation total at section 4.26, which is now lost after the reign of Unas.

### Manetho's 8th Dynasty

Does Manetho's 8th Dynasty bear any resemblance to the so-called 8th Dynasty of the Turin Canon? According to Africanus, there were 27 kings of Memphis who reigned for 146 years, but Eusebius and the Armenian say there were five kings who reigned for 100 years.<sup>29</sup> Individual kings with regnal years are not stated. Since the period in the Turin Canon regarded by scholars as the 8th Dynasty (section 5.8–5.13) spans only 16½ years, they can hardly refer to the same kings as those reported by Manetho. We can only assume that they belong to a different line of kings.

### Procedure

The Sothic date of 2750 BCE in the reign of Neferefre provided a fixed point for dating his successors in the 5th Dynasty. Having completed a discussion of the chronology of the kings from Neferefre (section 4.21) of the mid-5th Dynasty to the summation at 5.16–5.17 (the end of the 8th Dynasty), we are now in a position to discuss the chronology of the Turin Canon from Menes, its first king, down to Neferefre. In my reconstruction of the chronology, I will utilize the Royal Annals as represented on the Palermo Stone and associated fragments, the data of the Turin Canon, and other resources. After that discussion (chapters 18–21) I will continue with the period covered by the Turin Canon following the 8th Dynasty.

<sup>29</sup> *Manetho*, 58–59.

## Chapter 18

### Regarding the Royal Annals

In previous chapters, Neferefre's accession was shown to be dated in the mid-5th Dynasty, precisely in 2750 BCE. On the basis of the *w3gy* date in his reign, and aided by a full moon date in the first year of the reign of Neferkauhor, Neferirkare's predecessor, the last year of Neferirkare's reign and the end of the 8th Dynasty was dated to 2434 BCE.

The late-5th Dynasty accounted for 128 years. The 6th Dynasty of 171 years combined with the 8th Dynasty of 16½ years gave a combined total of 187 years and 6 months (and 21 days) concurring with the summation of the Turin Canon at section 5.14–5.15.

The question now is whether the total of 955 years (and 10 days) given in the summation at section 5.16–5.17 of the Turin Canon covering the period from Menes, first king of the 1st Dynasty to Neferirkare, last king of the 8th Dynasty, is credible. Having already covered the years from Neferefre to Neferirkare, which amount to ca. 316 years (128 years plus 187 years and 6 months), the preceding years amount to 639 years; that is, from Menes to Neferefre (section 4.16). Can these years be confirmed?

The two main sources of information for reconstructing the period from Menes down to Neferefre are equally fragmented: the Turin Canon and the Royal Annals. These are supplemented by inscriptions recording census counts on materials such as papyri, building blocks, or tombs found during excavations. The census counts may indicate a king's highest known regnal year, obviously an important datum.

There are no known Sothic or lunar dates from this early period that might assist in dating a king's reign. As discussed previously, the dynastic lists from *Manetho* do not seem to be recording the same royal succession that is evident in the Turin Canon, Royal Annals, South Saqqara Stone, Abydos King-list, and Saqqara Tablet. The early dynastic lists originating with Manetho are not relevant for the following discussion—except for the fact that Menes appears at the head of the 1st Dynasty not only in *Manetho*, but also in the Turin Canon and the Abydos King-list, though not in the extant parts of the Royal Annals (which appears to start with the second king, Aha).

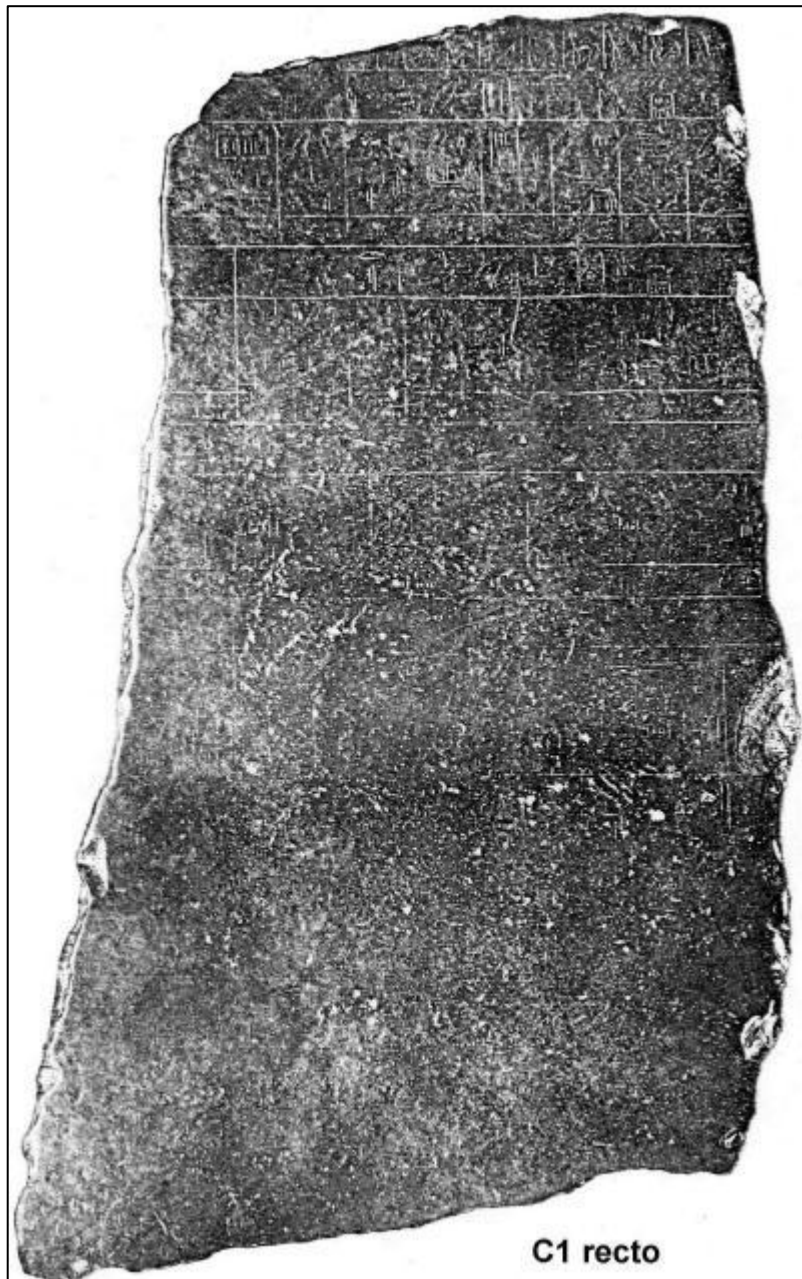
Since the regnal years of the first 14 kings of the Turin Canon are lost due to damage (though for many their age at death has survived), the main source for recovering the length of their reigns comes from the Royal Annals. However, in the Turin Canon at section 4.1, from Neferkasokar (mid-2nd Dynasty) down to Neferefre (Raneferef) at mid-5th Dynasty, a reasonable number of the kings have their names and regnal years intact (or partly so) in the Turin Canon, and these can be compared with the information from the Annals and other sources.

#### Compartments Assigned to Each King's Reign

The Royal Annals is not a list of names; instead, it assigns a compartment to each year of a king's reign in horizontal rows or registers. If the number of compartments on

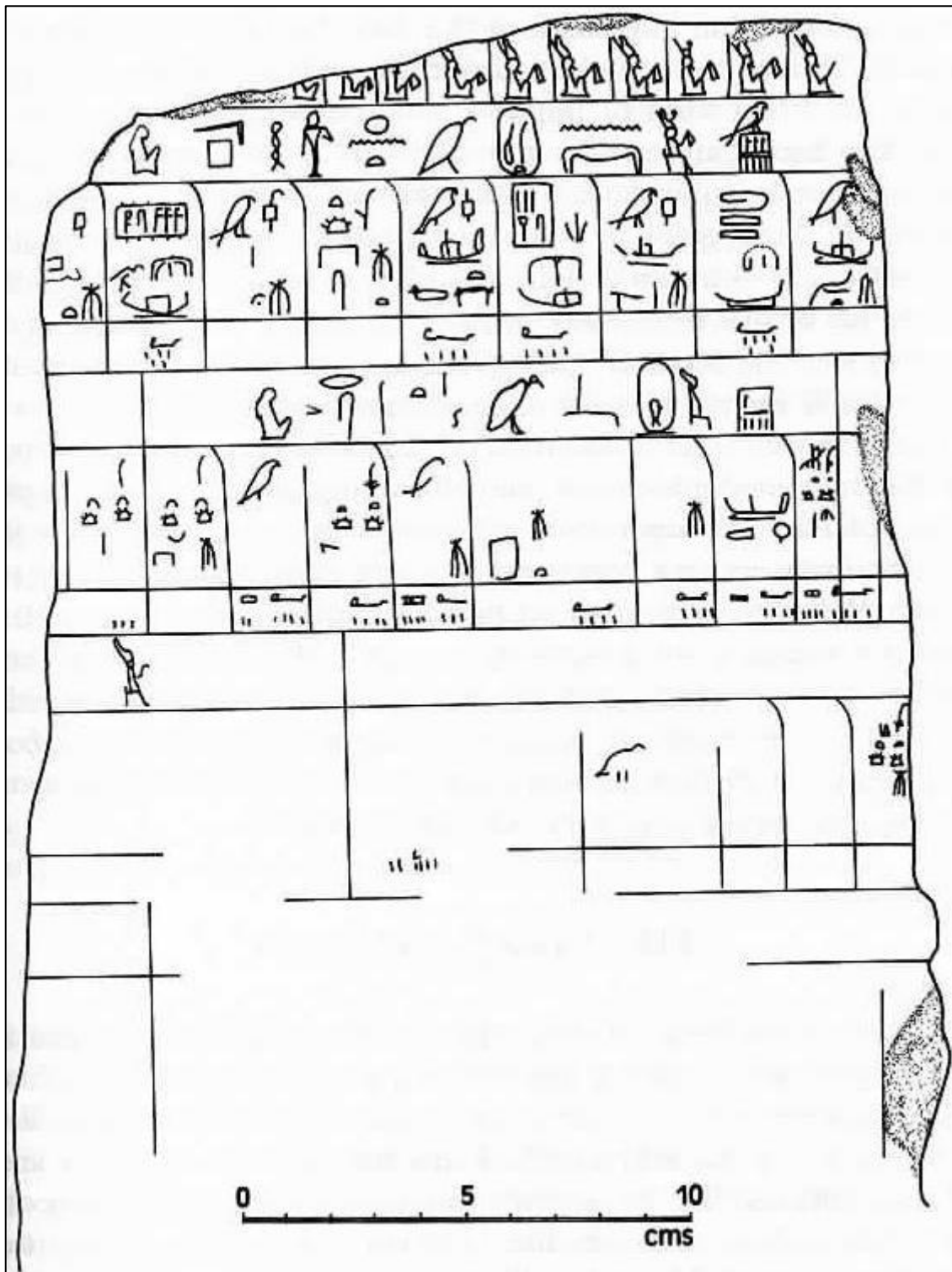
the Annals is known, then that number represents the years of the king's reign.<sup>1</sup> Unfortunately, because only seven fragments of the original annals survive, far more of the annals has been lost than has survived, and the positioning of each fragment has hitherto been a matter of speculation.

The Royal Annals were briefly mentioned in chapter 15, pages 207 to 211. That is now supplemented by the following comments relating to the way that regnal years may be indicated. The Palermo Stone fragment, shown in chapter 15 and the Cairo 1 fragment (shown here at Figure 18.1) are the main basis for the following remarks, since the smaller fragments have some variations. The transcription of the Cairo 1 fragment is provided (Figure 18.2) from Toby Wilkinson's book.



**Figure 18.1:** The Cairo 1 recto fragment.

<sup>1</sup> There is one known exception in the reign of Aha, which will be discussed.



**Figure 18.2:** The top portion of the Cairo 1 fragment of the Royal Annals as reconstructed by Toby Wilkinson.

I have created a newly composed chart of the Palermo Stone and Cairo 1 together with the smaller fragments (see Figure 18.3), which seem to provide more coherency and confidence for clarifying the chronology than has been available before now. The recto is presented on the following pages; the verso will be presented in conjunction with its discussion. The Annals are to be read right to left.







the reconstruction of the parts of the Annals now lost, together with the precision of the extreme right and left edges of the stone as it must have originally existed.

As can be seen (Figure 18.3), the two larger fragments are shown on the recto. Cairo 1 is on the left and the Palermo Stone on the right. The backside (verso) of each stone will be displayed later in this chapter. Much more information can be gained from the Palermo Stone than Cairo 1, of which almost nothing is retained in the lower sections due to damage. It may have been used as a door-sill.<sup>2</sup> Other fragments are positioned on the recto, but of these only the small London Fragment is represented on the verso.

The Royal Annals are arranged in horizontal registers on the recto and verso. On the recto, in registers one to six, each is separated by a band from the one above and below, and perhaps also for the lower registers, seven to nine, most of which are now lost. Scholars describe this space as the titulary band where the names of the kings are engraved.

### The Schematic Form

From an overview of the two main fragments, the Palermo Stone and Cairo 1, it appears that each titulary seems to have been about seven compartments long, and centered above the middle compartments of a king's reign. Thus if the regnal year of a middle compartment of the titulary is known, it will give an indication of the length of the king's overall reign. On the verso of the Royal Annals (Figure 18.4), the titulary of each king probably ran within and along the top of the width of a king's first compartment as shown for the reign of Neferirkare Kakai (register four on the Palermo Stone verso). These compartments are much larger than those of the recto, as can be seen in Figure 18.4.

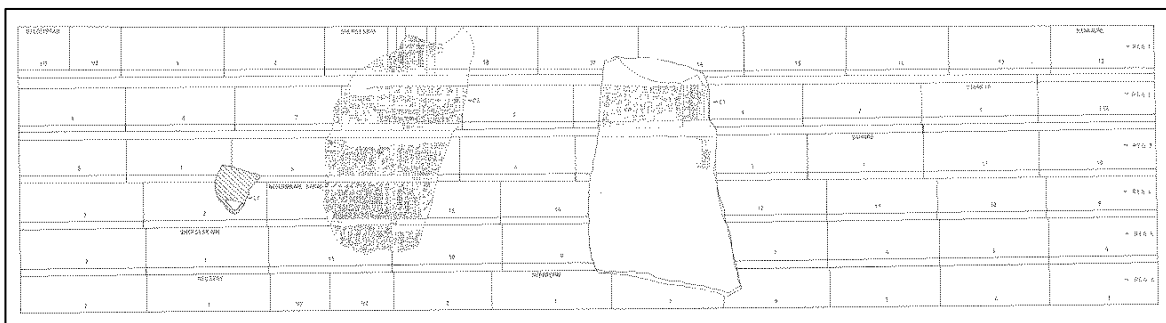


Figure 18.4: The Royal Annals verso, showing compartment size.

Under the titulary band on the recto are the compartments of the registers that comprise the kings' annals. The compartments are separated by a *mnpt* sign, each indicating a year. A horizontal line on the recto rules off a section at the base of each compartment giving the height of the Nile when in flood.

When a change of reign is indicated on the recto, it is shown by a vertical line that extends down from the bottom of the preceding register, through the register it applies to, finishing at the base of the Nile band. It may come at the end of a year, or *within* a compartment if the partial final year of one king and the accession portion of the next king share a compartment. In such a case, the months and days of the partial year that each king reigned may be noted, but there are not enough examples to know whether this was always the case.

On the recto, the compartments of registers one to five have much the same depth but register six is deeper. The compartments *within each register* have the same width, except for register six where, of three existing compartments, one is wider than the other

<sup>2</sup> Ibid., 18.

two. However, while the compartments within each register are uniform, the width of compartments from one register to the next is not uniform. Register four has the narrowest compartments and register six has the widest. The probable form of the missing registers, seven to nine, not shown by markings on the Palermo Stone and Cairo 1, will be discussed as we reach the periods they originally displayed.

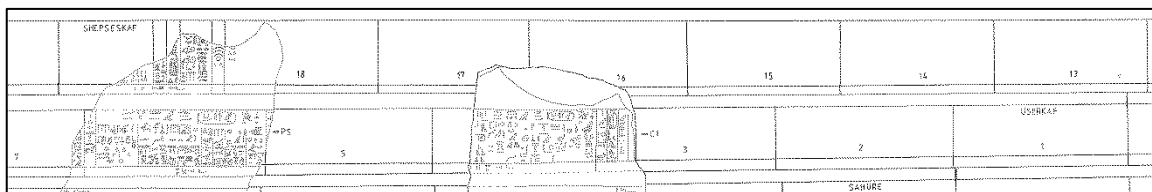
On the verso, there are only two examples of a change of reign. These are discussed in chapter 21. In register one, there is a vertical band dividing the reign of Menkaure from Shepseskaf, although the upper part is lost. Menkaure's extant final months and days are incised within his last compartment separated by the change of reign band from Shepseskaf's accession year, which also has a missing number of months and days. The change of reign is also seen in register four dividing the reigns of Sahure and Neferirkare, but here the band extends down to the top of the *next* register. The months of the final portion of Sahure's last year are incised within the band, with the months for Neferirkare's accession year noted on the right side of his first compartment. These will be shown in finer detail in chapter 21.

The compartments on the verso are much deeper and wider than those of the recto, with the width of one compartment taking up almost the whole width of the Palermo Stone fragment. On the verso of Cairo 1, only parts of two compartments are legible in register four and a small portion on its right side in register five.

The increasing size of the compartments gives the impression that as the project continued, the inscribers realized that more and more space should be allocated to each year.

### Estimating the Regnal Years of Userkaf

In attempting to reconstruct the annals, it is important to know how far apart the Palermo Stone and Cairo 1 were on the original; that is, how many compartments filled the gap between the two fragments. On the *verso* of register two, shown in Figure 18.5 on pages 260-261, Cairo 1 and the Palermo Stone have compartments from the reign of Userkaf. In Cairo 1, parts of two compartments remain—the first occupying about a quarter of the space and the second about three-quarters. It mentions the “year after the first occasion of the cattle count” indicating Userkaf's third year, so the next compartment of which about two-thirds remains on Cairo 1 refers to his fourth regnal year. On the Palermo Stone, the entire length of one of Userkaf's compartments is shown. At the left edge of the compartment there is a reference to the “third occasion of the cattle count,” indicating the king's sixth regnal year.



**Figure 18.5:** Verso showing the space between Cairo 1 and Palermo Stone in the reign of Userkaf. C1 = Cairo 1 fragment; PS = Palermo Stone.

Therefore, *in the gap* between Cairo 1 and the Palermo Stone, there would have been the last third of Userkaf's fourth year followed by an entirely lost fifth year compartment except for a few signs visible at the left upper edge on the Palermo Stone before the *rnpt* sign indicating the beginning of his sixth year. The size of the compartments gives some indication of the space that makes up the gap between Cairo 1 and the Palermo Stone on the verso of register two.

On the recto, the distance between the Palermo Stone and Cairo 1 in registers two to five, and the number of years apportioned to the kings' reigns, which cross the gap from one fragment to the other, has to be consistent with the gap on the verso. The

sequence of the “following of Horus” signs, which occur every second year in registers two and four on the recto, help define the number of years in the gap. The final number of years for each king is ultimately attained when all factors are taken into consideration.

### Processes of Reconstruction

The most difficult problem in reconstructing the annals is to reckon the number of compartments for each register because there are no fragments that show the edges of the annals or how they were arranged. However, we are helped in this regard by registers five and six of the recto of the Palermo Stone where Djoser I Netjerikhet’s reign begins (as shown by a change of reign vertical line) and immediately beneath, in register six, there appears the third of three compartments from the reign of Sneferu. See Figure 18.3. This compartment has problems in that it refers to the “eighth year of the cattle count” indicating the 16th year, whereas the preceding year has the “seventh year of the cattle count” indicating the 14th year. Its preceding compartment does not have a stated cattle count. Once the correct regnal year for Sneferu’s “eighth year” has been determined, detailed later in chapter 20, the distance from it back to Netjerikhet’s first year gives the coverage of what amounts to one full register.

Having ascertained the distance covered by the compartments for one register (the left side of register five, and the right side of register six) the years have to be fitted in between the right and left edges of the annals. This has to take into consideration the distance covered by the compartments on the verso with their much larger size, as well as the overall number of years that are represented on the annals.

Provisionally, at this stage, the overall consideration is the 955 years that are attributed to the kings for the period from Menes to Neferirkare in the Turin Canon (sections 4.16–4.17). As noted previously, the accession of Neferefre is dated to 2750 BCE, and the last king whose name survives on the verso of Cairo 1 is Neferirkare Kakai, just two kings before Neferefre. Thus, the annals record ends just shortly before we have a definite date from which the earlier reigns may be reckoned.

From Neferefre with his first year dated to 2750 BCE down to the end of Unas’s reign, there are 128 years, and from Unas to Neferirkare of the 8th Dynasty there are 187 years and 6 months (Turin Canon section 5.14–5.15) accounting for 316 years. Subtracting 316 years from the overall total of 955 years leaves 639 years to be attributed to Menes down to Neferefre. The Royal Annals do not include the reign of Menes, the first king of the Turin Canon, or the reign of Shepseskare, the last king before Neferefre in the Turin Canon, in its preserved fragments, so these have to be factored into the 639 years obtained from the Turin Canon.

In my reconstruction of the annals, I assumed that the registers would have been aligned at the right and left edges of the recto and verso. I used the differing widths of the extant compartments in each register as a pattern for their respective rows. For the last three registers of the recto (seven to nine), which have no preserved parts on the Palermo Stone and Cairo 1, I averaged out the number of compartments for each row having already accounted for the number of years attributed to the verso.

Since there are obvious differences in the size of the compartments on the verso within and between registers, I had to average out the number of compartments to accommodate the number of years for the reigns of each of the kings. Fortunately, most of the surviving compartments have an indication of the regnal year of the king due to the recording of cattle counts, and the highest number of years can be determined for the kings’ reigns from the Turin Canon or from contemporary sources. Consequently, there is little flexibility in the number of compartments required on the verso.

In the reconstruction of the annals, it is often necessary to count backward or forward from the years recorded on the larger fragments to find when a king’s reign began. For example, the mention of a *Sed*-festival in register *three* on the Palermo Stone

indicates that the king, Den, began to reign 30 years previously, because *Sed*-festivals were held in a king's 30th regnal year to bestow on him rejuvenation. Between Den's first year and the last year of Djer (in register *two*)—whose years can be obtained from the length and position of his titulary—is the reign of Djet for which no years are known. But it can be estimated by the number of compartments between Djer and Den. However, scholars may count the number of years required differently, depending on the particular factors they take into consideration.<sup>3</sup>

Of considerable importance is the record of census or cattle counts mentioned in the compartments of some of the kings by which their regnal years can be reckoned. However, as noted previously, scholars disagree about whether these census counts are annual, biennial, or irregular. Contemporary sources may also give higher cattle counts than those indicated by the regnal years afforded to the kings in the Turin Canon.

Wilkinson gave a summary of publications on the annals, and the Palermo Stone in particular, appearing over the last century and even before. He notes the following: Pellegrini (1895), Schäfer (1902), Naville (1903), Sethe (1903), Meyer (1904), Breasted (1906), Maspero (1912), Gauthier (1914, 1915), Daressy (1916), Petrie (1916), Read (1916), Borchardt (1917), Ricci (1917), Breasted (1931), Gordon (1952), Helck (1956), Tcherezov (1960), Kaiser (1961), Cenival (1965), Giustolisi (1968, 1969), Helck (1970), Helck (1974), Reeves (1979), Stewart (1979), O'Mara (1979, 1980), Barta (1981), Roccati (1982), Helck (1982), O'Mara (1986a, 1986b, 1987), Clagett (1989), Spalinger (1994), and O'Mara (1996).<sup>4</sup>

<sup>3</sup> A summary of these can be seen in a table, Appendix 2, of Wilkinson's *Royal Annals*, 256-57.

<sup>4</sup> Wilkinson, *Royal Annals*, 30-45, citing the following: A. Pellegrini, "Nota sopra un'iscrizione egizia del Museo de Palermo," *Archivio Storico Siciliano* 20 (1895) 297-316; H. Schäfer, *Ein Bruchstück altägyptischer Annalen*, (Abhandlungen der Akademie der Wissenschaften in Berlin; Berlin: Verlag der Königl. Akademie der Wissenschaften, 1902); E. Naville, "La pierre de Palerme," *RecTrav (Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes)* 25, 64-81; K.H. Sethe, *Beiträge zur ältesten Geschichte Ägyptens* (Untersuchungen zur Geschichte und Altertumskunde Ägyptens 3; Leipzig: Hinrichs, 1903); E. Meyer, *Ägyptische Chronologie* (Berlin: Verlag der Königl. Akademie der Wissenschaften, 1904); J.H. Breasted, "The Palermo Stone," *Ancient Records of Egypt, Vol 1: The First to the Seventeenth Dynasties* (Chicago: University of Chicago Press, 1906) 51-72; G. Maspero, "Une inscription égyptienne du Musée de Palerme," *Études de Mythologie et d'Archéologie Égyptiennes*, Vol. 6, (Paris: Ernest Leroux, 1912); H. Gauthier, "Quatre fragments nouveaux de la pierre de Palerme au Musée du Caire," *CRAIBL* (1914) 489-96; idem, "Quatre nouveaux fragments de la pierre de Palerme," *Le Musée Égyptien. Recueil de Monuments et de Notices sur les Fouilles d'Égypte, Vol. 3* (Cairo: IFAO 1915) 29-53 and pls. XXIV-XXXI; G. Daressy, "La Pierre de Palerme et la chronologie de l'Ancien Empire," *BIFAO* 12 (1916) 161-214; W.M.F. Petrie, "New Portions of the Annals," *Ancient Egypt* (1916) 114-20; F.W. Read, "Nouvelles Remarques sur la Pierre de Palerme," *BIFAO* 12 (1916) 215-22; L. Borchardt, *Die Annalen und die zeitliche Festlegung des alten reiches der ägyptischen Geschichte* (Quellen und Forschungen zur Zeitbestimmung der ägyptischen Geschichte 1; Berlin: von Behrend, 1917); S. de Ricci, "La Table de Palerme," *CRAIBL* (1917) 107-15; J.H. Breasted, "The Predynastic union of Egypt," *BIFAO* 30 (1931) 709-24; G. Godron, "Quel est le lieu de provenance de la 'Pierre de Palerme'?" *Chronique d'Égypte* 27 (1952) 17-22; W. Helck, *Untersuchungen zu Manetho und den ägyptischen Königslisten* (Untersuchungen zur Geschichte und Altertumskunde Ägyptens 18; Berlin: Akademie-Verlag, 1956); E. V. Tcherezov, "Drevnejsaja letopis 'Palermiskij kamen' i dokumenty drevnego zarstva Egipta (Les annales de la pierre de Palerme et les documents de l'Ancien Empire)," *Drevni Egipet* (1960) 261-72; W. Kaiser, "Einige Bemerkungen zur ägyptischen Frühzeit, II. Zur Frage einer über Menes hinausreichenden ägyptischen Geschichtsüberlieferung," *ZÄS* 86 (1961) 39-61; J.L. de Cenival, "Un nouveau fragment de la pierre de Palerme," *Bulletin de las Société Française d'Égyptologie* 44 (1965) 13-17; V. Giustolisi "La 'Pietra di Palermo' e la cronologia dell'Antico Regno," *Sicilia Archaeologica* 1, 4 (1968) 5-14; *ibid.*, 2, 6 (1969) 21-38; W. Helck, "Zwei Einzelprobleme der thinitische Chronologie," *MDAIK* 26 (1970) 23-25; idem, "Bemerkungen zum Annalenstein," *MDAIK* 30 (1974) 31-35; C.N. Reeves, "A Fragment of Fifth Dynasty annals at University College London," *GM* 32 (1979) 47-51; H.M. Stewart, *Egyptian stelaes, reliefs and paintings from the Petrie Collection, Part Two: Archaic period to Second Intermediate period* (Warminster: Aris and Phillips, 1979); P.F. O'Mara, *The Palermo Stone and the Archaic kings of Egypt*

Furthermore, Wilkinson writes, “In the century since their first publications, PS and its associated fragments have been the subject of many attempted reconstructions by eminent Egyptologists. Each has sought to unlock the many mysteries of early Egyptian history, using the annals as the key. Yet the perfect reconstruction has eluded scholars. The task is so replete with problems and complications that even scholars from the same tradition have produced very different results.”<sup>5</sup>

Wilkinson provides a summary of the reconstruction of the annals from the above authors, naming Daressy (1916), Petrie (1916), Borchardt (1917), Ricci (1917), Helck, (1956), Kaiser (1961), Helck (1974), O’Mara (1979, 1980), and Barta (1981).<sup>6</sup> He writes, “It seems highly unlikely that a definitive or even plausible reconstruction of the annals will ever be possible, infuriating as that may be. Nevertheless, there are certain elements of a reconstruction about which we may be relatively confident, and these afford us a limited amount of information.”<sup>7</sup>

### The Royal Annals Reconstructed

I have sought to follow Wilkinson’s commentary on the Royal Annals, which has been extremely helpful in positioning many of the kings’ reigns, together with his observations from the works of earlier scholars. My own reconstruction tries to reconcile the sometimes differing reign lengths given in the Turin Canon and Royal Annals, and to make use of the most recent discoveries of regnal years found in excavations at places such as Abydos, Abusir, and Dahshur, which were not available to earlier scholars.

Wilkinson offered a commentary on the existing fragments, but did not propose the number of years between fragments and the edges of the annals. I have endeavored to reconstruct the annals in a way that places the fragments, recto and verso, into their original form, aided primarily by the chronological framework implicit in the fragments themselves and the other sources already referred to elsewhere in this book.

I have assumed that the transcriptions of the Palermo Stone and Cairo 1 supplied by Wilkinson have both been scaled to 50% of the original, though this is not stated. On the verso of the Palermo Stone, I have used Naville’s earlier transcription (also supplied by Wilkinson) because it has more text in the three lower registers. Naville’s copy is slightly larger, and I have reduced it to the same size as the one given by Wilkinson. My reconstructed Royal Annals measures just under one meter in length (98.7cm) from edge to edge of the written text, and 36 cm deep. The main pieces, the Palermo Stone and Cairo 1, fit roughly in the center of the reconstruction with a gap between their edges of 10–15 cm (the Palermo Stone is wider at the top). The other fragments fit within the reconstruction at appropriate places.

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(La Canada: Paulette. *Studies in the structural archaeology of ancient Egypt* 1, 1979); idem, *The Chronology of the Palermo and Turin Canons* (La Canada: Paulette Studies in the structural archaeology of ancient Egypt 2, 1980); W. Barta, “Die Chronologie der 1. bis 5. Dynastie nach den Angaben des rekonstruierten Annalensteins,” *ZÄS* 108 (1981) 11-23; A. Rocatti, *La littérature historique sous l’Ancien Empire égyptien* (Paris: Cerf, 1982); W. Helck, “Palermostein,” *LÄ* IV (1982) 652-4; P.F. O’Mara, “Is the Cairo Stone a Fake? An Example of Proof by Default,” *DE* (1986) 33-40; idem, “Historiographies (ancient and modern) of the Archaic period. Part I. Should we Re-examine the Foundations? A Revisionist Approach,” *DE* 6 (1986) 33-45; idem, “Historiographies (ancient and modern) of the Archaic period. Part II. Resolving the Palermo Stone as a Rational Structure,” *DE* (1987) 37-49; M. Clagett, “The early Egyptian annals on stone, generally called the Palermo Stone,” M. Clagett, *Ancient Egyptian Science. A source book. Volume 1: Knowledge and Order*, (Philadelphia: American Philosophical Society Memoirs 184, 1989) tome 1, 47-141; A.J. Spalinger, “Dated Texts of the Old Kingdom,” *SAK* 21 (1994) 275-319; P.F. O’Mara, “Was there an Old Kingdom Historiography? Is it Datable?” *Orientalia* 65 (1996) 197-208.

<sup>5</sup> Wilkinson, *Royal Annals*, 45.

<sup>6</sup> *Ibid.*, 45-60.

<sup>7</sup> *Ibid.*, 77.

The extent of my work has been to use the data provided from various sources to reconstruct the chronology of the Royal Annals as I perceive it to have originally existed. The *text* of the missing areas is presumably lost forever—unless a copy of the whole is discovered.

We now move on to the reconstruction of the first part of the recto of the Annals.





## Chapter 19

### Reconstructing the Royal Annals - Menes to Neferkare

All that exists of the Royal Annals are seven fragments from a large stone slab, which originally had a complete chronology of the early kings incised on the recto and verso. Because of the smaller size and much greater number of annual compartments on the recto side, this discussion is divided into chapters 19 and 20 for the recto, and chapter 21 for the verso.

Chapter 19: Menes to Neferkare

Chapter 20: Neferkasokar to Menkaure

Chapter 21: Menkaure to Shepseskare

Chapters 19 and 20 derive from the Royal Annals and the Turin Canon—the latter from Menes (Turin Canon section 3:11) to Menkaure (section 4.15)—and correspond to the 1st–4th Dynasties. Similarly, chapter 21, after completing the reign of Menkaure on the verso, deals with the first four kings of the early period of the 5th Dynasty (Userkaf, Sahure, Neferirkare Kakai, and Shepseskare Isesi). The latter period of the 5th Dynasty (from Neferefre to Unas) was reconstructed in chapter 16.

#### Pre-Menes

The surviving portion of register one on the Palermo Stone contains “the names and determinatives of predynastic kings” wearing the red crown of Lower Egypt (Figure 19.1, right).<sup>1</sup> The Cairo 1 fragment shows only the determinatives, the names above them having been lost (Figure 19.1, left).



**Figure 19.1:** The Cairo 1 fragment (left) and register one of the Palermo Stone (right).

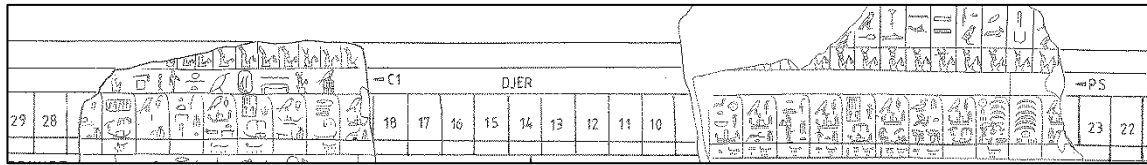
Register one has no chronological value in determining the years of the kings.

#### Menes

Menes is listed as the first king in the Turin Canon (section 3.11) but his regnal years are lost. He is called Meni in the Abydos King-list (AbKL; cartouche no. 1). His name and reign are not on the existing annals. As seen in the reconstruction in Figure 18.3 (page 260) register two of the annals begins at the right-hand edge with the reign of

<sup>1</sup> T.A.H. Wilkinson, *Royal Annals of Ancient Egypt: The Palermo Stone and its Associated Fragments* (London and New York: Kegan Paul, 2000) 85.

Aha. The end of Aha's reign appears in the Palermo Stone in the second compartment followed by the next king, Djer, whose titulary is given in Cairo 1 (Figure 19.2).<sup>2</sup>



**Figure 19.2:** Note the Djer titulary on Cairo 1 (C1) and the line marking the end of Aha's reign (and commencing Djer's) on the Palermo Stone (PS).

The sequence of succession has been attested as Narmer, Aha, Djer, Djet (known as "Serpent"), Den, Adjib, Semerkhet, and Qa'a.<sup>3</sup>

The absence of Menes' name at archeological sites combined with the attestation of Narmer's name in association with the unification of Upper and Lower Egypt has caused most scholars to identify Menes with Narmer.<sup>4</sup> Seidlmayer has opted for Aha on the basis of "an ivory label from Naqada which shows the royal Horus-name Aha (the pharaoh Hor-Aha) next to a building within which is the royal *nebt*-name *mn*, generally taken to be Menes."<sup>5</sup>

Aha precedes Djer at the beginning of register two of the annals. If Menes (being different from Aha), was recorded in the annals, it most probably was in register one in a piece that is now missing. The discovery of a label at Umm el-Qa'ab, citing one of Narmer's years, makes his inclusion in the annals a possibility.<sup>6</sup> Narmer may be Menes' Horus name, Menes being his *nebt* name.<sup>7</sup> There are no contemporary records of the length of Menes' reign. Manetho's copyists report Menes as the first king of the 1st Dynasty but with differing regnal years; Africanus has 62 years, Eusebius has 60 years, and the Armenian has 30 years.<sup>8</sup> These display obvious corruption. Whether any of these years can be considered to belong to Menes of the Turin Canon must await further clarification. I have discussed Manetho's records earlier in Summary 3 of chapter 16 (pages 244-245) and will comment further at the end of chapter 21 (pages 324-325).

### Aha and Djer

Aha is the second king in the Turin Canon (3.12) where only the letters It[...] of his *nebt* name remain.<sup>9</sup> He is referred to as Teti in the AbKL (no. 2), but he is known by his Horus name Hor-Aha in contemporary documents.

The first two compartments on the right edge of Palermo Stone in register two are understood by scholars to be the last two compartments of Aha's reign because the next compartment belongs to his successor, Djer, who has his titulary on Cairo 1. The

<sup>2</sup> In the Turin Canon Iti (Djer) has been given two lines (3.13 and 3.14) instead of the one line given to other kings. We will use this numbering format throughout this chapter. The next chapter begins with column four of the Turin Canon.

<sup>3</sup> K. Kahl, "Dynasties 0-2," *AEC* (2006) 96-97.

<sup>4</sup> Wilkinson, *Royal Annals*, 72, 187.

<sup>5</sup> S. Seidlmayer, *The Rise of the State to the Second Dynasty*, quoted in *Egypt: The World of the Pharaohs*, 2004 (translated from German, 2010), cited at <http://en.wikipedia.org/wiki/Menes>. Wikipedia frequently supplies general information with references and extensive bibliographies for the Egyptian kings of the dynasties covered in this book. Generally, the uncertainties of identity, regnal dates, and lengths of reign, which this book aims to examine and reconstruct, are acknowledged.

<sup>6</sup> Kahl, "Dynasties 0-2," 101.

<sup>7</sup> "Hor-Aha," <http://en.wikipedia.org/wiki/Hor-Aha>

<sup>8</sup> *Manetho*, 26-33.

<sup>9</sup> "Hor-Aha."

preceding two compartments must belong to Aha's reign.<sup>10</sup> The first of the two compartments is damaged on the right side but shows part of the signs for the "following of Horus" (*šms-Hr*). See Figure 19.3.

According to Wilkinson, "The 'following of Horus' is most likely to have been a journey undertaken by the king or his officials at regular intervals for the purpose of tax collection."<sup>11</sup> In the examples that survive in the Royal Annals, this "following of Horus" took place every second year, but it is not present for the reigns of all of the kings. Horus is signified by a falcon.



Figure 19.3: The repeated Horus sign shown on alternate years.

The "following of Horus" is significant in Djer's reign because there are *two* compartments before the next "following of Horus" in the reign of Djer. The first compartment records the number of six months and seven days, which presumably is the length of Aha's final year before he died,<sup>12</sup> and the second compartment gives 4 months and 13 days, which is presumably the length of Djer's accession year. The two numbers only add up to 10 months and 20 days being 1 month and 10 days short of a year. The two compartments are separated by a change-of-reign sign (a vertical marker going up to the previous register; see Figure 19.3). One early commentator, Gustave Jéquier, suggested that the compartments were firstly engraved with the *rnpt* markers for each year and then incised with text. There was not sufficient space to record the material for one year in a single compartment, so two were used. A vertical line was added to show a change of reign, but the curve of the *rnpt* marker was unable to be erased.<sup>13</sup>

The conundrum of whether one or two years was intended by the two compartments appears to be resolved by the "following of Horus" sign, which falls every *second* year. Since neither compartment on either side of the change of reign marker has a "following of Horus" sign, the two compartments must represent one year. The two "length of days" compartments on either side of the change-of-reign marker represents one year. This is the conclusion reached by most scholars,<sup>14</sup> and is the view taken here.

It is not clear why the two numbers do not add up to one year as expected. It could be a scribal mistake for an original 5 months and 23 days, or the numbers were not completed due to lack of space, or perhaps there was a short period between the death of Aha before Djer came to the throne, which was not reckoned to either king's reign.<sup>15</sup>

### Placement of the Palermo Stone in the Royal Annals

The question now is how many compartments originally existed in the gap between the right edge of the annals and the right edge of Palermo Stone in register two? The answer would provide the number of Aha's missing years. To find the number of

<sup>10</sup> Wilkinson, *Royal Annals*, 90.

<sup>11</sup> Ibid., 90-91 citing, idem, *Early Dynastic Egypt* (Routledge: London and New York, 1999) 220-21; see also 67.

<sup>12</sup> Ibid., 89-90.

<sup>13</sup> G. Jéquier, "De l'intervalle entre deux règnes sous l'ancien empire," *BIFAO* 5 (1906) 59.

<sup>14</sup> Wilkinson, *Royal Annals*, 94.

<sup>15</sup> Ibid., 92-93.

years, it was first necessary to reconstruct the years of the kings in registers three, four, five, and six. Then positioning the number of years in the registers on the verso, attempting to make the absent parts of uniform size with the existing parts, and allocating them proportionally to the right and left sides of Cairo 1 and the Palermo Stone. After trialing various numbers of compartments on the recto and verso (and keeping the edges even), and taking into account the suggested 639 years the Turin Canon allocates from Menes to the end of Shepseskare's reign (before Neferefre), it appeared the space from the right edge of the annals to the right edge of the Palermo Stone spanned 23 years/compartments in register two. These 23 years/compartments added to the one year, six months, and seven days for Aha on the Palermo Stone indicate a reign of 24½ years. Working backward from the 24th compartment with the “following of Horus” sign, the second compartment would also have the sign, which is what would be expected, as it would fall in Aha's second year.

### Cairo 5 Fragment (No. 18220)

Another of the annals' fragments is relevant to Aha's reign. The small Cairo 5 fragment is roughly square in shape measuring 9 cm by 9 cm<sup>16</sup> reconstructed by de Cenival, and shown in Clagett Vol. I, fig. I. 40 (renumbered here as Figure 19.4).

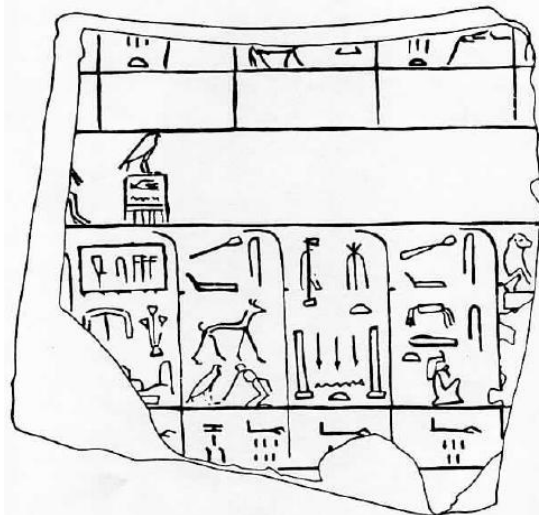


Figure 19.4: The Cairo 5 fragment.

Parts of two registers remain with the upper showing just the lowest parts of three compartments and a vestige of a compartment on either side. The Nile height band takes up most of what remains of the upper register but there are no measurements engraved, which suggests that they did not begin until the reign of Djer, Aha's successor. These compartments can be attributed to Aha's reign because beneath them on the left side of Cairo 5 in the titulary band of register three the Horus name of Den appears in a *serekh*.<sup>17</sup> This is the beginning of his titulary. Further to the left, after the gap between Cairo 5 and the Palermo Stone, the last signs of his titulary appear on the Palermo Stone: those of his mother Merit-neith.<sup>18</sup> See Figure 19.5. Her name confirms that Cairo 5 and the Palermo Stone are from the same part of the annals. Since we can position Cairo 5 to

<sup>16</sup> Ibid., 18.

<sup>17</sup> A *serekh* is a rectangular enclosure representing the niched or gated façade of a palace surmounted by (usually) the Horus falcon, indicating that the text enclosed is a royal name. The *serekh* was the earliest convention used to set apart the royal name in ancient Egyptian iconography, predating the later and better-known cartouche by four dynasties and 500–700 years (<http://en.wikipedia.org/wiki/Serekh>).

<sup>18</sup> Wilkinson, *Royal Annals*, 103-05; Kahl, *Inscriptional Evidence*, 97.

the right of Palermo Stone in register three because of Den’s titulary, the register above must refer to Aha’s reign, also to the right of the Palermo Stone.

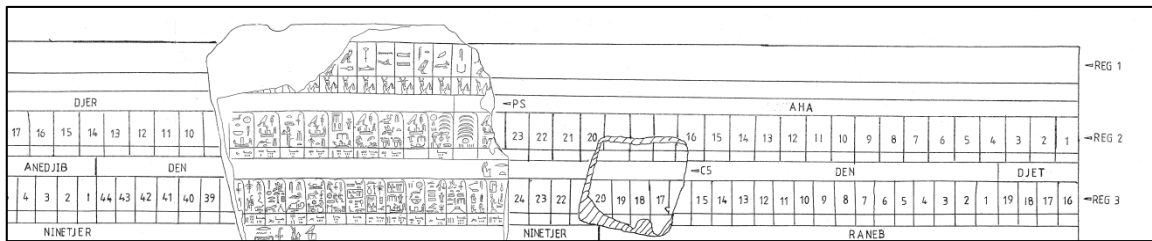


Figure 19.5: Placement of Cairo 5 in relation to the Palermo Stone. C5 = Cairo 5; PS = Palermo Stone; REG = register.

Den’s titulary is helpful in positioning his years since titularies are presumed to be incised *above the middle compartments of each king’s reign*. When Den’s regnal years have been ascertained and positioned, the upper register of Cairo 5 showing the damaged compartments of Aha’s reign can be assigned regnal years.

Den’s last compartment on Cairo 5 has the sign of a *Sed*-festival (see Figure 19.6) and 10 compartments further on in the Palermo Stone there is another sign of a *Sed*-festival.<sup>19</sup> It is well known that in the New Kingdom a first *Sed*-festival was held in a king’s 30th year, whereas here it appears to have been held in Den’s 20th year—assuming there was none earlier than this.



Figure 19.6: Sign for a *Sed* festival, which partly remains on Cairo 5, and also on the Palermo Stone (shown above).

Reckoning on a 30-year *Sed*-festival in the sixth compartment on the Palermo Stone in Den’s reign (see Figure 19.7), and working backward, Cairo 5 comprises (for its four main surviving compartments) Den’s 17th to 20th years. This is consistent with his titulary spanning approximately six compartments, his 20th to 25th years. His middle compartment is his 22nd year, which, if coming in the middle of his reign, gives Den a reign of about 44 years (Figure 19.7).

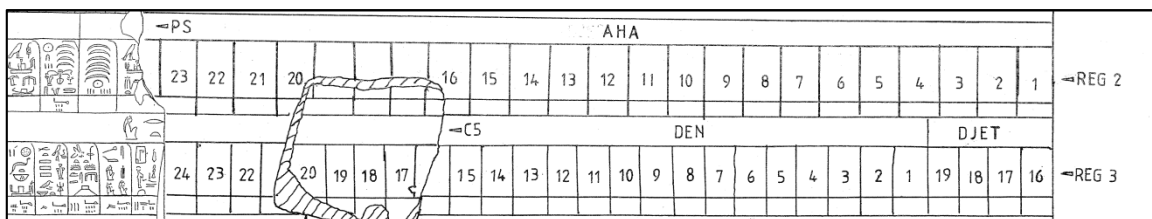


Figure 19.7: The first part of Den’s reign. C5 = Cairo 5; PS = Palermo Stone; REG = register.

The 17th to 20th years of Den’s reign shown on Cairo 5 in register three correspond to Aha’s 17th to 19th years in register two as shown in Figure 19.7. Since Aha’s partial 24th year falls on the right edge of the Palermo Stone in register two, there are four and a half years in the gap between Cairo 5 and the Palermo Stone. In register three, in Den’s reign with its slightly narrower compartments and with Cairo 5 projecting further to the left and the Palermo Stone further to the right, there are also four years

<sup>19</sup> The 20th year compartment on Cairo 5 and in year 30 of the Palermo Stone appear the same.



(21–24). Unlike Aha’s reign, Den’s reign does not start at the right edge of the annals but begins in the fifth compartment—the preceding four compartments belonging to the reign of Djet (see Figure 19.7). I return later to Cairo 5 when discussing the reign of Den, but I now turn to the reign of Djer, Aha’s successor.

### Djer

Djer’s name is partially lost in the Turin Canon at section 3.13, but appears as Iti, his prenomen, in the AbKL (no. 3). Djer’s first compartment follows the last partial year of Aha in register two of the Palermo Stone. It records 4 months and 13 days for his accession year, as discussed above.

Djer’s compartments in the Palermo Stone consist of eight full years and a vestige of a ninth at the left edge (see Figure 18.3 on pages 260-261). The number of compartments *in the gap* between the left edge of the Palermo Stone and the right edge of Cairo 1 have to be determined in conjunction with the gap in registers three, four, and five. The number of years for Ninetjer (register four) and Netjerikhet (register five) will be guided by the reconstruction of the years given to them in the Turin Canon and other sources, and the location of the change-of-reign marker in the annals. The distance of the gap must also correspond to the width of the compartments on the verso.

The “following of Horus” appears in Djer’s first full year compartment (his second compartment) in the Palermo Stone keeping the sequence correct for every two-year period. But coming in his first full year means it falls on his odd-numbered years; therefore the sequence in Cairo 1 must have the “following of Horus” in odd-numbered years also. These factors considered, it indicates that 10 compartments should be attributed to the gap in register two, these being Djer’s 9th to 18th years. The first compartment on the right edge of Cairo 1 represents Djer’s 19th year. It has the “following of Horus” sign, which means it could not have been Djer’s 18th or 20th year (see Figure 19.8).

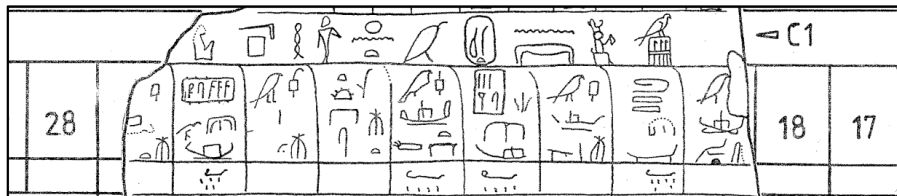


Figure 19.8: Djer’s years 19 to 27 on Cairo 1. C1 = Cairo 1.

The beginning of Djer’s titulary appears above his 20th year compartment in the titulary band. It spans seven compartments ending above his 26th year. Djer’s cartouche, giving his name, Iti, is written in the titulary. The 27th compartment, with its left side missing, appears at the left edge of Cairo 1. Scholars have assumed that a titulary is positioned above the middle years of a king’s reign and averages about the distance of seven compartments.<sup>20</sup> The middle of the titulary is positioned above Djer’s 23rd year indicating that he reigned about 46 years. Since his accession year consisted of four months and 13 days (possibly a mistake for 5 months and 23 days) given in his first compartment, Djer can be attributed 46½ regnal years.

### Djet

In the Turin Canon, Djer is succeeded by [I]tiui[...] (section 3.15), called Ita in the AbKL (no. 4), also known also as “Serpent.”<sup>21</sup> Djet’s regnal years are not recorded.

<sup>20</sup> Wilkinson, *Royal Annals*, 77-78.

<sup>21</sup> Kahl, “Dynasties 0-2,” 97.

However, the number of years is estimated by the compartments between Djer's 46th and last year in register two, and the first year of Den, Djet's successor in register three.

This brings into question the number of compartments between Cairo 1 and the left edge of the annals. In my reconstruction (Figure 18.3 on pages 258-259) this needs to be established in conjunction with Sneferu's compartments in registers five, six, and seven, detailed in chapter 20; a significant interlock in reconstructing the annals. And, without prejudging its reliability, the Turin Canon's overall allocation of 639 years to the entire period covered by the Annals, both recto and verso, presents a tentative hypothesis that should be tested by the evidence for individual reigns as far as they may be known, and by the inscriptional evidence engraved in the stone of the annals still extant for examination.

Once the compartments for Sneferu's reign had been determined, it was then a matter of aligning the left edge of the annals based on the width of the individual compartments in each register. The resulting allocation is somewhat confirmatory because the compartments in each register are of different sizes, yet the final compartments all align with each other at the left edge as though that was their original position. A different allocation would not have had this result.

As noted above, in register three, the sixth compartment of the Palermo Stone records a *Sed*-festival. This was attributed to the 30th year of Den's reign. Working backward 30 years brings us to the first year of his reign, which is located in the fifth compartment from the right edge of the Annals. It is preceded by the last year of Djet's reign, which begins in register two after the 46th year of Djer. Djet's reign occupies 15 compartments in register two on the left edge of the annals and four on the right edge in register three before Den's reign begins. This allocates 19 years to Djet's reign.

## Den

Djet's successor, Den, is referred to as Semti in the Turin Canon (section 3.16) and as Septi in the AbKL (no. 5).

As noted above, Den has a *Sed*-festival recorded for his 20th year in Cairo 5,<sup>22</sup> and for his 30th year in the Palermo Stone. Confirmation of Den celebrating at least one *Sed*-festival is found on a label from Tomb T at Umm el-Qaab. A second occasion of a *Sed*-festival has also been found in Tomb T on a limestone vessel fragment in the southwest annex to Den's tomb, which may belong to Den, though this is not confirmed.<sup>23</sup> The years that these *Sed*-festivals refer to is not stated. They may refer to his 20th and 30th years. We know from Den's compartments in the Palermo Stone that he reigned at least 38 years—his 38th year being the last partial compartment on the left edge. This number of years can be extended to 44 (finishing in the gap between the Palermo Stone and Cairo 1) because the middle of his titulary falls above his 22nd year (in the gap to the left of Cairo 5, though it begins at the left edge of Cairo 5 as shown in Figure 19.4), thought to be positioned in the middle years of his reign.

## Anedjib

The sixth king in the Turin Canon is called Merbiapen (section 3.17). The Turin Canon gives his lifespan as 74 years. He is called Meribap in the AbKL (no. 6) and he is the first king on the Saqqara Tablet where he is named Merbapen (no. 1). He is

<sup>22</sup> Wilkinson attributes this compartment to Den's 22nd year, which would make the titulary span only four compartments, which is clearly too short, although elsewhere he reckons on about seven compartments for a titulary's length (*Royal Annals*, 78, 202-3). This mistake is copied in "Den (pharaoh)," [http://en.wikipedia.org/wiki/Den\\_\(pharaoh\)](http://en.wikipedia.org/wiki/Den_(pharaoh))

<sup>23</sup> Wilkinson, *Royal Annals*, 107-8; Kahl, "Dynasties 0-2," 100 and n. 52.

otherwise known as Anedjib or Andjib.<sup>24</sup> After the 44th year of Den, six more compartments remain in the gap between the Palermo Stone and Cairo 1, with the bottom left half of the sixth compartment surviving on the right edge of Cairo 1 (see Figure 19.9).

ANEDJIB						DEN					
6	5	4	3	2	1	44	43	42	41	40	39

**Figure 19.9:** Anedjib's reign between Palermo Stone (right) and Cairo 1 (left).

Then Cairo 1 has a further compartment divided by a change-of-reign vertical line, indicating that half a year should be attributed to Anedjib and half a year to Anedjib's successor, Semerkhet. The latter's titulary occupies the space of about seven compartments above the register in Cairo 1.

A *Sed*-festival is attributed to Anedjib on inscriptions on stone vessels from Gallery H of the Step Pyramid at Saqqara; Tombs X, Q, and U at Umm el-Qaab; and Tomb S 2446 at Saqqara.<sup>25</sup> However, it is not possible that 20 or 30 years can come between the reigns of Den and Semerkhet. There is no change-of-reign in the compartments for Den's reign on Palermo Stone that might have indicated another ruler had succeeded him.

The first compartment to which Anedjib might be attributed is the one to the left of the damaged edge of the Palermo Stone, giving him—at the most—12½ years before Semerkhet's reign began. But due to the positioning of Den's titulary, this is not convincing. Thus, it seems that Anedjib had a brief reign and did not celebrate his own *Sed*-festival.

A short reign for Anedjib has been explained as follows: "Recent investigations suggest that every object showing the Hebsed and Adjib's name together were removed from king Den's tomb. It would seem that Adjib had simply erased and replaced Den's name with his own."<sup>26</sup> Anedjib may have been quite old when he came to the throne because of the long reign of his father, Den, which would have diminished his own reign, and he may have come to a violent end.<sup>27</sup> Another source reports that some stone vessels at Abydos show that "an attempt was made to erase Anedjib's name, and in one case replace it with the name of his successor, Semerkhet. Perhaps it suggests a dynastic dispute."<sup>28</sup>

On the other hand, Anedjib's reign is well-attested<sup>29</sup> possibly indicating a long reign. It has been suggested that he may have been co-regent with his father and celebrated a *Sed*-festival soon after Den died.<sup>30</sup> This is not implausible. But the fact remains that all that can be attributed to Anedjib from information gleaned from the Annals is six and a half years of sole reign.

<sup>24</sup> Kahl, "Dynasties 0-2," 98; "Anedjib," <http://en.wikipedia.org/wiki/Anedjib>

<sup>25</sup> Ibid., 100 n. 53.

<sup>26</sup> "Anedjib," <http://en.wikipedia.org/wiki/Anedjib>

<sup>27</sup> Ibid., citing N. Grimal, *A History of Ancient Egypt* (London and New York: Blackwell, 1994) 53, 54; and W. Helck, *Untersuchungen zur Thinitenzeit* (ÄA 45, 1987) 124, 160-62, 212-14.

<sup>28</sup> A. Boddy-Evans, "Anedjib,"

<http://africanhistory.about.com/od/Pharaohs/a/Anedjib-First-Dynasty-Pharaoh.htm>

<sup>29</sup> "Anedjib," <http://en.wikipedia.org/wiki/Anedjib>

<sup>30</sup> J. Dunn, "Anedjib, the 5th Ruler of Egypt's 1st Dynasty,"

<http://www.touregypt.net/featurestories/anedjib.htm>, citing Grimal, *A History of Ancient Egypt*, 53-54.



### Semerkhjet and Qa'a

Semerkhjet is called Semsem in the Turin Canon and credited with a lifespan of 72 years (section 3.18). He is called Semsu in the AbKL (no. 7), but is not listed in the Saqqara Tablet.

In Cairo 1, the left half of the change-of-reign compartment in register three belongs to Semerkhjet's accession year, approximately half a year.<sup>31</sup> The "following of Horus" is not present in the compartments for the reign of Den in the Palermo Stone. However, it does appear in the compartments for Semerkhjet's reign beginning with his first full year and each successive odd-numbered year.<sup>32</sup> Semerkhjet's complete titulary appears above the compartments for his reign beginning with his first full compartment and ending above the seventh (see Figure 19.10).

Figure 19.10: Semerkhjet's reign on Cairo 1 followed by Qa'a's reconstructed reign.

One more compartment remains for Semerkhjet before a change-of-reign divides his last compartment from the next belonging to his successor, Qa'a. Semerkhjet's titulary includes the king's cartouche with his *nebtj* name, *Iri-nebtj*.<sup>33</sup> The change-of-reign lines on either side of his titulary indicate that Semerkhjet reigned eight and a half years. Semerkhjet's reign is the only complete reign now represented in the annals.

One uncertainty associated with Semerkhjet's reign is the fact that the change-of-reign marker does not fall within a year as it does for Anedjib, but divides Anedjib's last compartment from the first compartment of Qa'a, his successor, which seems to indicate that both represent one year. The uncertainty is caused because Qa'a's compartment does not have a "following of Horus" sign where one might be expected, thus suggesting that the two compartments should be treated as six months each, to make one year not two.

This is similar to the problem of the two compartments given for Aha and Djer without a "following of Horus" in either, and whether they should be treated as one year or two. In that case, the "following of Horus" in Djer's next compartment indicated that one year was meant. In the present case, the next compartment is not shown, being off the left edge of Cairo 1, so we cannot know whether or not it contained the "following of Horus". If it did, then the two preceding compartments comprised only one year. But if two years were intended, the sign's absence may be due to the change of reign happening at the end of a calendar year as suggested by Wilkinson.<sup>34</sup> The sign might have been omitted from the first year but recorded subsequently in the third year where it would have continued the biennial sequence. Alternatively, the "following of Horus" sign may not have been recorded for Qa'a's reign at all (as in the case of Den's reign).

If the second of the two compartments was Qa'a's first year (a full one) it would have been a "following of Horus" year even if not recorded as such. There is an example of this in register five of the Palermo Stone recto in the reign of Khasekhemwy shown in Figure 19.11. The reign of Khasekhemwy occurs on the right side of the Palermo Stone where the final period of his reign is displayed, ending with a change of reign mark in the titulary band.

<sup>31</sup> J. Degreef read 4 months and 25 days here: "Gallery – Palermo," <http://www.catchpenny.org/thoth/palermo/c1recto.htm>

<sup>32</sup> Wilkinson, *Royal Annals*, 196.

<sup>33</sup> *Ibid.*, 194.

<sup>34</sup> *Ibid.*, 201.

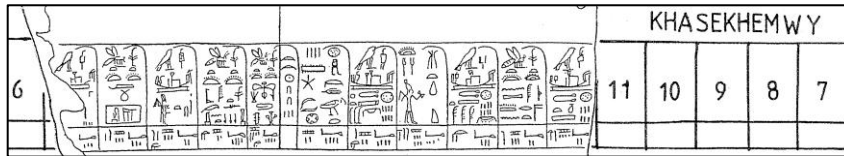


Figure 19.11: The Palermo Stone relating to the reign of Khasekhemwy.

The “following of Horus” are in his 12th, 14th, and 16th years, these being numbered by the mention in them of the sixth, seventh, and eighth census counts. Khasekhemwy’s 18th year comprises only “2 months and 23 days” and is sectioned off from the accession year of Netjerikhet by a change-of-reign divider. This change-of-year compartment does not have a “following of Horus,” though one might be expected. However, that the usual sequence for the “following of Horus” was employed is confirmed in the third compartment of Netjerikhet’s reign where the “following of Horus” appears again and is present also for his fifth year, which equates to the last broken compartment on the left side of the Palermo Stone. Wilkinson thinks that the “following of Horus” was probably not written in the king’s first compartment because the events of his accession and coronation take up the small space provided.<sup>35</sup>

By analogy, returning to the first year of Qa’a’s reign (see Figure 19.10), it does not need to show a “following of Horus” sign. On this basis, I have attributed a year to both the final year of Semerkhet and the first year Qa’a. Semerkhet can be attributed eight and a half regnal years (the half-year coming from the beginning of his reign in the compartment shared with Anedjib).

A problem in register three in Cairo 1 is that the compartments *in this register* (and not in the previous two registers) are *slightly wider than the compartments in the Palermo Stone for the reign of Den*. Space for 10 compartments *in Cairo 1*, is occupied by about 11 compartments in the Palermo Stone, raising questions whether they derive from the same original. Other extant fragments raised similar thoughts.

To retain the same number of compartments in register three as would be given by the Palermo Stone, an extra compartment must be added to the years before the edge of the annals. The sequence in register four is assured because the “following of Horus” compartments are shown in the Palermo Stone (in the reign of Ninetjer), and by working backward, the right edge should have a “non-following of Horus” compartment. Once the missing compartment/year is inserted in register three, the sequence is retained in having a “following of Horus” in every second year. This alternating sequence is a distinctive feature of both the Palermo Stone and Cairo 1, as we have seen.

In order to introduce this amendment into my annals chart, I have elected to divide the second year of Qa’a, the first compartment off the left edge of Cairo 1 in register three, into two halves, assigning them a year each; that is, to Qa’a’s second and third years. (This is shown by a dashed line in Figure 19.12).

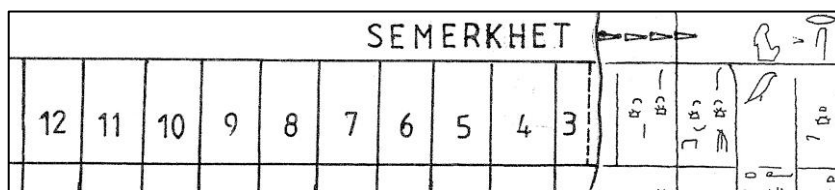


Figure 19.12: Reconstructing Qa’a’s early years on the left edge of Cairo 1.

<sup>35</sup> Ibid., 136.

This adjustment will mean that the left edge of the annals for register three will align with the registers above and below it; while still assuming a regular width for all the other compartments across the register.

### **Qa'a, Hotepsekhemwy, and Raneb**

Qa'a is known as [Ke]behu in the Turin Canon and given a lifespan of 63 years (section 3.19). He is called Qebah in the AbKL (no. 8) and Qebehu in the Saqqara Tablet (no. 2). As discussed above, his first year is represented by the last complete compartment on the left edge of Cairo 1 recto in register three (see Figure 19.12). Wilkinson notes that “The events recorded for Qa'a's first year are the usual ceremonies associated with accession and coronation: the ‘appearance of the dual king’, the ritual ‘unification of Upper and Lower Egypt’ and ‘circumambulating the wall (at Memphis).”<sup>36</sup>

The *rnpt* sign dividing Qa'a's first and second year can be seen on the extreme left edge of register three in Cairo 1. Nothing further is known of the events of Qa'a's reign from the annals. However, a *Sed*-festival is recorded on two stone vessels from Tomb Q at el-Qaab, another on a stone vessel from the Step Pyramid of Djoser I outside galleries H and B, and on a fourth stone vessel held in a private Swiss collection.

Qa'a's second *Sed*-festival is also attested by markings on stone vessels. One was found on a vessel at the Step Pyramid at Saqqara, outside galleries H and B, and another found likewise at gallery B. A third, also on a stone vessel, is held in a private Swiss collection.<sup>37</sup> Assuming that the second *Sed*-festival, if not the first—bearing in mind that Den celebrated a *Sed*-festival in his 20th year—was the occasion of the king's 30th year, Qa'a can be attributed *at least 30 years*. If his first *Sed*-festival was held on his 30th year, then his second may have been three or four years later as was the custom in the New Kingdom.

Qa'a appears to have had a long reign, upwards of 30 years; therefore, I am ascribing to him 36 years, though his actual years are unknown. The regnal years of his two successors, Hotepsekhemwy and Raneb, are not known either, but on the basis of other scholars' reconstruction of the annals they assign to them 39 years,<sup>38</sup> whereas I assign to them 37 (see Figure 18.3). The 36 years of Qa'a and the 37 years of the two following reigns amount to 73 years, which is the number of compartments coming before Ninetjer, the next king, whose years *are* known and who can be positioned accurately on the annals.

Qa'a was buried by his successor, Hotepsekhemwy, at Umm el-Qa'ab,<sup>39</sup> the necropolis of the early dynastic kings, formerly known as Abydos. Egyptologists close off the 1st Dynasty with the reign of Qa'a because this is where Manetho's eighth king, Bieneches, assumed to be Qa'a, ends the dynasty. But there is no break in the Turin Canon between Qa'a (section 3.19) and Hotepsekhemwy (section 3.20).

### **Hotepsekhemwy, Raneb, and Ninetjer**

Hotepsekhemwy is known as Baw-[netjer] in the Turin Canon with a lifespan of 95 years (section 3.20), Bedjau in the AbKL (no. 9), and Baunetjer in the Saqqara Tablet (no. 3). Kahl notes that the succession of Hotepsekhemwy, Raneb, and Ninetjer is secure—this sequence being seen on the shoulder of a statue of a kneeling man (CG 1;

<sup>36</sup> Ibid., 201.

<sup>37</sup> Kahl, “Dynasties 0-2,” 99 n. 43, 100 and n. 54.

<sup>38</sup> “Hotepsekhemwy,” <http://en.wikipedia.org/wiki/Hotepsekhemwy>; “Raneb,” <http://en.wikipedia.org/wiki/Raneb>

<sup>39</sup> Kahl, “Dynasties 0-2,” 199, 102.

Doc. 18),<sup>40</sup> and on a number of stone vessels.<sup>41</sup> However, between Hotepsekhemwy and Ninetjer, the Turin Canon names a king [Ka]ka[w] (section 3.21), listed as Kakau by the AbKL (no. 10) and the Saqqara Tablet (no. 4). Since only one king comes between Hotepsekhemwy and Ninetjer in the respective lists, Kakau and Raneb must be the same person, Raneb being his Horus name, and Kakau, presumably, his *nebtj* name. It is possible that Raneb was also known as Nub-nefer as two inscriptions on stone vessels associate this name with a building that is also associated with Ninetjer's golden Horus name, Ren, as given on the Palermo Stone in register four.<sup>42</sup> This is consistent with Raneb/Nubnefer being the predecessor of Ninetjer.

On the other hand, Jochem Kahl has proposed that Raneb was the Horus name of another king known as Weneg because he claims that the name Weneg was *written over* by the name of Ninetjer in an inscription from Tomb P at Umm el-Qa'ab in the British Museum Egyptian Archeology (BM EA) collection 35556, thus Ninetjer's predecessor must have been Weneg.<sup>43</sup> Weneg is not mentioned in the Turin Canon, but a line for the name of a lost king and his regnal years with only "54" preserved being his lifespan appears *after* the name of Ninetjer (section 3.22) and into this slot in the AbKL appears the name Wadjnas (no. 12) whose Horus name was presumably Weneg. He is called Wadjilas in the Saqqara Tablet (no. 6). It appears that Weneg/Wadjnas came *after* Ninetjer not before. Kahl's theory is still undergoing debate because the inscription on the vessel is badly damaged.<sup>44</sup>

The regnal years of Hotepsekhemwy and Raneb are not known, but because Raneb has fewer records than Hotepsekhemwy it is surmised that he had a shorter reign.<sup>45</sup> The Egyptologist Nabil Swelim points out that there is no record of Hotepsekhemwy having celebrated a *Sed*-festival,<sup>46</sup> but the absence of evidence does not mean it did not happen. We are unable to define the regnal years of Hotepsekhemwy and Raneb. Therefore, I attribute to Qa'a 36 years, and the remaining years to be distributed to Hotepsekhemwy and Raneb before the reign of Ninetjer begins. Hotepsekhemwy's reign begins nine compartments from the left edge of register three of the annals, and continues with his and Raneb's from the right edge of register four for a total of 37 compartments between them; without—in the absence of evidence—suggesting how the 37 years were divided between them.

## Ninetjer

Ninetjer is known as Banetjer and given a lifespan of 95 years in the Turin Canon (section 3.22). He is known as Banetjer in the AbKL (no. 11) and in the Saqqara Tablet (no. 5). Ninetjer's reign begins five and half compartments to the right of the Palermo Stone in register four. These compartments and the following 14 compartments that survive in the Palermo Stone can be identified with his reign because his titulary begins above the fourth compartment from the *left* edge of the Palermo Stone above his 20th year. See Figure 19.13.

<sup>40</sup> CG = Catalogue général des antiquités égyptiennes du Musée du Caire (Cairo Museum).

<sup>41</sup> *Ibid.*, 102.

<sup>42</sup> *Ibid.*, 103-4.

<sup>43</sup> *Ibid.*, 103 and fig. II. 2.1.

<sup>44</sup> "Weneg (pharaoh)," [http://en.wikipedia.org/wiki/Weneg\\_\(pharaoh\)](http://en.wikipedia.org/wiki/Weneg_(pharaoh)); "Raneb,"

<http://en.wikipedia.org/wiki/Raneb>

<sup>45</sup> "Raneb."

<sup>46</sup> N.M.A. Swelim, *Some Problems on the History of the Third Dynasty* (Archaeological and Historical Studies 7; Alexandria: Archaeological Society, 1983) 67-77; cited in <http://en.wikipedia.org/wiki/Hotepsekhemwy>

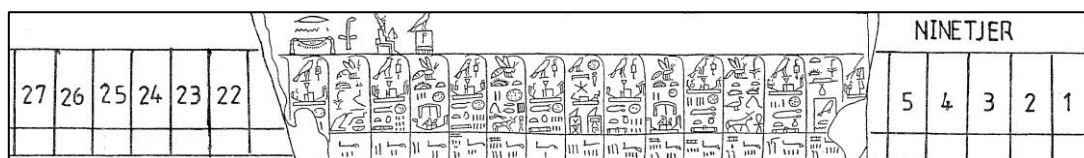


Figure 19.13: Part of Ninetjer's reign and titulary recorded on the Palermo Stone.

Ninetjer is the king's Horus name, written in a *serekh* at the beginning of the titulary. It is followed by a figure of the enthroned king.<sup>47</sup> The years of Ninetjer's reign on the Palermo Stone can be numbered because the third compartment on the stone refers to "the fourth occasion of the census" indicating his eighth year. A census count is repeated for every second compartment; thus, the last compartment on the left edge, which is now damaged, would have had the "10th occasion of the census" (part of which can still be seen) indicating his 20th regnal year.<sup>48</sup> The "following of Horus" (*šms-Hr*) also appears in every second compartment, accompanying the census counts in the king's even-numbered years. It is not clear what these census counts refer to, though in register five they refer to "gold and fields."<sup>49</sup> A *rnpt* sign appears as the last visible stroke at the left edge of the Palermo Stone indicating the beginning of the 21st compartment. Records of a *Sed*-festival are attributed to Ninetjer, and also a 17th census count, the highest known from his reign, which, on biennial reckoning, refers to his 34th year.<sup>50</sup>

Ninetjer's titulary begins above his 17th year, and if covering seven compartments would end in his 23rd year indicating that Ninetjer's middle compartment was his 21st year, it implies a reign of about 42 years. In Figure 19.14, the gap between the Palermo Stone (right) and the right edge of Cairo 1 (left fragment) accounts for 16 compartments (21–36), so Ninetjer's 42nd year falls in the sixth compartment of Cairo 1 where we might expect to see a change-of-reign.

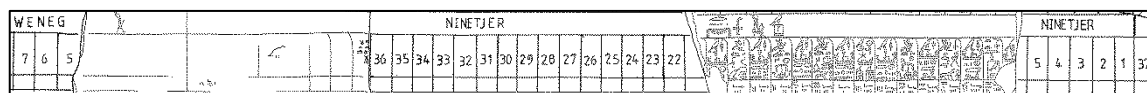


Figure 19.14: Ninetjer's reign, ending on Cairo 1, now obliterated.

But there is no indication that a change-of-reign fell in this year—or one on either side of it.<sup>51</sup> The next change-of-reign falls in the ninth compartment from the right edge (still visible on Cairo 1 despite almost other markings of the original now being illegible or absent), which indicates that Ninetjer reigned about 44½ years—the last compartment being shared with his successor.

Degreef's transcription assigns 3 months and (what appears to be) 11 days to the final part of Ninetjer's reign,<sup>52</sup> and the same partitioning is shown also in I.E.S. Edwards' transcription (dated to Cairo 1948) also supplied by Wilkinson.<sup>53</sup> The length of Ninetjer's reign, if comprising 44½ years, infers that his mid-reign compartment would

<sup>47</sup> Wilkinson, *Royal Annals*, 119.

<sup>48</sup> Ibid., 121. The Wikipedia article illustrating Ninetjer's 15 compartments on Palermo Stone incorrectly assigns Ninetjer's *odd*-numbered years to the census counts and to the "following of Horus," so that it has the fourth count in the ninth year instead of the eighth. As a consequence, it numbers his years 7-21 instead of 6-20. "Ninetjer," <http://en.wikipedia.org/wiki/Ninetjer>

<sup>49</sup> Ibid., 120.

<sup>50</sup> Ibid., 120; Kahl, "Dynasties 0-2," 107 nn. 105, 106, and 107.

<sup>51</sup> Ibid., 203.

<sup>52</sup> <http://www.catchpenny.org/toth/Palermo/c1rectoc.htm>

<sup>53</sup> Wilkinson, *Royal Annals*, fig. 4.



have been his 22nd year, not his 21st. However, this might be due to the compartments being very narrow, and the titulary may have spanned eight compartments—not seven—which would make his mid-reign compartment his 22nd year, giving Ninetjer a reign of about 44 years.

Wilkinson notes the presence of a Seth animal (a canine-like creature) incised in the second and third compartments of register four on the right edge of Cairo 1.<sup>54</sup> These are shown in Edwards' transcription supplied by Wilkinson,<sup>55</sup> but are not seen in Wilkinson's own transcription. In my reconstruction, the two compartments correspond to Ninetjer's 38th and 39th years. Seth is usually associated with a king called Peribsen, believed to have reigned in Upper Egypt when the country divided after the reign of Weneg.<sup>56</sup> However, Wilkinson says, "There is no reason why royal patronage of the cult of Seth should not have occurred in the latter part of Ninetjer's reign."<sup>57</sup> He observes that the *serekh* in the titulary of Ninetjer's successor is surmounted by a four-legged animal that has been substituted for the usual Horus falcon. The only king known to have done this was Peribsen.<sup>58</sup> However, Peribsen is not mentioned in the Turin Canon, AbKL, and the Saqqara Tablet. As discussed above, it seems that Ninetjer's successor was Weneg.

On the other hand, referring to Weneg and Sened, Wilkinson writes: "It is perfectly possible that one or both adopted a Seth name rather than the more usual Horus name."<sup>59</sup> That being so, it is the beginning of Weneg's titulary that appears after Ninetjer's reign on the left side of register four in Cairo 1.

It seems probable, based on the archeological evidence, that Ninetjer divided Egypt into two states, with Peribsen followed by Sekhemib ruling over Upper Egypt while Weneg and his successors ruled Lower Egypt. The country was again unified under Khasekhemy at the end of the 4th Dynasty.<sup>60</sup>

Wilkinson also observes that Ninetjer's successor had a short reign, and Peribsen would not have had time to construct his tomb and funerary complex at Abydos.<sup>61</sup>

## Weneg

Weneg's name is lost in the Turin Canon at section 3.23 after the name of Ninetjer (section 3.22) and before the name of Sened (section 3.24), but a Wadjnas, believed to be Weneg, is named in the AbKL (no. 12) and a Wadjilas in the Saqqara Tablet after Ninetjer (Banetjer) (no. 6), coming before Sened/j in both lists. These records indicate that Weneg/Wadjnas succeeded Ninetjer.

A change-of-reign marker falls in what *appears* to be the ninth compartment of Cairo 1 in register four, and indicates the end of Ninetjer's reign. As noted above, I have assigned 44½ years to Ninetjer. The remaining half-year should then be assigned to Weneg's accession year. It is followed by space for about four compartments with the beginning of a fifth on the left edge of Cairo 1. The width is based on compartments two and three of Ninetjer's reign in Cairo 1—the remainder not being legible. However, my reconstruction is based on the space given to the original Palermo Stone compartments that would have been incised for Ninetjer's last years and Weneg's first year, but now

<sup>54</sup> Ibid., 204.

<sup>55</sup> Ibid., fig. 4.

<sup>56</sup> For Peribsen see Kahl, "Dynasties 0-2," 105. For Weneg see "Weneg (pharaoh)," [http://en.wikipedia.org/wiki/Weneg\\_\(pharaoh\)](http://en.wikipedia.org/wiki/Weneg_(pharaoh))

<sup>57</sup> Wilkinson, *Royal Annals*, 203.

<sup>58</sup> Ibid.

<sup>59</sup> Ibid., 74.

<sup>60</sup> Ibid., 3-5; "Sekhim-Perenmaat," <http://en.wikipedia.org/wiki/Sekhemib-Perenmaat>

<sup>61</sup> Wilkinson, *Royal Annals*, 74.

are only represented in Cairo 1 assumed from a different original. In the original of the Palermo Stone, the space for each compartment would have been slightly narrower. This causes uncertainty as to where the change-of-reign marker fell. Was it further to the left or to the right? Did Ninetjer reign 44 or 45 years, or a fraction thereof?

Wilkinson affords Weneg 12 years on the basis of two years before and two years after the titulary to which he gives the space of eight compartments.<sup>62</sup> This infers that Weneg's titulary began in the *third* compartment from the change-of-reign marker. But since I have attributed to Ninetjer a reign ending with six months, Weneg has six months before his first full year. This gives him two and a half years before his titulary began. If the titulary occupied eight compartments, this scenario gives 12½ years to Weneg.

In I.E.S. Edwards' transcription, he places the *serekh* of the four-legged Seth animal in the *second full* compartment (not third), coming one and a half compartments after the change-of-reign marker.<sup>63</sup> Since the existing titularies begin with a *serekh*, it is analogous to insert the *serekh* (not shown in Wilkinson's transcription), into the second full compartment. The effect is that it shortens Weneg's reign by one or two years since there are now only one and a half compartments before the titulary, and one or two after it. However, Edwards has assumed the width of the compartments as they fall in Cairo 1, not as they fall in the Palermo Stone. This raises the uncertainty as to whether, in the Palermo Stone, the compartments would have corresponded to the second or third year before the titulary began; that is, whether Ninetjer reigned 44 or 45 years.

Another uncertainty is whether we can confidently define the length of a king's reign merely on the length of his titulary and the number of compartments before or after it. The titulary of Semerkhet—the only titulary to cover an entire reign now extant on the Annals—is *not precisely set* in the middle of his reign, with more space to the left (end of reign) than to the right. Thus the amount of space given before a titulary need not be the same as that after it. But the titulary is often the only means we have of making an approximation of the length of reign, especially when the Turin Canon has lost the regnal years of its kings. With these uncertainties in mind, I have taken the middle ground and attributed 44½ years to Ninetjer, and 12½ years to Weneg.

## Sened

Sened is named in the Turin Canon but his regnal years are lost. He lived to the age of 70 (section 3.24). He comes after the “unknown king” identified as Weneg above. In the AbKL, after Weneg is Sendi (no. 13) and in the Saqqara Tablet he is Senedj (no. 7). On the previous scenario, Sened ruled over Lower Egypt while Peribsen was king of Upper Egypt. This may be implicit in an inscription on a false door found on a mastaba tomb belonging to the high priest Shery at Saqqara, giving Shery's title as “overseer of all wab-priests of king Peribsen in the necropolis of king Senedj...”<sup>64</sup>

Sened's length of reign is unknown. But the attestation of his funeral cult surviving into the 4th Dynasty,<sup>65</sup> and possibly into the 18th Dynasty, suggests he was not an ephemeral ruler. His years and those of his successor, Aaka, whose regnal years are also not known, will be combined to give a total length of their reigns, since the reign of Neferkarsokar, Aaka's successor, can be assigned a definite place in the annals.

<sup>62</sup> Ibid., 203.

<sup>63</sup> Ibid., fig. 4.

<sup>64</sup> Kahl, “Dynasties 0-2,” 104, and n. 83 citing an inscription from the tomb of Shery, Saqqara B 3; A. Mariette, *Les mastabas de l'ancien empire* (Paris, 1889) 92-93 cited in “Senedj,” <http://en.wikipedia.org/wiki/Senedj>

<sup>65</sup> Ibid., 104-5; Vendel, “Sened”, at <http://www.nemo.nu/ibisportal/0egyptintro/2egypt/2main.htm>

**Aaka/Neferkar/Neferkare**

Aaka succeeded Sened according to the Turin Canon (section 3.25). At this point the AbKL leaves out three kings: Aaka, Neferkasokar, and “Hudjefa.” The latter word refers to a king whose name was lost to the copyist. The Saqqara Tablet follows Senedj with Neferkare (no. 8) and Neferkasokar (no. 9). Kim Ryholt attributes the change of name from Neferkare to Aaka in the Turin Canon to damage, the scribe having omitted the initial part of the cartouche (section 3.25).<sup>66</sup>

It is thought by some scholars that the three names have been omitted from the AbKL because the names of Aaka and Neferkasokar have only been found in the region of Memphis, and other kings were ruling in the south,<sup>67</sup> possibly including Peribsen.<sup>68</sup> This does not explain why neither the kings of Upper *nor* Lower Egypt are mentioned in the AbKL between Sened and Khasekhemwy (Djadjay in AbKL).

The number of combined regnal years for Sened and Neferkare/Aaka can be estimated by the number of compartments from the end of Weneg’s reign in register four to the left edge of the annals (42 compartments) and from the beginning of the right edge of the annals in register five before Neferkasokar’s first year (six compartments), totalling 48 years.

**Locating Neferkare’s Reign vis-à-vis Neferkasokar**

According to the Turin Canon, Neferkasokar reigned eight years and three months (plus days missing) (section 4.1), and his successor, “Hudjefa,” reigned one year, eight months, and four days (section 4.2) before Khasekhemwy began his reign (section 4.3). See Figure 18.3. Khasekhemwy can be positioned on the annals because his 12th year appears on the right edge of the Palermo Stone (see Figure 19.15) where it refers to the “sixth occasion of the census”.<sup>69</sup>

NETJERIKHET (DJOSER I)											KHA SEKHEM WY					
16	15	14	13	12	11	10	9	8	7	6		11	10	9	8	7

Figure 19.15: Khasekhemwy’s reign.

The combined years to the right of the Palermo Stone for Khasekhemwy, “Hudjefa,” and Neferkasokar amount to 21 years (11 for Khasekhemwy, 1¾ for “Hudjefa,” 8¼ for Neferkasokar). This leaves just 6 years for the final part of Neferkare/Aaka’s’s reign at the right edge of the annals in register five.

In register four, back to the end of Weneg’s reign, there are 42 compartments, which makes 48 in all for the combined reigns of Sened and Neferkare/Aaka. A lengthy reign for Sened might be implied by the evidence that his reign was still being commemorated in the 4th Dynasty (some 150 years later),<sup>70</sup> and for Neferkare/Aaka who is attested as late as the 6th Dynasty, among other rulers.<sup>71</sup>

Aaka’s reign is the last to be noted at the end of column three in the Turin Canon (section 3.25). We proceed with the kings of column four in the next chapter.

<sup>66</sup> K. Ryholt, “The Turin King-List,” *Ä und L* 14 (2004) 148.

<sup>67</sup> O. Vendel, “Neferkare,” in *The Early Dynastic period: Dynasties 1-2* at <http://www.nemo.nu/ibisportal/0egyptintro/2egypt/2main.htm>

<sup>68</sup> Kahl, “Dynasties 0-2,” 105 and n. 87. See also, “Seth-Peribsen,” at <http://en.wikipedia.org/wiki/Seth-Peribsen>

<sup>69</sup> Wilkinson, *Royal Annals*, 131.

<sup>70</sup> Kahl, “Dynasties 0-2,” 104 and n. 83.

<sup>71</sup> Vendel, “Neferkare,” 18.



## Chapter 20

### Reconstructing the Royal Annals - Neferkasokar to Menkaure

This chapter continues the discussion of the recto side of the Royal Annals, and the records of the Turin Canon.

The Turin Canon begins column four with the reign of Neferkasokar. From this point to the end of the 8th Dynasty, some of the kings' names have survived including the majority of the kings' regnal years. Note that reign lengths were recorded in years, months, and days, though only a few are now complete. Evidently, the months and days were important in the final tally of years given in the Turin Canon for kings from Menes down to the last king of the 8th Dynasty, Neferirkare, where the summation is also given in years, months and days (section 5.16–5.17).

Names missing in the Turin Canon can often be filled in from other records such as the AbKL and the Saqqara Tablet. Reign lengths stated in the Turin Canon may be problematical. Clarification may come from the reconstructed Royal Annals due to the number of compartments allocated to the kings, especially if corroborated from other sources. The part of Table 15.1 relating to this chapter is repeated here as Table 20.1.

**Table 20.1: The Turin Canon compared to the Abydos King-list (AbKL)**

Turin Canon			AbKL		
Ref.	King	Years reigned	Cartouche No.	King: listed name	King: common name
4.1	Neferkasokar	8 yr 3 mo		[not given]	
4.2	'Hudjefa' (a)	"Erased", 1 yr, 8 mo, 4 d. Lived 34 yr		[not given]	
4.3	Bebti	27 yr, 2 mo, 1 d. Lived 40 + x yrs	14	Djadjay	Khasekhemwy
4.4	Nebka	19	15	Nebka	Sanakhthe
4.5	Djoser-It	19 yr, 1 mo	16	Netjerikhet Djoser	Djoser
4.6	Djoser-Ti	6	17	Teti	Sekhemket
4.7	'Hudjefa' (b)	"[Erased]" 6 yr	18	Sedjes	Khaba
4.8	Huni	24	19	Neferkara	Huni
4.9	Snofru	24	20	Sneferu	Sneferu
4.10	lost	23	21	Khufu	Khufu
4.11	lost	8	22	Djedfre	Djedefre
4.12	Kha[fre]	lost	23	Khafre	Khafre
4.13	lost	lost		[not given]	
4.14	lost	18	24	Menkaure	Menkaure

x = An uncertain number. "Hudjefa" means name lost to copyist. Two instances are (a) and (b).

#### Neferkasokar

Neferkasokar is attributed eight years, three months plus  $x$  days in the Turin Canon (section 4.1). He is not mentioned in the AbKL but is named in the Saqqara Tablet (no. 9) after Neferkare (Aaka). Little is known about Neferkasokar, although some think he might have been ruling only in Lower Egypt while Peribsen was ruling in Upper Egypt from Thisis because Neferkasokar's name appears on the Saqqara Tablet,

which lists Memphite kings, but is not mentioned in the AbKL.<sup>1</sup> The reconstructed annals allocates Neferkasokar 8½ compartments (see Figure 20.1), which is an important inclusion in register 5 in order to correlate Khasekhemwy’s reign with the London Fragment and the Palermo Stone after “Hudjefa” (a).

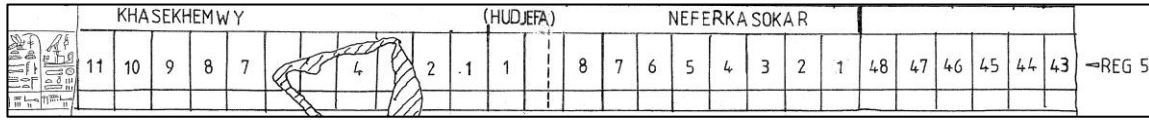


Figure 20.1: Reigns displayed in the reconstruction of register 5. REG = register.

“Hudjefa” (a)

Neferkasokar is followed by a “Hudjefa” in the Turin Canon (section 4.2). “Hudjefa” appears twice in the Turin Canon (the other at section 4.7) written in a cartouche, which has replaced the name of the king, and means “erased” or “lost” presumably due to damage before a copy was made. The king is attributed one year, eight months, and four days, and a lifespan of 34 years (section 4.2). In the AbKL, Hudjefa’s name is the third missing name after Sendi (Sened) and before Djadjay, identified as the *nebtj* name of Khasekhemwy. The missing names are Neferkara/Aaka, Neferkasokar and Hudjefa. Hudjefa’s name is also lost in the Saqqara Tablet (no. 10). The omission of these kings may have been due to the partition of Egypt during the 2nd Dynasty. Hudjefa’s identity is not known, though some scholars have postulated that he might have been Nubnefer, Za, or Bird, known only from Saqqara, and that one of these may have been king of Lower Egypt for a short time while Peribsen and his successor, Sekhimib, ruled in Upper Egypt.<sup>2</sup> A reign of less than two years would not have left many records. Nevertheless, Hudjefa’s reign is important for the annals because he precedes Khasekhemwy whose latter years, with census count numbers, are on the right side of Palermo Stone in register five. Preceding Hudjefa is Neferkasokar with eight years, three months, and *x* days. That leaves six compartments at the beginning of register five for the remaining years of Neferkare/Aaka from register 4, whose reign length is unknown.

Khasekhemwy

“Hudjefa” is succeeded by Khasekhemwy. The Turin Canon uses his personal name Bebti (section 4.3), or as in the Saqqara Tablet, Beby (no. 11). He is credited with 27 years, 2 months, and 1 day with a lifespan of 40 + *x* years in the Turin Canon. However, the Palermo Stone credits his reign with 17 years, 2 months, and 23 days. Khasekhemwy is identified in the Palermo Stone recto, register five, compartment four, by the mention of “the creation of a statue called ‘high is Khasekhemwy’.” This applies to his 15th year of reign<sup>3</sup> displayed in Figure 20.2.

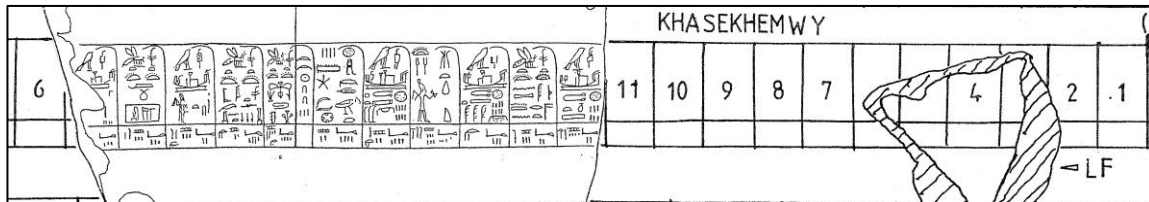


Figure 20.2: Khasekhemwy’s reign. LF = London Fragment.

1 See “Neferkasokar,” <http://en.wikipedia.org/wiki/Neferkasokar>

2 “Seth-Peribsen,” <http://en.wikipedia.org/wiki/Seth-Peribsen>

3 Wilkinson, *Royal Annals*, 130-31.

The first preserved compartment on the right edge of the Palermo Stone refers to the “sixth occasion of the census” indicating his 12th regnal year, and a census count is also noted for the seventh and eighth occasions where it refers to gold and fields, indicating his 14th and 16th years.<sup>4</sup> The census count years are accompanied by the “following of Horus” signs. A change-of-reign compartment appears for what is Khasekhemwy’s 18th year. The reign divider appears about one-third of the way through the compartment and Khasekhemwy is attributed 2 months and 23 days for his last partial year. The remaining months and days for the accession year of his successor, Netjerikhet, are not included in the remaining two-thirds section of the compartment, but the two sections clearly indicate one calendar year.

The 17 years, 2 months, and 23 days attributed by the Palermo Stone to Khasekhemwy conflicts with the 27 years, 2 months, and 1 day of the Turin Canon—a difference of 10 years and 22 days. A 17-year reign for Khasekhemwy implies that his titulary would have been above his 5th–11th years (the middle seven compartments of his reign), which are now lost off the right edge of the Palermo Stone. If the titulary had been any longer, its final signs would have been preserved on the Palermo Stone. I attribute 17 years, 2 months, and 23 days to Khasekhemwy as on the annals.

However, his reign length again comes into question when looking at the years of his successors: Netjerikhet, Sekhemkhet, and Nebka. First, we look at the London Fragment of the Royal Annals kept in the Petrie Museum, registered as UC 15508 (Figure 20.3),<sup>5</sup> which pertains to the reign of Khasekhemwy.

### London Fragment

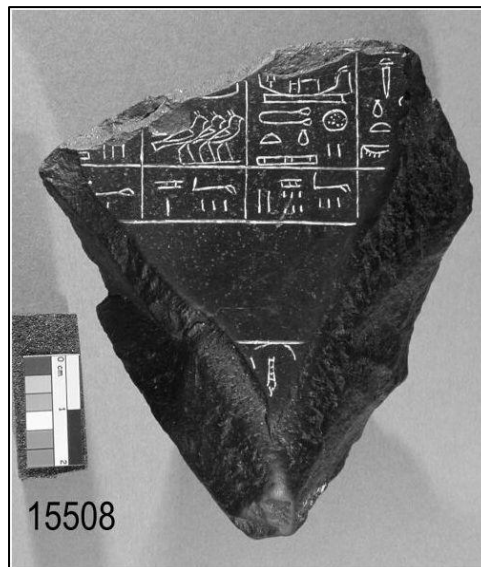


Figure 20.3: London Fragment.

Wilkinson writes: “The triangular London Fragment has a maximum height of 8.5 cm and a maximum breadth of 8 cm on the recto; it is 5.3 cm in thickness.”<sup>6</sup> The recto shows parts of two registers separated by a titulary band. The upper part, showing a portion of register 5, displays the lower parts of four broken compartments of which the second is the best preserved. Only a tiny part is preserved of the lower register (register 6).

<sup>4</sup> Ibid., 133, 134.

<sup>5</sup> Picture below displayed by courtesy of the Petrie Museum of Egyptian Archaeology, UCL.

<sup>6</sup> Ibid., 18.

According to Wilkinson, the width of the compartments suggests that they correspond to register five and a king of either the 2nd or 3rd Dynasty.<sup>7</sup> Petrie, backed by Wilkinson, suggested that Khasekhemwy is the king featured, believing that the census count was biennial. However, Kaiser and Barta preferred Huni, a later king, presuming a change from regular to irregular census counts had taken place at the end of the 3rd Dynasty applicable to Huni and his successor, Sneferu.<sup>8</sup>

Wilkinson notes, “Most commentators have read the entry in the first (partially) preserved compartment as ‘the first occasion of the census’.”<sup>9</sup> However, the second compartment has a damaged “following of Horus” sign and below this is clearly written the “second occasion of the census,” which, in a biennial census, refers to the king’s fourth regnal year. There is no census count in the third compartment but the very damaged fourth compartment, which survives only in its bottom left half, shows the remains of words ([*zḫ*] 3 [*tnwt*]) indicating the “third occasion of the census.”<sup>10</sup> These indicate the king’s sixth regnal year.

What, then, of the census in the first compartment? Wilkinson suggests it refers to an unidentified event, and finds Clagett’s suggestion that it refers to a first census for the counting of *gold* quite plausible. In this case, the idea of an irregular census count indicated on the London Fragment is ruled out, and also the identity of the king as Huni.<sup>11</sup>

The upper register of the London Fragment can be attributed to Khasekhemwy and preserves parts of his third to sixth years and may be placed in the appropriate position to the right of the Palermo Stone in register five. Khasekhemwy’s titulary, if written over seven compartments, would have started just above the fifth-year compartment of the upper register of the London Fragment, which, unfortunately, has been broken off, and ended just to the right of the Palermo Stone in his 11th-year compartment. Thus, none of the titulary has survived. According to Wilkinson, the tiny surviving part of the lower register of the London Fragment, which he transcribes as “halting at?...” belongs to the reign of Sneferu.<sup>12</sup> In my reconstruction, the tip of the London Fragment falls in register six in the 10th year of Sneferu’s reign. See Figure 18.3 on pages 260-261.

The London Fragment is the only one of the smaller annals’ fragments to have any surviving text on the verso.<sup>13</sup> Due to its thickness and the way it was broken, a larger area remains on the fractured surface of the recto than on the verso, which has only a tiny inscription on the lower part. This is attributed to Neferirkare Kakai (see chapter 21).

### **Nebka, Netjerikhet, Sekhemkhet, “Hudjefa (b),” and Huni**

Before discussing the reigns of these kings individually, the order of their accession must be determined. Both the Turin Canon (section 4.4) and the AbKL (no. 15) name Nebka after Khasekhemwy, then Nebka is followed by Djoser-It (section 4.5)

<sup>7</sup> Ibid., 248.

<sup>8</sup> Ibid., 248, citing W. Barta, “Die Chronologie der 1. bis 5. Dynastie nach den Angaben des rekonstruierten Annalsteins,” ZÄS 108 (1981) 13; W. Kaiser, “Einige Bemerkungen zur ägyptischen Frühzeit, II. Zur Frage einer über Menes hinausreichenden ägyptischen Geschichtsüberlieferung,” ZÄS 86 (1961) 42-53. See also A. J. Spalinger, “Dated Texts of the Old Kingdom,” SAK 21 (1994) 276 n. 3.

<sup>9</sup> Wilkinson, *Royal Annals*, 249.

<sup>10</sup> Ibid., 250. The beginning of a cubit measure has survived. The Nile height measurement appears in full in the preceding two compartments.

<sup>11</sup> Ibid., 248-49.

<sup>12</sup> Ibid., 251.

<sup>13</sup> Ibid., 248.

known by his Horus name, Netjerikhet. Netjerikhet is followed by Djoser Ti known by his Horus name, Sekhemkhet (section 4.6). Then in the Turin Canon comes a “Hudjefa” (name lost: section 4.7) before Huni (section 4.8). Thus the order is: Khasekhemwy, Nebka, Netjerikhet, Sekhemkhet, “Hudjefa,” and Huni.

### Revised Order Ascertained

The Saqqara Tablet supplies a different order: Beby (Khasekhemwy) (no. 11) is followed by Djoser (Netjerikhet), followed by Djosereti (Sekhemkhet); then Nebkare (Nebka) before Huni.<sup>14</sup> Thus Nebka in the Saqqara Tablet is relocated from the Turin Canon (section 4.4) and the AbKL to the place where “Hudjefa b” appears in the Turin Canon (section 4.7). In the Westcar papyrus, Nebka also succeeds Djoser Netjerikhet<sup>15</sup> Thus, the order here is: Khasekhemwy, Netjerikhet, Sekhemkhet, Nebka/Hudjefa, and Huni. Table 20.2 shows the different orders of kings.

**Table 20.2: Comparing the Order of the Kings**

Turin Canon/Abydos King-list	Saqqara Tablet
4.3 Khasekhemwy	Beby (Khasekhemwy)
4.4 Nebka (19 years)	Djoser (Netjerikhet)
4.5 Netjerikhet	Djoserteti (Sekhemkhet)
4.6 Sekhemkhet	Nebkare (Nebka)
4.7 “Hudjefa b”	Huni
4.8 Huni	

Seidlmayer writes, “Recent excavations at Abydos revealed unequivocal evidence that Horus Netjerikhet buried Khasekhemwy, the last king of Dyn. 2, there, making it certain that no reign (and especially a chronologically significant one as shown in Turin Canon) could have intervened between them.”<sup>16</sup> Furthermore, the sequence is confirmed by several contemporary seal impressions found in tombs that indicate that Khasekhemwy’s successor was Netjerikhet.<sup>17</sup>

Evidently, the Nebka (Turin Canon section 4.4) after Khasekhemwy (section 4.3) is out of place, and should take the place of Hudjefa (section 4.7). This means that Netjerikhet should be moved up a line in the Turin Canon while retaining the standard numbering.

Having ascertained the order of these kings, and noting the confusion of the Turin Canon, we can now discuss their lengths of reign, where again the Turin Canon record of reign-lengths appears unreliable. The Royal Annals will show that the annals were derived from a superior record, even though it now must be reconstructed from fragments.

### Djoser Netjerikhet

Netjerikhet is attributed 19 years and 1 month in the Turin Canon. In the AbKL he is called Netjerikhet Djoser (no. 16) and in the Saqqara Tablet, Djoser (no. 12). Horus Netjerikhet is identified by scholars as the first king of the 3rd Dynasty, and owner of the first step Pyramid built at Saqqara.<sup>18</sup>

The final partial compartment of Khasekhemwy’s 18th year in the annals (the Palermo Stone recto—see Figure 20.2) at register five showed him with 2 months and 23

<sup>14</sup> “Saqqara Tablet,” [http://en.wikipedia.org/wiki/Saqqara\\_Tablet](http://en.wikipedia.org/wiki/Saqqara_Tablet)

<sup>15</sup> S.J. Seidlmayer, “Dynasty 3,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, and D. Warburton; Leiden and Boston: Brill, 2006) 116, 118.

<sup>16</sup> *Ibid.*, 118.

<sup>17</sup> J. Kahl, “Dynasties 0-2,” *AEC* (2006) 106.

<sup>18</sup> Seidlmayer, “Dynasty 3,” 118.

days and was divided from the remaining portion attributed to the accession year of his successor, who can now be named as Netjerikhet. The portion of Netjerikhet's accession year is not stated on the compartment, but the complement is nine months and seven days to make one year (or 12 days when epagomenal days are counted). Following this, there are three complete compartments, and most of a damaged fourth compartment on the left edge of the Palermo Stone. Thus Netjerikhet's first five years (approximately) are recorded on the Palermo Stone. Using the same width for the compartments as in the Palermo Stone, a further 13 compartments may be located in the space between the Palermo Stone and Cairo 1, being years 6–18. Netjerikhet's 19th year is the first damaged compartment at the right edge of Cairo 1 in register five. (See Figure 20.4.)

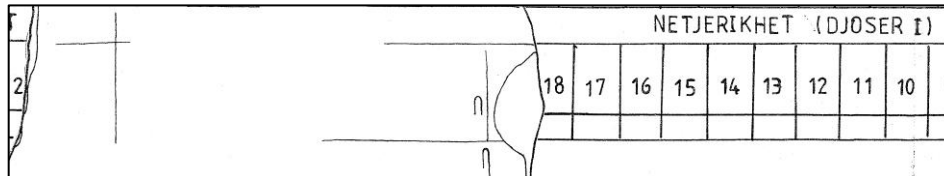


Figure 20.4: Remains of register five on Cairo 1 (left).

If Netjerikhet had reigned only 19 years as given him in the Turin Canon at section 4.5, there should be a change-of-reign divider at this compartment on Cairo 1, but none is visible even though a *compartment/year* divider is positioned further along the titular band in Wilkinson's transcription.<sup>19</sup> Furthermore, if there had been a change of reign from Netjerikhet to his successor, Sekhemkhet—given six years in the Turin Canon (section 4.6)—Sekhemkhet's titulary should be detectable, even if badly worn, above the original register compartments on Cairo 1, because the change-of-reign marker is quite visible near the left side of Cairo 1. This seems to confirm that this change-of-reign marker applies to the end of Netjerikhet's reign and marks the beginning of Sekhemkhet's reign. The last year of Netjerikhet's reign amounts to about six months judged merely on the width of the compartments on the Palermo Stone for this register. The remaining years (half, plus one year, plus half = two) on the left of register five belong to the reign of Sekhemkhet.

Netjerikhet may be attributed about 27 years and 3 months. These are made up of his initial nine months, followed by four years to the edge of the Palermo Stone, then 13 years in the gap, and about nine and a half years on Cairo 1. This is consistent with a reign of nearly three decades that some scholars propose for Netjerikhet on the basis of his many substantial building projects, particularly at Saqqara.<sup>20</sup> Wilkinson affirms "28 complete or partial years" for Netjerikhet's reign.<sup>21</sup>

Netjerikhet's titulary, which is now lost, must have been in the gap between the Palermo Stone and Cairo 1 with his middle compartment being his 13th or 14th year, and ending before his 19th year on the right edge of Cairo 1.

### Confused Dates between the Turin Canon and the Royal Annals

Going back to Khasekhemwy, we noted that he is attributed 27 years, 2 months, and 1 day in the Turin Canon (section 4.3), whereas in the annals he reigns 17 years, 2 months, and 23 days, being *10 years less*. As explained above, his successor, Djoser Netjerikhet, is given 19 years plus 1 month in the Turin Canon and  $27\frac{1}{4}$  years in the annals—about *8 years more*.

<sup>19</sup> Wilkinson, *Royal Annals*, fig. 5.

<sup>20</sup> "Djoser," <http://en.wikipedia.org/wiki/Djoser>.

<sup>21</sup> Wilkinson explains the extra years on the basis that the unfinished Step Pyramid Complex would plausibly, on archaeological grounds, have taken this amount of time (*Royal Annals*, 209).

What might explain this discrepancy? The answer may lie in the duplication of numbers in the Turin Canon listing of kings (Table 20.3).

**Table 20.3: The Turin Canon listing of kings**

Ref.	King	Regnal years
4.1	Neferkasokar	8 yr, 3 mo
4.2	“Hudjefa” (a)	“Erased,” 1 yr, 8 mo, 4 d
4.3	Bebti (Khasekhemwy)	27 yr, 2 mo, 1 d
4.4	Nebka	19
4.5	Djoser-I/Netjerikhet	19 yr, 1 mo
4.6	Djoser-Ti/Sekhemkhet	6
4.7	“Hudjefa” (b)	“[Erased]” 6yr
4.8	Huni	24
4.9	Snofru	24
4.10	lost	23
4.11	lost	8
4.12	Kha[fre]	lost
4.13	lost	lost
4.14	lost	18

In the Turin Canon, at section 4.4, Nebka is given 19 years followed by Netjerikhet at section 4.5 also with 19 years, then Sekhemkhet at section 4.6 with six years is followed by “Hudjefa” at section 4.7 also with six years, then Huni at section 4.8 with 24 years is followed by Sneferu at section 4.9, also with 24 years. This repetition of regnal years, the incorrect positioning of Nebka at section 4.4, and the “lost” data lower down the list raises suspicions of unreliability in the fragments of the Turin Canon record. From a precise number of years, months, and days in the top three sections of the list, the appearance of precision quickly degenerates.

### Sekhemkhet

Sekhemkhet is named Djoser-Ti in the Turin Canon and given six years (section 4.6). He is called Teti in the AbKL (no 17) and Djoserteti in the Saqqara Tablet (no 13). Sekhemkhet’s identity with Djoser-Ti is not in doubt, being owner of the second smaller pyramid built after that of Netjerikhet’s. Also “the Nebti-Name of Sekhem-khet is attested as Djosert(i)-<sup>c</sup>ankh on an ivory plaque from his pyramid.”<sup>22</sup> Sekhemkhet’s step pyramid at Saqqara was discovered in 1951 by Zakaria Goneim, along with jar seals inscribed with Sekhemkhet’s name. The pyramid was constructed only to its lowest step at the time of his death suggesting a brief reign.<sup>23</sup>

Sekhemkhet’s accession begins at the change-of-reign indicator on Cairo 1 (see Figure 20.4). As noted above, he is assumed to share a compartment with his predecessor, Netjerikhet, giving to him about six months for his accession year. Sekhemkhet then had a full year followed by half of his second year on the left edge of Cairo 1 with his remaining years now lost beyond the edge. His titulary would be expected over these compartments, and Wilkinson notes a *Hr-* (The Horus) in Sekhemkhet’s change-of-reign compartment after which nothing remains of the titulary.<sup>24</sup> The fact that the titulary begins in the change-of-reign compartment indicates a short reign for this king, which concurs with the six years given him in the Turin Canon. However, this is a rounded figure, and to fit in with the years required for the succeeding reigns of Nebka and Huni before that of Sneferu, I propose six and a half years to Sekhemkhet allocated in the reconstructed annals.

<sup>22</sup> Seidlmayer, “Dynasty 3,” 118.

<sup>23</sup> “Sekhemkhet,” <http://en.wikipedia.org/wiki/Sekhemkhet>

<sup>24</sup> Wilkinson, *Royal Annals*, 213-14. The Horus figure is seen in Edwards’ reconstruction, fig. 4.



### “Hudjefa” identified as Nebka/re (Zanacht)

“Hudjefa” (“erased” or “missing”) in the Turin Canon at section 4.7 should be identified with Nebka where the Turin Canon gives the king six years—the same number as his predecessor, Sekhemkhet. This is one of three successive duplications and may not be correct. The AbKL also notes the absence of the king’s name (“Sedjes”) (no. 18). The Saqqara Tablet gives his name as Nebkare (no. 14). The name Nebka is also attested in the papyrus Westcar.<sup>25</sup>

Several attestations link Nebka’s reign to the end of the 3rd Dynasty precluding his presence at the beginning of the dynasty and in the Turin Canon at section 4.4.<sup>26</sup> Nebka’s Horus name was Zanacht, identified from “a seal impression from mastaba K2 at Beit Khallaf where the names occur in parallel,” and in other sites.<sup>27</sup> The layer pyramid at Zawyet-al-Aryan, south of Giza and north of Abusir, is thought to belong to Sekhemkhet’s successor, and therefore, to Nebka/re, or if not Nebka then to his successor, understood to be Khaba, identified as the Horus name of Huni.<sup>28</sup> To determine the length of Nebka’s reign, given variously in the Turin Canon as 19 years (section 4.4) and six years (section 4.7), we need to fit this reign and the reign of his successor, Huni, into the annals before Sneferu’s reign begins.

### Sneferu’s Reign Provides a Fixed Point

The record of Sneferu’s long reign gives great assistance to the reconstruction of the annals. His reign encompasses parts of three registers and is witnessed on both the Palermo Stone and Cairo 4 (which we come to later in this chapter). Again Figure 18.3 should be consulted to note his 1st year at the end of register five, years 2 to 44 through the entirety of register six, and the final 6 years of his reign in register seven. Sneferu’s year/compartments appear on the Palermo Stone in register six. Working backward from these compartments will place Nebka’s and Huni’s reigns between Netjerikhet and Sneferu.

Pre-empting a later conclusion, the 14th year of Sneferu appears on the right edge of the Palermo Stone in register six. Going backward, his *second* year would have been recorded on the extreme right edge of register six of the annals, and his *first* year on the extreme left edge of register five. Working backward further, there are 33 compartments between the beginning of Sneferu’s reign back to Sekhemkhet’s sixth and last year. Of those 33 years, Huni is given 24 years in the Turin Canon (section 4.8), which leaves 9 years to be attributed to Nebka/Hudjefa. In section 4.4 of the Turin Canon, a line already judged to be discrepant, Nebka was given 19 years—obviously 10 too many to fit with Huni’s 24 years.

Reducing this number by 10 years to afford Nebka 9 years, the 33 years between Sekhemkhet and Sneferu are accounted for. The ambiguous allocation of a reign to “Hudjefa” at the Turin Canon section 4.7, now seen to belong to Nebka, reported an erasure and 6 years, which may merely be a reduplication of Sekhemkhet’s 6 years at section 4.6, with possibly three strokes missing from the total at section 4.7. The garbled data obviously calls for speculation, but Nebka/re may be attributed 9 years and Huni 24 years.

### Discrepancy between the Figures of the Turin Canon and the Royal Annals

The 9 years for Nebka may offer a clue about the 19 years given him erroneously

<sup>25</sup> Seidlmayer, “Dynasty 3,” 120.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid., 120-21.

<sup>28</sup> Ibid., 119-22.



at section 4.4 in the Turin Canon. As noted, there appears to be a problem with the “tens” in the existing record of the Turin Canon when compared with the annals. The Turin Canon has 10 years too many for Khasekhemwy (27 instead of 17), 10 too many for Nebka (19 instead of 9 erroneously at section 4.4), but lacks 8 years for Netjerikhet in giving him 19 years and 1 month instead of 27 years. The 19 years appears to be a repetition of the incorrect number given to Nebka in the preceding line, when 19 years should have been 27 as in the annals.

The figures are shown in Table 20.4. The Turin Canon is approximately 17 years in excess compared to the annals.

**Table 20.4: Turin Canon and Royal Annals discrepancies from Khasekhemwy to Nebka (“Hudjefa”)**

Ref.	King	Turin Canon	Royal Annals
4.3	Khasekhemwy	27 yr, 2 mo, 1 d	17 yr, 2 mo, 23 d
4.4	Nebka	19	--
4.5	Netjerikhet	19 yr, 1 mo	27 yr, 3 mo
4.6	Sekhemkhet	6	ca. 6 yr, 6 mo
4.7	Nebka (“Hudjefa”)	6	ca. 9 yr
4.8	Huni	24	ca. 24 yr
	<b>Total</b>	<b>101 yr, 3mo, 1d</b>	<b>ca. 84 yr</b>

Speculation suggests that 10 years was subtracted from Netjerikhet’s reign when he originally had 27 years. This was then replaced with the incorrect 19 years, perhaps the original number having been lost at that stage in the transmission of the canon. A further repetition is noted in that Sekhemkhet is given six years (plus missing months?) in both the Turin Canon and the annals, but the Turin Canon has also attributed this amount to Nebka in the following line, whereas the Annals’ reconstruction shows that the original number was likely to have been around nine years.

Damage to the Turin Canon leading to the corruption of the figures is inferred from the incorrect positioning of Nebka between Khasekhemwy and Netjerikhet; the incorrect number of years given to Khasekhemwy (section 4.3), Nebka (at section 4.4), Netjerikhet (section 4.5); and the erroneous number of years for “Hudjefa” (at section 4.7). With these assumptions, the only years to have survived correctly are the six years given to Sekhemkhet (rounded down) and the 24 years given to Huni.

### Huni

Huni is named and attributed 24 regnal years in the Turin Canon (section 4.8) and comes after Nebka and before Sneferu. In the Saqqara Tablet, Huni (no. 15) comes after Nebkare and before Sneferu. In the AbKL Neferkara comes after “Sedjes” (Nebka) and before Sneferu (no. 19). Neferkara is noted as the first king in the Karnak King-list (no. 1), where he comes before Sneferu. In summary, Neferkara precedes Sneferu in the AbKL and Karnak King-list, while Huni precedes Sneferu in the Turin Canon and the Saqqara Tablet. This appears to indicate that Neferkara and Huni are one and the same.

The span of time from the end of Sekhemkhet’s reign off the left side of Cairo 1 in register 5, to the 14th year of Sneferu’s reign on the right edge of the Palermo Stone in register six, provides the framework for allocating the years for Nebka and Huni. As noted, of these 33 years, 9 have been allocated to Nebka and 24 years to Huni.

I conclude that the *annals* once displayed the actual number of regnal years for Khasekhemwy to Huni as shown in Table 20.4.

### Sneferu

The Turin Canon gives Sneferu (Snofru) 24 regnal years (section 4.9). He is also known as Sneferu in the AbKL (no. 20), in the Saqqara Tablet (no. 16), and in the

Karnak King-list (no. 2). Scholars recognize Sneferu as the first king of the 4th Dynasty. A Middle Kingdom papyrus, Papyrus Prisse, attests that after Huni died Sneferu became king of Upper and Lower Egypt.<sup>29</sup>

### The Sneferu Compartments on the Royal Annals

Figure 20.5 shows the three compartments for the reign of Sneferu that appear on the Palermo Stone in register six with just a vestige of compartments showing on either side. The compartments are deeper and wider than those of the preceding registers. The compartment on the right refers to Sneferu's boat building prowess, his military exploits to "the Land of the Blacks" (presumably Nubia) in which he captured 7,000 prisoners for his labor force, and 20,000 cattle, sheep, and goats to feed the people. It also refers to the building of the house of Sneferu and 40 ships laden with cedar wood.<sup>30</sup>

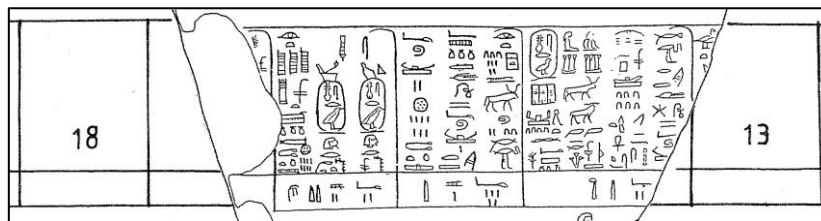


Figure 20.5: Sneferu compartments on the Royal Annals.

This virtually complete compartment (except for a tiny portion at the bottom right), is somewhat wider than the two that follow, presumably to include the activities of that year. It is the widest compartment on the Palermo Stone, with four columns of markings instead of the three columns in the next two. Yet, it does not record a cattle count. And because the next *two* compartments both record cattle counts, many questions have been raised about the regularity or irregularity of cattle counts in the 4th Dynasty.

### Regularity of Cattle Counts

The middle compartment records the "seventh year of the count" and the left compartment records the "eighth year of the count".<sup>31</sup> The two successive counts are contrary to previous attestations in the annals in which census counts appear to have been held every *second* year as in the reigns of Ninetjer and Khasekhemwy, and occur in even-numbered years indicating they were first undertaken in a king's second year. The question scholars are faced with is how to interpret these compartments. Why are two consecutive compartments both given a census count? There are several possible explanations.

The first possibility is that if the eighth count in the third compartment is correct, and represents Sneferu's 16th regnal year, then the first compartment of biennial reckoning should represent his seventh count and his 14th year. But, instead, the second compartment in the middle has the "year of the seventh count."

The many activities in the previous year may have caused the census count to be postponed to the next year, thus noted as the "seventh count." In order to return the sequence to even-numbered years, the next compartment would have to report the eighth

<sup>29</sup> "Sneferu," <http://en.wikipedia.org/wiki/Sneferu>

<sup>30</sup> E.A. Wallis Budge, *The Literature of the Ancient Egyptians* (London: Dent, 1914) 100.

<sup>31</sup> It also has two cartouches, the one on the right referring to "Sneferu high of the white crown" at the gate on the south, and on the left "Sneferu (high of) the red crown" at the gate on the north of a building (Wilkinson, *Royal Annals*, 144).

count representing the king's 16th year—thus two census counts in two consecutive years.

A second possibility is to equate the first compartment with Sneferu's 13th regnal year with the seventh census count taking place in the 14th year in the middle compartment. But against this, there is no reason to have the eighth count in what would be the odd-numbered next year, the 15th year. Furthermore, in the existing annals there is no count attributed to a king's odd-numbered year.

A third possibility may be to equate the first compartment with the 12th year with an omitted *sixth* census count. This omission may have caused a scribe to mistakenly attribute the next compartment to the "seventh count." (It could hardly be called the "sixth count" in an odd-numbered year or the "year after the sixth count" if none had been held the previous year. The terminology for such a precedent seems lacking.) After writing in the "seventh count" in the middle compartment, the "year of the eighth count" has been squashed into the left lower corner of the next compartment. But it should not have been included if the previous year had been an official census-count year. If the first compartment was the 12th year and the third compartment the 14th (contrary to its "eighth count") this would place Sneferu's accession two years *later*, which would add two more years to the preceding period spanned by the reigns of Sekhemkhet, Nebka, and Huni.

Our preceding discussion indicated that the years allocated to the annals for these kings fitted into the compartments available. There is no indication they should be extended by two more years. There is no valid reason to attribute the 12th, 13th, and 14th years to Sneferu's three compartments on the Palermo Stone.

Another view might be that census counts were held annually, but not recorded for the first compartment, which would have been for the sixth year. Consequently, the next two compartments were for the seventh and eighth years. However, all other existing attestations of census counts in the annals point to a biennial counting system—particularly shown on the verso—so there is no support for an annual census count in Sneferu's reign, if consistency is assumed for the remainder of the annals' record.

Some scholars have proposed that an irregular form of census counting was used in Sneferu's reign, neither annual nor biennial. This would mean that census counts could not be used to indicate kings' regnal years. However, one of the purposes of recording the census counts explicitly seems to be to record the years of a king's reign. An irregular count renders this reckoning meaningless.

John Nolan proposed the skipping of census counts every second or third year based on an intercalary 13th lunar month.<sup>32</sup> As we noted in our previous analysis of *lunar dates based on census counts* in the 5th and 6th Dynasties, census counts were held biennially and were not irregular. Furthermore, they were not based on a lunar calendar, but a civil calendar. Previous extended discussions showed no evidence for a lunar calendar having intercalated months to conform to the civil calendar.

The most credible explanation seems to be the first possibility outlined above. The seventh census count was not held in Sneferu's 14th year due to his other reported activities—requiring a fourth column in lieu of the three columns in the adjacent two compartments—and was instead held the following year, the 15th year. And to keep the sequence correct, another census count, the eighth, was held in the next year, the 16th year, requiring two consecutive census counts. My proposed reconstruction adopts this explanation. The preceding compartments and regnal years from Nebka to Huni accommodate the positioning of Sneferu's reign with his first year on the extreme left

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<sup>32</sup> See Summary 2 in chap. 16, p. 244.

edge of register five, then 13 compartments in register six from the right edge of the annals to the Palermo Stone which then records his 14th to 16th years.

In my reconstruction, the size of Sneferu's missing compartments in register six are based on the size of his smaller second and third compartments with a larger compartment for every seventh year, like his first (existing) compartment for his 14th year on the Palermo Stone. This may not be as it was in the original, but it is used to make the right and left edges of register six align with the preceding registers and takes into account the 43 compartments that seem applicable to register six.

Senferu's 17th compartment on the left edge of the Palermo Stone is almost all broken away on its surface except for the extreme upper and lower right side. As such, it is the first compartment of the gap between the Palermo Stone and Cairo 1 and is followed by five and a half more compartments to the edge of Cairo 1. The compartments in Cairo 1 in register six (and seven) are so worn that it is not possible to determine their original size or how the census counts were recorded for the kings' years. In my reconstruction, Sneferu's 23rd compartment is positioned on the right edge of Cairo 1 followed by five more compartments in Cairo 1 (though no detail is discernible) with another 16 compartments in the space before the left edge of the annals. I determine the length of Sneferu's reign after discussing the Cairo 4 fragment (see Figure 20.6), which pertains to his early years.

#### The Cairo 4 Fragment (JdE 44860)



**Figure 20.6:** J.D. DeGreef's "very hypothetical" reconstruction of the Cairo 4 recto. See the actual fragment at Figure 20.8 on page 299.

The maximum dimensions of the recto of the Cairo 4 fragment are 11.5 cm high, 7.5 cm wide,<sup>33</sup> and 0.81 cm thick.<sup>34</sup> It has upper, middle, and lower registers.<sup>35</sup> Differing

<sup>33</sup> Wilkinson, *Royal Annals*, 18.

thicknesses as well as the absence of titulary bands between the registers on several fragments has led scholars to suggest that there were at least two copies of the annals. They suggest that the Palermo Stone, Cairo 1, and Cairo 3 come from an original that is different from Cairo 2 and Cairo 4. But whether the latter two come from the same stone is not determined.<sup>36</sup> The upper register in Cairo 4 is damaged along the top and slopes down to the left at the Nile height band, whereas the middle and lower sections slope away from the Nile height band to the right so that the lower register extends beyond the right edge of the upper and middle registers.

There are slight variations between the compartments for Sneferu on the Palermo Stone and Cairo 4, which might indicate they are from different copies. Among the variations are slight differences of width, and vertical lines separating text columns on Cairo 4 (which are absent on the Palermo Stone). Wilkinson notes a different display of its text, which has smaller signs, is thicker, and does not have the titulary bands between its registers.<sup>37</sup>

Wilkinson suggests that what look like *four* compartments in the upper register with dividing lines between them are probably only *two* compartments—the middle dividing line being heavier than the vertical lines shown to the left in the upper and middle registers. Wilkinson thinks the lines on the upper register are sloppily cut and are too long, projecting down into the Nile height band.<sup>38</sup> The presence of the Nile height measurement in what appears to be the central text column on each side of the heavy vertical line gives the impression that there are three text columns to one compartment.

The first preserved column in the upper register of Cairo 4 contains the cartouche of Sneferu, confirmed by the presence of the *serekh* of Nebmaat, his Horus name, in the second text column in the following compartment.<sup>39</sup> In the first compartment in the column before the heavy vertical line, the text refers to the “second occasion of the census” (*zꜣ 2 tnwt*)<sup>40</sup> indicating Sneferu’s fourth regnal year. Here, as in the Palermo Stone, the census count appears as the last entry before the next compartment, which is a good indication that the heavy vertical line is a *rnpt* marker.<sup>41</sup> The absence of a census count in the second compartment is appropriate for biennial counting, and indicates the king’s fifth year.

Without a titulary band between registers six and seven in Cairo 4, the dimensions of Cairo 4 cannot be reproduced to the same scale as the Palermo Stone. Were the scribes following the layout as they saw it before them? Or, for reasons best known to themselves, did they decide to abolish the titulary band in favor of having the next register come immediately below the Nile height band? The lack of a titulary band means that the king’s titulary would have been incised within a compartment.

The verso of the Palermo Stone and Cairo 1 displays a Nile height band and what appears to be an empty band between registers one and two, and between registers two and three. But between registers three and four, and four and five on the Palermo Stone (Cairo 1 not being evident) there is no empty band (i.e. titulary band) under the Nile height band. The one existing compartment on the verso pertaining to the first year of a king’s reign, that of Neferirkare in register four verso, has the titulary of the king under

<sup>34</sup> Ibid., 25.

<sup>35</sup> Ibid., fig. 9.

<sup>36</sup> Ibid., 24-28.

<sup>37</sup> Ibid., 25-28.

<sup>38</sup> The reconstruction of the Cairo 4 fragment by J. DeGreef is located at <http://www.catchpenny.org/thoth/Palermo/c4rectob.htm> used by permission.

<sup>39</sup> Wilkinson, *Royal Annals*, 233-34.

<sup>40</sup> Ibid., 233.

<sup>41</sup> Ibid., 232.

and horizontal to the Nile height band, as the top line within his first compartment.<sup>42</sup> This gives some support to the idea that there was no titulary band after register six on the recto.

On the other hand, the small fragment, Cairo 3, appears to have a titulary band (a significant horizontal space without horizontal rulings) between its upper and lower registers.<sup>43</sup> This fragment is thought to be broken off from the lowest register of Cairo 1.<sup>44</sup> Since Cairo 3 gives space for a titulary band, register six must have had a titulary band in Cairo 1, assuming Cairo 1 and Cairo 3 come from the same original. As Wilkinson points out, the scarcity of fragments and the lack of overlap between them tends to argue against multiple originals. There seems to be no finality on the subject of whether or not the Palermo Stone and Cairo 1 had titulary bands in register seven and below, but Cairo 4 does not show them.

The upper register of Cairo 4 contains the greater part of Sneferu's fourth and fifth years. The identity of the kings in the middle and lower registers of Cairo 4 depends on the length of Sneferu's reign and that of his successor, Khufu (Cheops).

### Length of Sneferu's Reign

Scholars have determined that Sneferu reigned longer than the 24 years attributed to him on the Turin Canon (section 4.9).<sup>45</sup> Anthony Spalinger compiled a list of Sneferu's "census counts" coming in his 2nd, 7th, 8th, 13th, 15th, 16th, 17th, 18th, 23rd, and 24th years.<sup>46</sup> Verner's count, based on masons' marks from either the Maidum (Meidum) or Red Pyramid of Sneferu, assembled by Posener-Kriéger, are his 7th, 8th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 23rd, and 24th years. Added to these are three attested *rnpt (m-ht zp)* years: 10th, 13th, and 18th.<sup>47</sup>

Of particular interest is the discovery of several dates of a 15th year count found by R. Stadelmann and team in their first and second seasons when they were excavating in the valley temple of Sneferu (1980, 1982).<sup>48</sup> Stadelmann writes,

We discovered several dates of the 15th counting on the foundation blocks of the outer walls of the open-festival-court and around the two stelae to the south of the temple. This is certainly the date of the construction of the festival court and the accomplishing of the temple for the Heb-Sed of the king in his 30th regnal year.<sup>49</sup>

This dating of the 15th count to the 30th year celebration of a *Sed*-festival demonstrates that biennial dating was being used. Of even greater interest is the record of a 24th counting documented by Erbkaum, indicating 48 regnal years for Sneferu,

<sup>42</sup> For the discussion see Wilkinson, *Royal Annals*, 27-28.

<sup>43</sup> *Ibid.*, fig. 8.

<sup>44</sup> *Ibid.*, 26.

<sup>45</sup> R. Krauss, "The Length of Sneferu's Reign and how long it took to Build the 'Red Pyramid'," *JEA* 82 (1996) 43-50; R. Stadelmann, "Inscriptional Evidence for the Reign of Sneferu at Dahshur," in *Chronology and Archaeology in Ancient Egypt (The Third Millennium B.C.)*, (eds. H. Vymazalová and M. Bárta; Prague: Czech Institute of Egyptology, Charles University, 2008) 104-10.

<sup>46</sup> Spalinger, "Dated Texts," 281-83, 318-19; cited by J.S. Nolan, "The Original Lunar Calendar and Cattle Counts in Old Kingdom Egypt," *Aegyptiaca Helvetica* 17 (2003) 95.

<sup>47</sup> M. Verner, see table in "Contemporaneous Evidence for the Relative Chronology of Dyns. 4 to 5" in *AEC* (2006) 128-131, citing P. Posener-Kriéger, "Graffiti in the Revetment Blocks of the Pyramid," in Ali el-Khouli, *Maidum (ACE Reports 3, 1991)* pls. 7-9. Verner's *AEC* chapter updates his earlier article in *Abusir X: The Pyramid Complex of Raneferef: The Papyrus Archive* (eds. P. Posener-Kriéger, M. Verner, and H. Vymazalová; Prague: Czech Institute of Egyptology, Charles University, 2006) 365-68.

<sup>48</sup> Stadelmann, "Inscriptional Evidence," 105-6.

<sup>49</sup> *Ibid.*, 108 and n. 2.

which was disputed by scholars on account of the Turin Canon's 24 years for him.<sup>50</sup> But Stadelmann found in their third season “a very shattered fragment of a backing stone, which too attests to a 24th year of counting in the season of *prt*.”<sup>51</sup> Judging from its battered state and high date, Stadelmann notes that it must have tumbled down from the top of the pyramid in the last counting, that of Sneferu's 46th or 47th year.<sup>52</sup> He suggests that the compilers of the Turin Canon, which was composed 1,000 years after the end of the Old Kingdom, may not have been aware that the year counts had to be doubled when recording regnal years.<sup>53</sup>

On the other hand, as we have seen, the years of Sneferu's predecessors, Nebka (incorrectly positioned in the Turin Canon at section 4.4) and Netjerikhet (section 4.5) were both credited incorrectly with 19 years. Sekhemkhet (section 4.6) and “Hudjefa”/Nebka (section 4.7) were also credited with six years—although it is only applicable to Sekhemkhet. Then we saw Huni with 24 years (section 4.8) followed by Sneferu also with 24 years (section 4.9), but it is only applicable to Huni. Thus Sneferu's 24 years may be a repetition of the 24 years given to Huni in the previous line, as with the two couplets preceding him. Or Sneferu's years could be the result of damage to the *Vorlage* or from a scribal error. In either case, only half the number was preserved.

Assuming that the lost compartments in register six for Sneferu were the same size as the two on the Palermo Stone for his 15th and 16th years, part of Sneferu's 23rd year and his 24th to 28th years would have been engraved on register six of Cairo 1. These are not discernible now due to the worn nature of the fragment.<sup>54</sup>

Furthermore, assuming that Sneferu reigned at least 48 years, his 29th to 44th years would have occupied the sixth register between Cairo 1 and the left edge of the annals. His 45th to 48th years would have been engraved on the right part of register seven, and if he reigned only 48 years, the reign of his successor, Khufu, would have begun in the fifth compartment from the right-hand edge of register seven of the Royal Annals. However, it is possible that Sneferu might have reigned another two years depending on when Khufu's reign began in the annals.

### Evidence for Sneferu's Reign of 50 Years

Beneath Sneferu's 14th year in register six in the Palermo Stone (see Figure 20.7, the first compartment on the right), there may be a fragment of register seven relating to Khufu.

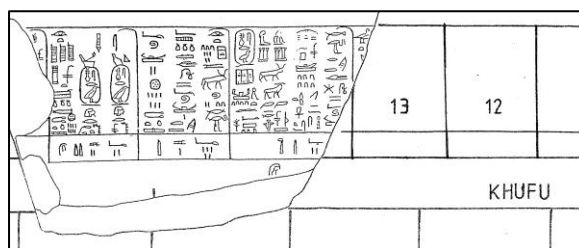


Figure 20.7: Sneferu's 14th year on the Palermo Stone.

<sup>50</sup> Ibid., 107.

<sup>51</sup> Ibid., 107-108 and figs. 6 and 7. See also, *idem*, “Beiträge zur Geschichte des Alten Reiches,” *MDAIK* 43 (1986) 229-40.

<sup>52</sup> Ibid., 107-8.

<sup>53</sup> Ibid., 110.

<sup>54</sup> Wilkinson, *Royal Annals*, 18.

There appears, “a female determinative which would have marked the name of the king’s mother at the end of his [Khufu’s] titulary.”<sup>55</sup> If the titulary was approximately the same length as others noted previously on the recto, being about 14–16 cm wide in the original, we have an indication that Khufu’s titulary may have started approximately under the 11th year of Sneferu and the titulary would end under Sneferu’s 14th year, *where a female determinative is situated*. The position of Khufu’s titulary does not come midway in his reign but at the beginning of his reign. This is analogous to the position of titularies on the verso and may indicate a change in the presentation from registers six onward.

The implication of this positioning for Khufu’s titulary means that Sneferu must be attributed two more years, giving him a long reign of 50 years. Sneferu earned the reputation of the greatest pyramid builder of Egypt’s Old Kingdom.<sup>56</sup> While other scholars can validate a reign of 48 years, the Royal Annals seems to suggest a reign of 50 years, subject to any indications from further evidence.

### A Vertical Tip

To the left of the female determinative under Sneferu’s 14th year (Figure 20.7), a *tip* of a vertical line may be seen under the left side of Sneferu’s 15th compartment and lower than the head of the female determinative. There is no horizontal line present on either the right or left of the tip, which, had it been present, could have indicated that the female determinative was in a titulary band.

This vertical tip is unprecedented in the earlier registers of the Palermo Stone or in any extant compartments on the verso. Helck concluded that the tip was the top of a text column divider.<sup>57</sup> In my reconstruction, the vertical tip is at the top of a compartment divider; that is, where a *rnpt* sign might have been located in the original. The positioning of the female determinative and the vertical tip may indicate a layout change from register seven onwards, but for lack of evidence this cannot be proven one way or another.

### Compartment Widths Differ for Registers Six to Nine

While the compartments in registers one to five are of similar width, those of register six are much wider (as noted previously). This suggests that the compartments in register seven, eight, and nine may be wider yet again. The number of compartments attributed to registers seven, eight, and nine must be determined on the number of years to be allocated to Sneferu, Khufu, Djedefre, Khafre, Bakare, and Menkaure. Their reigns have to be fitted into the recto, before continuing on the verso. Menkaure’s regnal years are divided between his 11th and 12th years on the recto and the verso.

Fortunately, the kings on the verso can all be attributed years with a fair amount of certainty because of census counts recorded for their reigns and information from other sources. As we shall find, these reigns contribute 56 years to the total, so the remainder of the 639 years that are not accounted for on the recto will be the number of compartments to be allocated to the above named kings.

In reconstructing the annals, the right and left sides of each register must align with the edges of the annals as determined by the preceding registers. Since only small portions of registers seven and eight survive in the small fragments of Cairo 2, Cairo 3, and Cairo 4, and none at all for register nine, there is not enough text to demonstrate the size of the compartments. Furthermore, it seems that Cairo 2 and Cairo 4 have a different

<sup>55</sup> Ibid., 146.

<sup>56</sup> Stadelmann, “Inscriptional Evidence,” 104.

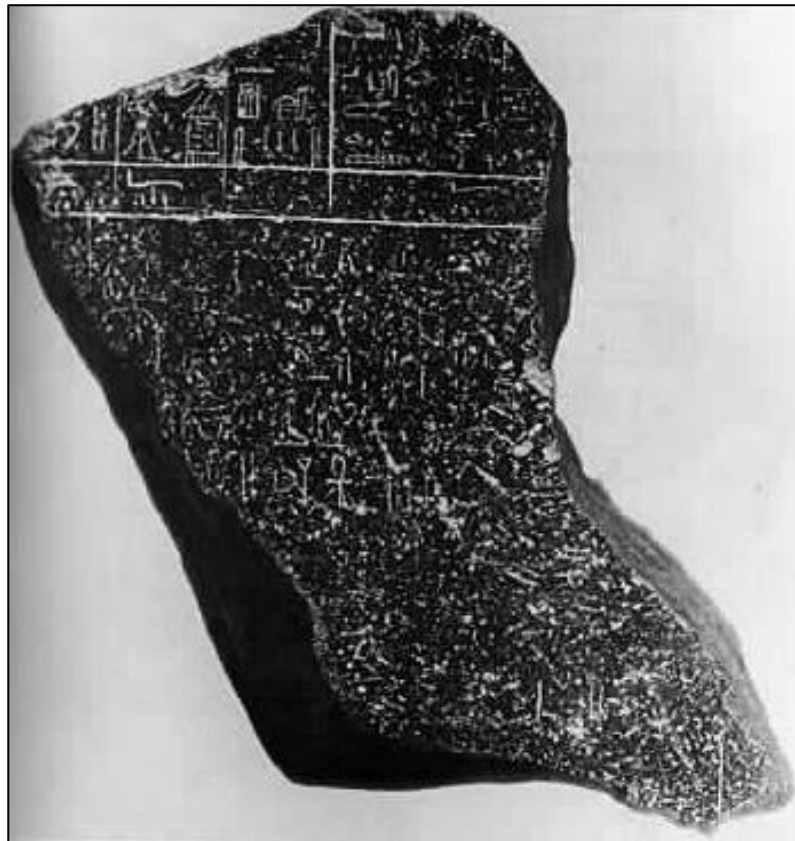
<sup>57</sup> Cited by Wilkinson, *Royal Annals*, 27.



layout to those of the Palermo Stone and Cairo 1. The 88 compartments that are required for the remainder of the recto—if the overall 639 years are valid—are divided so that 31 years are allocated to register seven, 29 years to register eight, and 28 years to register nine, consistent with their increasing widths.

#### Evidence from Cairo 4

A few indications exist to position the remaining kings' reigns on the recto. Pertinent to the right side of register seven is the middle register of Cairo 4 (see Figure 20.8). The first of its text columns refers to the “fourth occasion of the running of the Apis” (bull), which Wilkinson notes must belong to the “latter part of a lengthy reign, since the numbering of this religious event began again from ‘one’ at the beginning of each reign.”<sup>58</sup>



**Figure 20.8:** The Cairo 4 recto. See JD DeGreef's reconstruction at Figure 20.6 on page 294.

Wilkinson also notes in the first column the engraving of a statue of a king. He writes, “Traces remain of a royal figure wearing the white crown and carrying a staff or sceptre, preceded by a *serekh*.”<sup>59</sup> He identifies the king as Sneferu and attributes this register to him because its content is, “reminiscent of the annals of Sneferu in PS r. VI.”<sup>60</sup>

The reconstruction of the annals giving 50 years to Sneferu, of which his 2nd to 44th years are in register six, positions the Cairo 4 fragment so that the record of his fourth and fifth years, displayed in register six (in the top portion of Cairo 4), is directly above the major part of his 46th year displayed in register seven (the lower portion of Cairo 4). It supplies a crucial interlock to the chronological reconstruction of the annals.

<sup>58</sup> Ibid., 235; see also Krauss, “Length of Sneferu’s Reign,” 45.

<sup>59</sup> Wilkinson, *Royal Annals*, 236.

<sup>60</sup> Ibid., 235.

The allocation of 48 or 50 years to Sneferu, and not the 24 years attributed to him in the Turin Canon, concurs with the identification by Wilkinson and others that Sneferu is the king in the middle register of Cairo 4.

This conclusion also supports the biennial nature of the census count. Irregular census counts in the annals have not been identified apart from the “exception” that the count of the “seventh year” was a postponement of the count that should have taken place in the preceding year.<sup>61</sup> In the repetition of Huni’s 24 years and Sneferu’s 24 years in the Turin Canon, Huni’s years appear to be correct, but not those of Sneferu. In the Turin Canon, the papyrus fragment breaks off immediately after the 24th year in both of their reigns.<sup>62</sup> It is possible that Sneferu’s number had more digits but lacked two 10-signs, or that it was a repetition from Huni’s reign and not applicable to Sneferu at all.

### **Khufu (Cheops)**

The next king after Sneferu in the Turin Canon is not named (section 4.10) but attributed 23 regnal years (section 4.10). The king must be Khufu as he is named in the AbKL (no. 21) and the Saqqara Tablet (no. 17) after Sneferu and before Djedefre. He was the son of Sneferu. Khufu is more popularly known as Cheops, builder of the largest pyramid in Egypt at Giza.

Two counts giving Khufu higher dates than the 23 years of the Turin Canon have become known relatively recently.<sup>63</sup> The first is for the “year after the thirteenth time of counting the cattle,” referring to Khufu’s 27th year.<sup>64</sup> The inscription was found in the Libyan desert in the Dakhla region after the “dedicated desert traveller” Carlo Bergmann had discovered a series of about 30 sites from various pharaonic periods in 1999. Further research by ACACIA (Arid Climate, Adaptation and Cultural Innovation in Africa, a multidisciplinary project of Cologne University) brought to light many inscriptions on a rock face of a small conical mound. The largest text recounted how Khufu sent out two of his “Overseers of Recruits,” Iymery and Beby, to lead a 400-man expedition to the desert to collect “mefat.” “Mefat” is thought to be a mineral powder used in paint.

The date of the “13th year after the cattle count” is very clear.<sup>65</sup> This record extends Khufu’s reign from 23 to 27 years. However, another inscription that was discovered by Flinders Petrie in 1883 but was then lost, was rediscovered in 2001. Petrie commented, “The name of the king is found repeatedly written in red paint with the date of the 17th year on the blocks of masonry above the King’s chamber ...”<sup>66</sup>

The location of the inscription was subsequently lost until Zahi Hawass found it in a relieving chamber of Khufu’s pyramid. It referred to “a workmen’s crew named ‘drunkards of the crown of Khufu’ together with the note ‘year after the 17th time of the

<sup>61</sup> Verner expresses extreme caution in estimating the length of Sneferu’s reign based on the irregularity of the available documents and the disproportion of *rnpt sp* years and *rnpt (m-)ht sp* years. M. Verner, “Archaeological Remarks on the 4th and 5th Dynasty Chronology,” *Archiv Orientalní* 69 (2001) 365-72, esp. 372).

<sup>62</sup> A.H. Gardiner, *The Royal Canon of Turin* (Oxford: Griffith Institute, 1959) pl. II.

<sup>63</sup> Earlier cases of “years of” census counts are known for Khufu’s reign: his 4th, 5th, 8th (×2), 10th (×3), and 12th (×2) years; but none for a “year after.” Spalinger, “Dated Texts,” 283-85; M. Verner, “Contemporaneous Evidence,” 131-32.

<sup>64</sup> R. Kuper and F. Förster, “Khufu’s ‘mefat’ Expeditions into the Libyan Desert,” *Egyptian Archaeology* 23 (2003) 26; “Khufu,” <http://en.wikipedia.org/wiki/Khufu>

<sup>65</sup> *Ibid.*, 26, where the photograph of the inscription with Horus’ name and the cattle count can be seen.

<sup>66</sup> W.M.F. Petrie, *A History of Egypt*, (London; 1924) Vol. 1, 60; cited by M. Verner, “Archaeological Remarks,” 373.

cattle count’.”<sup>67</sup> Assuming a biennial cattle count (as inferred by a “year after” not applicable to annual counts), this inscription boosts Khufu’s regnal years to 35.

Applicable to Khufu’s reign are the fragments Cairo 2 and Cairo 3, which I now discuss.

### Cairo 2 Fragment

Cairo 2 is registered as JdE 39735. It is a triangular shaped fragment measuring 8.4 cm at its maximum depth and 9.2 cm at its maximum width (see Figure 20.9).<sup>68</sup> It slopes from the top right to the bottom left. It preserves parts of two registers on the recto. Nothing is preserved on the verso.<sup>69</sup>

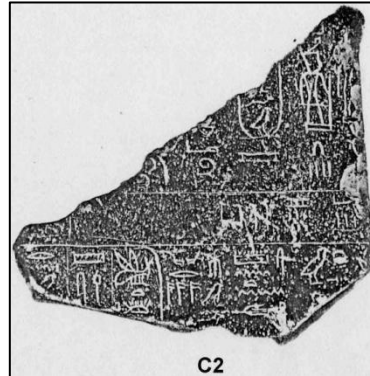


Figure 20.9: The Cairo 2 fragment.

In the upper register, the lower half of the cartouche of Khufu appears to the left of a statue of a king wearing the red crown.<sup>70</sup> This identifies the compartment as belonging to Khufu. The absence of a *rnpt* marker in the upper register appears to represent just one compartment, because in the lower register the top half of a *rnpt* marker is present, dividing two compartments of which only the upper parts exist. Wilkinson suggests that the Nile height measurement is in the central part of the upper compartment and that there is “a significant section missing on the right-hand side.”<sup>71</sup> The incised signs are clearly legible, though crudely formed like those on Cairo 1 and Cairo 3 in contrast to those on the Palermo Stone.<sup>72</sup>

There is no indication in the compartments as to what years Cairo 2 refers to, nor is there any indication who the compartments in the lower register refer to, though Wilkinson suggests that they too belonged to Khufu because a band is not provided for his titulary, it having been given in register six. Wilkinson identifies the word *sed* in compartment one, and suggests that it could refer to the god Sed or to a *Sed*-festival. In view of the many attestations of a 30th-year *Sed*-festival for Egyptian kings, the likelihood of Cairo 2 referring to the god Sed or a *Sed*-festival in Khufu’s reign is quite plausible considering the evidence that he reigned the 35 years given him in the census count in his pyramid. However, it is not clear that the 30th year of Khufu is represented in the lower register of Cairo 2.

In the reconstructed annals, Khufu’s first to fifth years in register seven are straddled in register eight by his 31st to 35th years (Khufu’s 5th year sits above his 35th

<sup>67</sup> Cited at “Khufu,” <http://en.wikipedia.org/wiki/Khufu>

<sup>68</sup> Wilkinson, *Royal Annals*, 18.

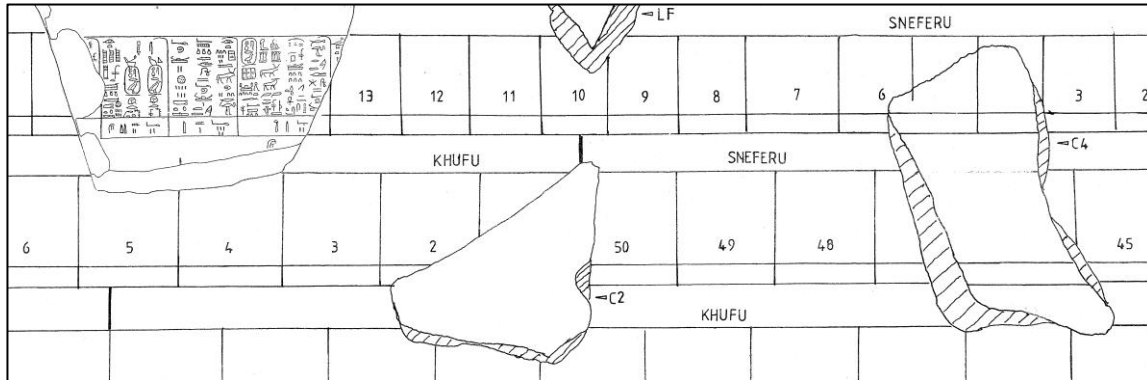
<sup>69</sup> *Ibid.*, 226.

<sup>70</sup> *Ibid.*, 222.

<sup>71</sup> *Ibid.*

<sup>72</sup> *Ibid.*, 222, 227; fig. 7.

and the first year of Djedefre). Thus Khufu's 30th year does not fall under any of his compartments in register seven. There is no easy resolution to the problem of where to start Khufu's reign, or the place of Cairo 2 on the annals. I have positioned Cairo 2 at the head of Khufu's reign, but other options are possible (see Figure 20.10).



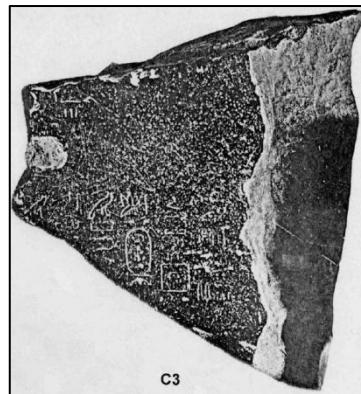
**Figure 20.10:** Possible location of Cairo 2 fragment. C2 = Cairo 2, C4 = Cairo 4 fragment, LF = London Fragment.

Wilkinson concludes by noting that the events for Khufu's reign are more like the events recorded for the first three dynasties than for his predecessor, Sneferu, or his successor, Menkaure.<sup>73</sup> Because the events seem more like those applicable to earlier dynasties, some scholars think Cairo 2 may be a fake.<sup>74</sup> But Wilkinson says, "The balance of evidence would tend to reject this view."<sup>75</sup>

Khufu's reign appears to be represented in another small fragment, Cairo 3 (see Figure 20.11).

### Fragment Cairo 3 (JdE 39734)

Cairo 3 measures a maximum of 11cm in depth and a maximum of 9 cm in width.<sup>76</sup> It has a large section on its right edge where the surface has been broken away comprising about one-quarter of its width.<sup>77</sup> The signs are crudely executed and heavily worn like those of Cairo 1 and Cairo 2.<sup>78</sup>



**Figure 20.11:** The Cairo 3 fragment.

<sup>73</sup> Ibid., 226.

<sup>74</sup> Ibid., 27, 226.

<sup>75</sup> Ibid., 27.

<sup>76</sup> Ibid., 18.

<sup>77</sup> Ibid., fig. 8.

<sup>78</sup> Ibid., 227.

Cairo 3 has two registers divided by what appears to be an unmarked horizontal area, presumably what Wilkinson refers to as the “titulary band.”<sup>79</sup> Citing Daressy (1916, p. 170) Wilkinson states that, “Since C3 adjoins the bottom of CF1, the upper register of CF3 may be regarded as corresponding to CF1 r.VII,” that is, register 7.<sup>80</sup> Earlier scholars, Kaiser and Helck, positioned the upper edge of Cairo 3 so that it adjoined Cairo 1 at the lower edge of its central section, but Barta located Cairo 3 further towards the left side of Cairo 1.<sup>81</sup> My position for Cairo 3 follows that of Kaiser and Helck. See Figure 20.12.

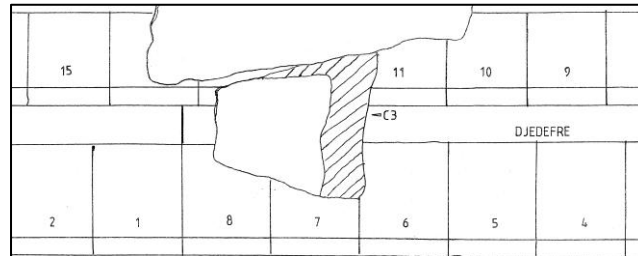


Figure 20.12: Cairo 3 positioned directly below Cairo 1.

In the upper register, only a Nile height sign appears at the top left corner, which by comparison with signs in Cairo 1, Wilkinson attributes to the reign of Khufu.<sup>82</sup> In my reconstruction, Khufu’s 11th to 14th years are represented in the bottom register of Cairo 1, which concurs with Wilkinson’s identification of the Nile height band belonging to Khufu’s reign in register seven (represented by the upper register in Cairo 3).

A matter not yet solved by Egyptologists concerns a very damaged date found in a boat pit at the southern side of Khufu’s pyramid. Some scholars attribute this date to Khufu and others to Djedefre. The allocation is important for chronology.

### Djedefre

Djedefre (or Radjedef) was the eldest son of Khufu (Cheops). Djedefre’s name is lost from the Turin Canon but the king in section 4.11, who is understood to be Djedefre, is credited with eight years. The number eight is written as two rows of four short vertical strokes one above the other next to the year sign.<sup>83</sup> His name appears in the AbKL (no. 22) and in the Saqqara Tablet (no. 18).

Apart from a reading of “Year one, month three” found on Djedefre’s pyramid at Anu Rawash, there are no other attested counts for his reign.<sup>84</sup> However, there is one controversial date that calls into question the eight years of the Turin Canon. I.E.S. Edwards writes, “An ink graffito on a roofing-block of the more easterly of the two boat-pits on the south side of the Great Pyramid [of Khufu] records an event which happened in the tenth year of his [Djedefre’s] reign.”<sup>85</sup> Edwards relied on the reading of the date by

<sup>79</sup> Ibid.

<sup>80</sup> Ibid., citing G. Daressy, “La pierre de Palerme et la chronologie de l’Ancien Empire,” *BIFAO* 12 (1916) 170.

<sup>81</sup> “Three Reconstructions of Cairo 1 recto (Kaiser, Helck, and Barta),” at <http://www.catchpenny.org/thoth/Palermo/c1rectod.htm>; cf. *Royal Annals*, 46.

<sup>82</sup> Wilkinson, *Royal Annals*, 227.

<sup>83</sup> Gardiner, *Royal Canon*, pl. II; J. Malek, “The Original Version of the Royal Canon of Turin,” *JEA* 68 (1982) 95.

<sup>84</sup> Verner, “Archaeological Remarks,” 374; idem, “Dynasties 4 to 5,” 132 and n. 82.

<sup>85</sup> I.E.S. Edwards, “Chephren’s Place Among the Kings of the Fourth Dynasty,” *The Unbroken Reed: Studies in the Culture and Heritage of Ancient Egypt in honour of A.F. Shore* (London: Egypt Exploration Society, 1994) 101, 105 n. 2.

Pauline Posener-Kriéger who read 11 (or 10) (*rnpt zp*), the year of the 10th or 11th cattle count, which would be 20 or 22 years. However the reading is very uncertain.<sup>86</sup>

This is amplified by Verner, who writes, “The date of *rnpt sp* 11, *3bd* 1 *pr(t)*, *św* 24 (?) was found on a roofing block in the aforesaid boat-pit of Khufu together with a number of other masons’ marks and inscriptions including names of crews and their sections, measurements, etc. In the crew names, either Djedefra’s throne name or his Golden Horus name occur exclusively. Nevertheless, the attribution of this date is far from being unambiguous.”<sup>87</sup>

Egyptologists are divided on whether the date belongs to the reign of Khufu in whose boat-pit the inscription was found, or to Djedefre’s crews who seem to be exclusively connected to the building of the boat-pit.<sup>88</sup> Concerning the latter, Verner writes, “These marks and inscriptions seem to form a coherent collection relating to different stages of the same building project realized by Djedefra’s crews.... The attribution of just a single inscription—and what is more, the only one with a date—on all the blocks from the boat-pit to somebody other than Djedefra does not seem to be very plausible.”<sup>89</sup>

However, for those who attribute the date to Khufu, Verner explains: “Those who ascribe the date in question to Khufu usually presume that the pit had already been excavated before Khufu’s death and that only the burial of the boat, including the roofing of the pit, took place after Djedefra’s accession to the throne.”<sup>90</sup> A recent discovery by the Franco–Swiss excavation at Abu Rawash, indicated that Djedefre’s pyramid—previously thought incomplete—was finished before he died, suggesting that he reigned longer than eight years. On the other hand, the scarcity of contemporary documents from his reign indicate that the reign may have been quite short.<sup>91</sup>

If masons used the biennial method of dating in building pyramids as demonstrated by the reign of Sneferu in having 48 or more years, the 10th or 11th cattle count of the boat-pit must refer to a king’s 20th or 22nd regnal year. If the date refers to Khufu’s reign, and he reigned 35 years, there is no problem. However, if it refers to Djedefre’s reign there is a problem because he is attributed only eight years in the Turin Canon.

### Reconstruction Permits Eight Years for Djedefre

In my reconstruction of the annals, space allows room for Djedefre to have had a reign of eight years. See Figure 18.3. But a reign of 20 or 22 years is out of the question because we have to fit in the reigns of Khafre and Bakare before the beginning of Menkaure’s reign in register nine. As we shall see, Djedefre’s eight years fit comfortably into the time-frame remaining for the kings in registers eight and nine of the recto. The remaining reigns on the recto side of the annals and the portion of Menkaure’s reign on the verso, as shall be seen, offer added assurance to the suggested reign-lengths of Khufu and Djedefre, and the provenance of the boat-pit inscription. In the light of the concluding portion of this chapter, the biennial cattle count of the 10th or 11th year, seen on the boat-pit inscription near Khufu’s pyramid, can be attributed to Khufu, and Djedefre can be credited with the eight years of the Turin Canon (section 4.11).

<sup>86</sup> Verner, “Dynasties 4 to 5,” 132 and n. 83.

<sup>87</sup> Verner, “Archaeological Remarks,” 375.

<sup>88</sup> Ibid.

<sup>89</sup> Ibid., 376.

<sup>90</sup> Ibid.

<sup>91</sup> Ibid., 377. See also “Djedefre,” <http://en.wikipedia.org/wiki/Djedefre>



### Djedefre on Cairo 3

Awarding 50 years to Sneferu, followed by 35 years for Khufu, positions Djedefre's seventh and eighth years directly on the lower part of Cairo 3, which I suggest belongs below Cairo 1. Djedefre's first to sixth years fall to the right, under the gap between the Palermo Stone and Cairo 1 (in registers six to eight). Note, however, that there is no *rnpt* marker in this register on Cairo 3, unlike the upper registers of Cairo 1. The difference in formatting suggests that Cairo 1 and Cairo 3 may not be from the same original, and begs the question of whether the two fragments were ever part of the same piece of the annals.

Wilkinson identifies seven columns of text in the lower register of C3 as belonging to a single year compartment.<sup>92</sup> Among these is a very worn cartouche recognized by Daressy as having the name of Djedefre, supporting its proposed position in the annals, and appears to refer to the building of Djedefre's pyramid.<sup>93</sup> Ruins of Djedefre's pyramid and burial chamber are still visible today.<sup>94</sup>

### Khafre (Chephren)

Khafre was a son of Khufu, brother to Djedefre. His regnal years are missing from the Turin Canon (section 4.12).<sup>95</sup> He is present in the AbKL (no. 23) and in the Saqqara Tablet (no. 19). The second largest pyramid at Giza is attributed to Khafre who may also have built the Great Sphinx.

Various sources record that Khafre had *rnpt zp* occasions numbered to his 1st, 5th, 7th (×2), 10th (×2?), 12th (×2), and 13th years; and *rnpt (m-)ht zp* (year after the census) occasions from his fourth (×2) and fifth years (×2).<sup>96</sup> The will of his son, Nekure, was carved on the walls of the prince's tomb and dated to "the year of the 12th count" without naming the king. This is usually assumed to refer to Khafre's reign, although some have argued that it may refer to Menkaure, his (supposed) successor.<sup>97</sup> However, against this is the reign of Bakare, which came between Khafre and Menkaure (see below).

The highest known year for Khafre is painted on the back of a casing stone on mastaba G 7650 where it refers to the king's "year of the 13th occurrence;"<sup>98</sup> therefore, Khafre's 13th *rnpt zp* refers to his 26th year. Thus 26 years are attributed to him here as the length of his reign. Khafre's reign occupies the final 11 compartments of register eight and then the first 15 compartments of register nine.<sup>99</sup> There are only two more kings to be placed on the recto: Baka[re] and Menkaure.

### Bakare/Baka/Bikka

The name of Khafre's successor is lost in the Turin Canon along with the years he reigned, though there is a line for him (section 4.13) between Khafre and Menkaure. His name does not appear in the AbKL or in the Saqqara Tablet. However, Djedefre's

<sup>92</sup> Wilkinson, *Royal Annals*, 228.

<sup>93</sup> Ibid., 228, 230; Daressy, "La pierre de Palerme," 170.

<sup>94</sup> Ibid., 230.

<sup>95</sup> Spalinger, "Dated Texts," 286. He writes (p. 288), "The lacuna in the Turin papyrus is particularly troublesome as one may opt for 26 regnal years (or even higher) if the biennial hypothesis is adhered to. On the other hand, others may prefer 13 years for his reign, with perhaps, a few more."

<sup>96</sup> Verner, "Archaeological Remarks," 377-79; idem, "Dynasties 4 to 5," 134; see Spalinger, "Dated Texts," 287-88.

<sup>97</sup> Verner, "Dynasties 4 to 5," 134 n. 91.

<sup>98</sup> Verner, "Archaeological Remarks," 378 and n. 140; idem, "Dynasties 4 to 5," 134 and n. 92; Spalinger, "Dated Texts," 287; "Khafra," <http://en.wikipedia.org/wiki/Khafra>

<sup>99</sup> Khafre (Khafra, Khefren, or Chephren) is misspelt as Kaphre in the Annals diagrams.

eldest son, Bakare, is believed to be the king who succeeded Khafre, his uncle. No dated attestations for his reign have so far been found.

The Unfinished Pyramid at Zawiyet el Aryan, 4 km south of the royal cemetery at Giza, was uncovered by Alessandro Barsanti at the beginning of the 19th century. He found fallen building-blocks that had cartouches painted on their backs in red. But only two hieroglyphic signs could be read, giving the readings of Neferka or Nebka.<sup>100</sup> Since Djedefre had a son named Baka, this king is presumed to be Khafre's nephew. The pyramid of Djedefre at Abu Roash is believed to have had an oval sarcophagus. The only other pyramid known to have an oval sarcophagus is the pyramid of Zawiyet el Aryan, that of Khafre's successor, Bakare.<sup>101</sup>

J.-P. Lauer, in an article on the Unfinished Pyramid, placed the owner of the pyramid between Khafre (he calls him Chephren) and Menkaure (called Mycerinus),<sup>102</sup> placing him where the Turin Canon has lost the name of the king at section 4.13. Edwards, on archaeological grounds, prefers to place Bakare between Djedefre and Khafre.<sup>103</sup>

Bakare apparently planned to erect a huge pyramid for himself about 200 m square, similar to the size of those of Khufu and Khafre, but only some of the foundation and enclosing walls were constructed; therefore, it is presumed he died prematurely after a short reign. Verner notes that, "On the basis of our present knowledge of the building of the Fourth Dynasty pyramids, the work on this unfinished monument must have been terminated approximately after one or two years."<sup>104</sup>

This is interesting in view of the fact that about two years is all that can be attributed to Bakare without reducing the reign of any other king (for example, Sneferu from 50 to 48). Thus Bakare, son of Djedefre, and the successor to his uncle, Khafre, is assigned two years.

### Menkaure

Menkaure is attributed 18 years in the Turin Canon (section 4.14) and unlike Bakare, appears on both the AbKL (no. 24) and the Saqqara Tablet (no. 20).

Of six "counts" attributed to him by Spalinger (who calls him Mycerinus) only the first two clearly belong to Menkaure. These are for the "Year of the 1st occurrence, 1st month of *šmw*, day 21," and the "Year after the 1st occurrence, 2nd month of *pṛt*, day 21." The other four are for the 2nd, 7th, 10th, and 11th occurrences, but the king(s) to whom they belong is most uncertain. To the 4th Dynasty Spalinger attributes cattle counts to three "year after" dates for the 2nd, 3rd, and 11th years of unnamed kings referred to in papyri from Gabelein.<sup>105</sup> Verner records the dates also.<sup>106</sup> The attribution of any count higher than Menkaure's ninth year conflicts with the 18 years attributed to him by the Turin Canon. An "occasion *after* the 11th year" indicates a 23rd year, but the king is not named and does not need to refer to Menkaure.

Verner notes that at the time of Menkaure's death his funerary complex was "left largely unfinished," "the valley temple had hardly been begun," and of his mortuary temple "only the nucleus of the main walls ... had been built."<sup>107</sup> For these reasons,

<sup>100</sup> Edwards, "Chephren's Place," 100.

<sup>101</sup> *Ibid.*, 98-99.

<sup>102</sup> *Ibid.*, 100.

<sup>103</sup> *Ibid.*, 100-04.

<sup>104</sup> Verner, "Archaeological Remarks," 381.

<sup>105</sup> Spalinger, "Dated Texts," 288-91.

<sup>106</sup> Verner, "Archaeological Remarks," 381-83; *idem*, Verner, "Dynasties 4 to 5," 134-35.

<sup>107</sup> Verner, "Archaeological Remarks," 382.



Verner thought that estimations for a long reign for Menkaure of up to 28 years proposed by some scholars could not be justified and that the 18 years attributed to Menkaure could comply with the counts of the 11th year, or after the 11th year, if the count was irregular.<sup>108</sup>

Assigning 18 years to Menkaure (as in the Turin Canon), with his 1st to 11th years on register nine recto, and his 12th to 18th years on register one verso, fits comfortably with the number of compartments on the Royal Annals. See Figure 20.13.

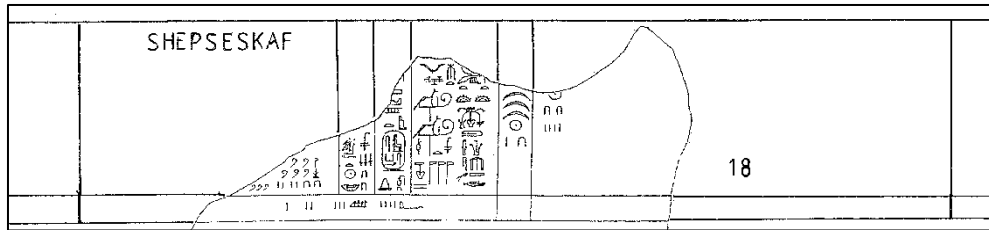


Figure 20.13: Menkaure's 18th year on reconstructed annals verso.

Menkaure's last compartment is preserved on register one verso of the annals where the Palermo Stone sits according to its position on the recto. It is broken away at the upper edge but "24 days" is legible.<sup>109</sup> According to Gardiner's reconstruction, the upper part would have contained the signs for "four months," which would be the last part of Menkaure's final year.<sup>110</sup> This column can be identified with Menkaure's reign because after the change of reign at the start of a new compartment the name of Shepsestakaf, Menkaure's successor, appears in a cartouche in the second text column. To Menkaure can be attributed 18 years, 4 months, and 24 days.

The "occasion of the 11th year" and the "occasion *after* the 11th year" suggested for Menkaure's reign, must refer to some other king, possibly Khafre, who reigned 26 years.

### Number of Compartments on the Recto

In my reconstruction, the number of compartments on the recto of the annals amounts to 553. If Menes is included with 30 years assumed to have been located in register one, the number is 583 years. The numbers of years for the registers are: register one, 30; register two, 86; register three, 108; register four, 127; register five, 101; register six, 43; register seven, 31; register eight, 29; and register nine, 28. For a full tabulation with dates for the recto and verso see Table 21.1 at the end of the next chapter.

<sup>108</sup> Ibid., 382-83.

<sup>109</sup> Wilkinson, *Royal Annals*, 149.

<sup>110</sup> A.H. Gardiner, "Regnal Years and Civil Calendar in Pharaonic Egypt," *JEA* 31 (1945) 12 fig. c.



## Chapter 21

### Reconstructing the Royal Annals - Menkaure to Shepseskare

#### Describing the Royal Annals: Verso

The verso of the Royal Annals has legible inscriptions on the Palermo Stone for registers one to five, on Cairo 1 for register two, and at Cairo 1's right edge in register three. There is a tiny portion on the lower part of the London Fragment.

The compartments are much larger than those on the recto. The only almost-whole existing compartment is that of Userkaf's sixth year on register two of the Palermo Stone. It measures about 25 cm in maximum width,<sup>1</sup> which gives a general idea of the size of the other compartments. Unlike the recto, the depth of each register is about the same. There is far more information in compartments on the verso than the recto, and unlike the recto, which mostly records royal works, rituals, and festivals, the verso also provides "lists of pious donations made by the kings to important cult temples and royal mortuary foundations."<sup>2</sup> Wilkinson writes: "The verso of the Annals virtually defies reconstruction altogether; it is especially difficult to establish the left-hand side. Yet various suggested reconstructions have been proposed."<sup>3</sup>

In my reconstruction, the overall width of each register is the same as the recto (see Figure 21.1). Naturally, the recto and verso sides of the Palermo Stone and Cairo 1 must appear back-to-back in exactly the same position from the edges of the annals. This means that the Palermo Stone is on the left of Cairo 1 on the verso.

Userkaf's sixth compartment in register two of the Palermo Stone measures about 23 cm in the original, halved to 11.5 cm as given by Wilkinson's representations. I have used Naville's transcription as it shows more of the text than Wilkinson's, and adjusted the size to 93% so that it corresponds to the depth of register two on Cairo 1 as supplied by Wilkinson's transcription.<sup>4</sup>

The distance between the right edge of the annals and the right edge of the Palermo Stone—crossing the two partial compartments seen in Cairo 1 in register two—is gained by ascertaining the number of compartments that fit into this space; and, likewise, the number of compartments from the left edge of the Palermo Stone to the left edge of the annals.

In my reconstruction of register two, there are 10 compartments, with 6 to the right of the Palermo Stone, 1 in the Palermo Stone and 3 more to the left edge of the annals. The size of the compartments is *averaged*, measuring to the right edge of register two from the *rnpt* (year) marker at the right edge of the Palermo Stone, and measured to the left edge of the register from the *rnpt* marker at the left edge of the Palermo Stone (Userkaf's sixth year). Since each of the registers on the Palermo Stone shows a change-of-year (*rnpt*) vertical line at the end/beginning of a compartment, the compartments

<sup>1</sup> T.A.H. Wilkinson, *Royal Annals of Ancient Egypt: The the Palermo Stone and its Associated Fragments* (London and New York: Kegan Paul, 2000) 18.

<sup>2</sup> *Ibid.*, 148.

<sup>3</sup> *Ibid.*, 75.

<sup>4</sup> *Ibid.*, figs. 3 and 2, respectively.

were able to be measured to the right or left edge once the number of years for each king became known, and in approximate proportion to the extant compartments on the Palermo Stone and Cairo 1, though each one varies slightly.

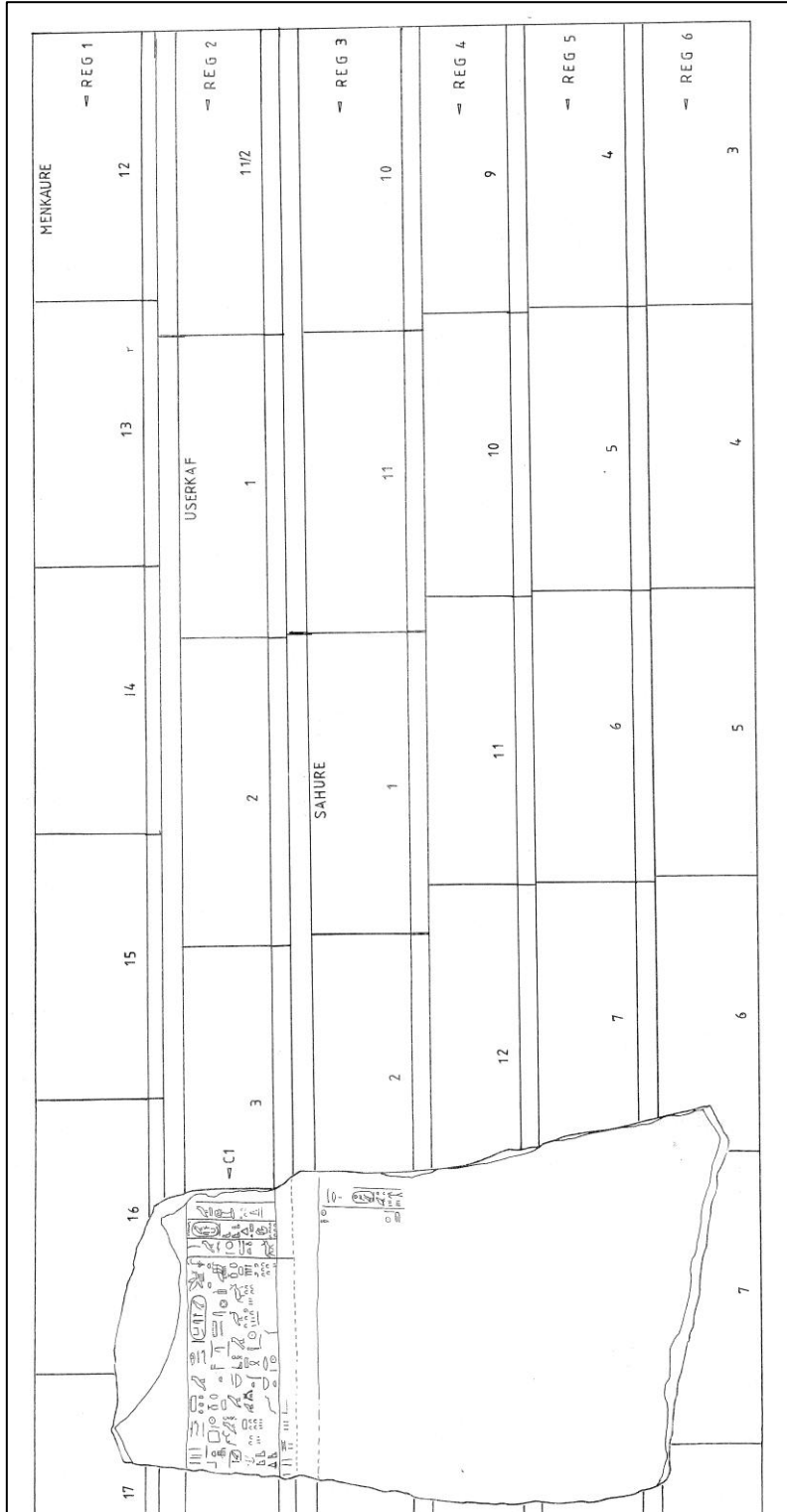


Figure 21.1: Reconstruction of the Royal Annals, continued on page 311. C1 = Cairo 1; LF = The London Fragment; PS = The Palermo Stone; REG = register.

The number of compartments attributed to each king’s reign is governed by the record of census years and by regnal years associated with each king given in the Turin Canon, the annals, or inscriptions such as mason’s records. A change-of-reign column is shown in registers one and four of the annals, where a narrow column extends into the Nile tide Level band below at the commencement of the reigns of Shepseskaf and Neferirkare Kakai.

DJEDEFPTAH	1/2	3	2	SHEPSEKAF	17
1/2	8	7	6	5	18
9	7	6	5	4	PS
8	7	6	5	4	14
3	2	1	1/2	1/2	15
					10
					9
					11
					NEFERERE
					2
					1

Figure 21.1: Reconstruction of the Royal Annals, continued from page 310.. C1 = Cairo 1; LF = The London Fragment; PS = The Palermo Stone; REG = register.

It is assumed here that the annals and the Turin Canon recorded the correct number of years in the original version, although allowance is made for later copyist or transmission errors. Even though we have noticed that the Turin Canon has often not retained the correct number of regnal years for kings on the annals' recto, there is a greater proportion of king's regnal years on the verso that agree with contemporary records. When combined with the cattle census years recorded on the annals, there is little room for flexibility in allocating the proper number of years/compartments to each king. This may mean that the final part-year of a king's reign and the complementary portion of the accession year of his successor may occupy one compartment. Examples of this also occur on the recto. Clearly, the schematic assumptions of the original compiler(s) calculated that approximations and rounding, which is still customary usage in our day when precise months and days of reign lengths are unknown, could be accommodated within compartments representing a year each.

The verso of the annals reports cattle counts in the reigns of kings Userkaf, Sahure, and Neferirkare Kakai. These are consistent with the biennial dating noted on the recto, but contrary to Verner's cautious statement: "The available data indicate that the dating system was irregular during Dyns. four and five, and not principally biennial with few exceptions. In practice, annual cattle counts apparently prevailed."<sup>5</sup>

In fact, the number of compartments that can be applied to the verso is so tightly controlled by the number of regnal years pertaining to the kings that *annual* or *irregular* dating of census counts is virtually ruled out. All in all, the verso displays a more uniform format than the recto, which gives more assurance to the estimation of compartment/year widths.

The extant fragments of the annals finish with the reign of Neferirkare Kakai the last king noted on register five of the Palermo Stone. It is not known at what point the original annals were ended. In my reconstruction, I have continued the annals down to the next register to include the reign of Neferirkare's successor, Shepseskare, given seven years in the Turin Canon (section 4.20). After him is Neferefre (Raneferef) to whose accession date of 2750 BCE was established in chapter 14. From this point backwards to Menes, I can assign regnal years to the kings. According to our previous discussion based on the Turin Canon, the time-span covered 639 years, which should correspond to the total years represented by the Royal Annals.

Based on these considerations, I reconstruct the kings' reigns on the verso of the annals as now described.

### Menkaure

In the previous chapter, Menkaure (or Mycerinus) was attributed 18 years in the Turin Canon (section 4.15) of which eleven were allocated on the recto of the annals. A further seven years makes up the complement in register one on the verso with his last year being represented by a broken number on the damaged edge of his last compartment before a change-of-reign column divides Menkaure's reign from Shepseskaf's, which is recorded on the uppermost portion of the the Palermo Stone. The number of months has been lost due to damage, but space allows for four months. Gardiner reconstructed the number to be 4 months and 24 days.<sup>6</sup> Menkaure may be allocated 18 years, 4 months, and 24 days altogether.

<sup>5</sup> The fact that masons' marks consistently refer to only *rnpt zp* years and not to years-in-between influenced his conclusion (M. Verner, "Dynasties 4 to 5," *Ancient Egyptian Chronology* [eds. E. Hornung, R. Krauss, and D. Warburton; Brill: Leiden, 2006] 126).

<sup>6</sup> A.H. Gardiner, "Regnal Years and Civil Calendar in Pharaonic Egypt," *JEA* 31 (1945) 12 fig. c.

### Shepseskaf

Shepseskaf succeeded Menkaure, his father. His name is lost in the Turin Canon but he is attributed four years (section 4.15). He is named in the Abydos King-list (AbKL, no. 25), but his name is lost in the Saqqara Tablet (no. 21). His accession year, known as the “Year of the Unification of Upper and Lower Egypt,” is mentioned in his first compartment in the annals. The “Edict of Shepseskaf for the pyramid of Mycerinus” mentions his “year after the 1st occurrence of count of (all) oxen and small cattle.”<sup>7</sup> These are the only years of his reign that are certainly attested.<sup>8</sup> If the first census count took place in the king’s second full year then the inscription refers to his third year.

Part of the first half of Shepseskaf’s first year is preserved on register one of an extant part of the Palermo Stone. See Figure 21.2.

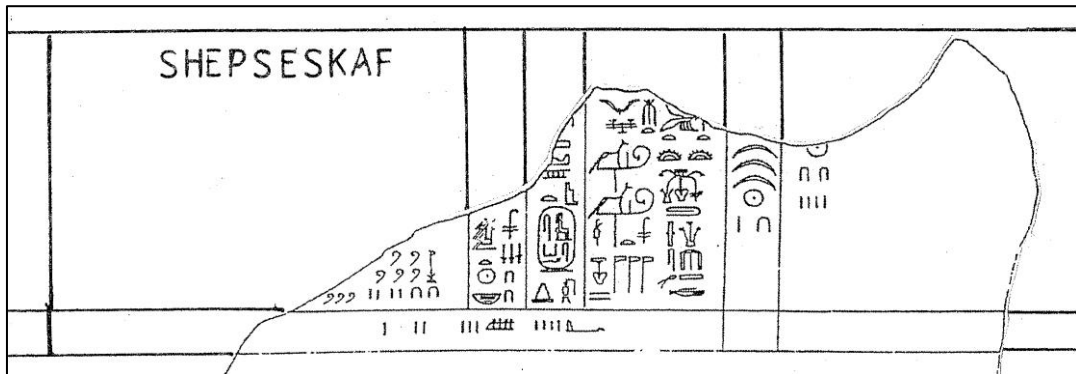


Figure 21.2: Beginning of Shepseskaf’s reign on Palermo Stone verso.

Following the final part of Menkaure’s reign and a change-of-reign divider, the signs for 3 months and 11 days are visible in a separate column within the first compartment of the new king. However, the top of this column is lost and Gardiner has reckoned that the space provides for four more months, giving Shepseskaf’s accession year as 7 months and 11 days.<sup>9</sup> These figures with those of Menkaure’s final partial year amount to one year of 365 days.

That the compartment belongs to Shepseskaf is confirmed by the presence of his cartouche in the second column of text where it refers to his pyramid, actually “a sarcophagus-shaped funerary monument at South Saqqara.”<sup>10</sup> He is attested in funerary inscriptions in Giza and Saqqara written by his officials, but the lack of detail suggests he did not reign long.<sup>11</sup> Shepseskaf was not able to complete his funerary monument before his death. The four years of the Turin Canon is consistent with what we know of him.<sup>12</sup>

Shepseskaf is identified as the last king of the 4th Dynasty by those scholars who do not recognize Djedefptah as his successor.<sup>13</sup> Shepseskaf’s reign of four years in the Turin Canon seems to have been rounded up because all that can be attributed to him in the annals (using the average size of a compartment in register one) is three and a half years. See Figure 21.1.

<sup>7</sup> A.J. Spalinger, “Dated Texts of the Old Kingdom,” *SAK* 21 (1994) 291.

<sup>8</sup> *Ibid.*, 291-2; M. Verner, “Archaeological Remarks on the 4th and 5th Dynasty Chronology,” *Archiv Orientalní* 69 (2001) 383.

<sup>9</sup> Gardiner, “Regnal Years,” 12, fig. c.

<sup>10</sup> Wilkinson, *Royal Annals*, 151.

<sup>11</sup> “Shepseskaf,” <http://en.wikipedia.org/wiki/Shepseskaf>

<sup>12</sup> Verner, “Archaeological Remarks,” 384.

<sup>13</sup> Wilkinson, *Royal Annals*, 148.

### Djedefptah

The name of Shepseskaf's successor is lost in the Turin Canon, but the king at section 4.16 is attributed two years. He does not appear in the AbKL between Shepseskaf and Userkaf (nos. 25 and 26), and his name is lost in the Saqqara Tablet (no. 22). Nevertheless, this king has been given the name of Djedefptah in reconstructions of the Turin Canon and the Saqqara Tablet. There are no known years attested for his reign. He has been associated with the name of *Manetho's* Thamphthis, a shadowy king of the 4th Dynasty, because in the juxtaposition of *Manetho's* names for the 4th Dynasty and those of the Turin Canon they are aligned. It has been suggested that Thamphthis's original name may have been Djedefptah or Ptahjedef.<sup>14</sup> However, there is no convincing evidence to suppose Thamphthis was Djedefptah.

Djedefptah's two years are not represented on the surviving fragments of the annals: the Palermo Stone, Cairo 1, etc. He was succeeded by Userkaf. In order to accommodate the four years of Shepseskaf's reign, followed by the two years of Djedefptah's reign, and have the third year of Userkaf's reign fall in the right-side compartment of Cairo 1 in register two, it is necessary to attribute to Shepseskaf's last year and to Djedefptah's first year a shared compartment, apportioning to each king a half-year. Otherwise the compartments between Shepseskaf's first year and Userkaf's third year would be disproportionately smaller than the other compartments on the verso, which are generally of similar width. This appears to be an appropriate option, and invokes the obvious disclaimer, when reigns are imprecisely known throughout Egyptian chronology, that years/compartments are only indicative. Rounding, as occurs here, has the effect of accommodating the approximation of years' reigned. Thus Shepseskaf is attributed three and a half years and Djedefptah one and a half years. The shared compartment is the last one on register one and Djedefptah's second year (his first full year) is represented by the first compartment in register two. See Figure 21.1.

### Userkaf/Weserkaf

The next king in the Turin Canon is [Weser]ka[f] credited with seven regnal years (section 4.17). He is succeeded by Sahure (section 4.18). In the AbKL, there is no line for Djedefptah; thus, Userkaf (no. 26) appears after the name of Shepseskaf (no. 25) who is succeeded by Sahure. In the Saqqara Tablet, after the name of Menkaure at no. 20, the next *four* names have been destroyed. The first two of these may be identified as Shepseskaf and Djedefptah (nos. 21 and 22), but there are lines for two more names before Userkaf appears at no. 25. It is not known to whom these lines refer, and why they appear here. The annals appear to be consistent with the Turin Canon and AbKL's order of Userkaf followed by Sahure, so the unidentified extra names in the Saqqara Tablet—being unknown in the other sources—are omitted from consideration here.

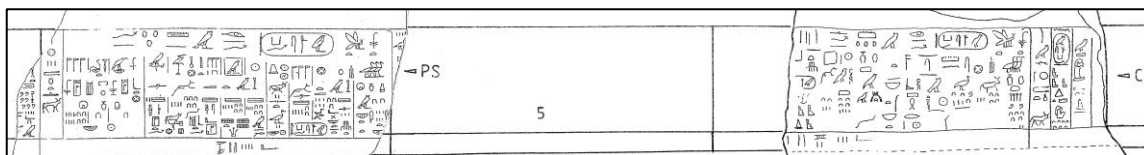
Scholars consider Userkaf to be the first king of the 5th Dynasty. However, his mother is thought to have been Neferhetep, daughter of Shepseskaf, making him the grandson of Shepseskaf. This does not indicate a break in dynastic continuity. Furthermore, there is no evidence of a major change in the country or administration, as officials of the 4th Dynasty continue into the 5th.<sup>15</sup>

Parts of two compartments are preserved in Cairo 1 in register two that belong to Userkaf's reign (Figure 21.3).

<sup>14</sup> "Thamphthis," <http://en.wikipedia.org/wiki/Djedefptah>

<sup>15</sup> "Userkaf," <http://en.wikipedia.org/wiki/Userkaf>



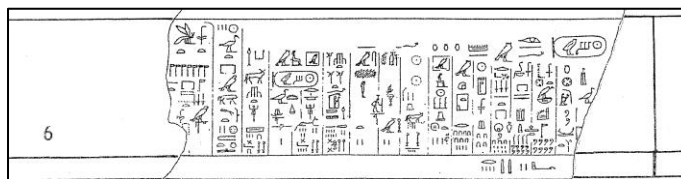


**Figure 21.3:** Userkaf’s reign shown on register two of Cairo 1 (C1) Palermo Stone (PS).

Only about one-quarter of the first compartment remains on the right. It has four text columns. The third column refers to Userkaf’s pyramid and the last records “the year after the first occasion of the cattle count.” This refers to the king’s third year.<sup>16</sup> A *rnpt* sign divides Userkaf’s third year from his fourth, with about three-quarters preserved on Cairo 1. Userkaf’s cartouche appears at the beginning of the text along the upper edge where it has the same phrase as appears in Userkaf’s sixth year compartment in the Palermo Stone. The rubric reads: “The dual king N: he made as his endowment for: the souls of Heliopolis...” It is followed by recipients of the king’s bounty and details of his donations. The same format and phrase appear in the other existing compartments in the Palermo Stone.<sup>17</sup>

The fifth compartment/year for Userkaf’s reign falls in the gap between Cairo 1 and the Palermo Stone with only a tiny section preserved at the top left corner of the Palermo Stone where part of a bird-sign can be seen.

The sign appears in full at the top of the last column in the fifth year of *Sahure*’s compartment (refer to Figure 21.1 and to Figure 21.4 below), beneath which is “the year after the second occasion of the census”<sup>18</sup> seen in the Palermo Stone in register three.



**Figure 21.4:** Sahure’s fifth year shown on register three on the Palermo Stone.

Referring to the partial bird-sign in Userkaf’s fifth year (Figure 21.3), Wilkinson observes, “By analogy with the Annals for the fifth year of Userkaf’s successor Sahura (the Palermo Stone v.III.I), the entry can be restored with some certainty as ‘third occasion of (making) the inventory of the House-of-Horus-and-Seth.’”<sup>19</sup> Thus, both compartments refer to the fifth year of the respective kings. This is borne out by the next compartment.

Almost all of Userkaf’s sixth compartment/year is preserved on the Palermo Stone except for a minimal amount at the right bottom at the base of a *rnpt* marker and at the left top where the top of a *rnpt* marker is missing (Figure 21.3). The last text column refers to the “third occasion of the cattle census”<sup>20</sup> confirming that this is Userkaf’s sixth year. A small section of Userkaf’s seventh year is preserved on the left of the *rnpt* marker, but it does not convey anything of chronological significance.

In addition to the “third occasion of the cattle census” on the sixth compartment of Userkaf’s reign in the annals, a mason’s graffito from the upper part of Userkaf’s sun temple also mentions a cattle count of the third occurrence. This refers to his reign dated

<sup>16</sup> Wilkinson, *Royal Annals*, 218.

<sup>17</sup> *Ibid.*, 153-54; see also 69.

<sup>18</sup> *Ibid.*, 161.

<sup>19</sup> *Ibid.*, 152.

<sup>20</sup> *Ibid.*, 154.

to III *prt* with the day-date missing.<sup>21</sup> These are his highest attested years.<sup>22</sup> Spalinger remarks, “If the biennial census works at this point, then the six years derived from this account fits neatly into the Turin Papyrus’ date of 7 years.”<sup>23</sup>

However, Spalinger discusses four limestone blocks containing inscriptions found in the rubble of Userkaf’s sun temple at Abusir, but *without a king’s name*. Three of these blocks refer to the “Year of the 5th occurrence” dating, respectively, to I *3ht*, III *prt*, and III *šmw*, without day-dates, and the fourth refers to the “Year after the 5th occurrence” and dates to II *prt*, also without a day-date.<sup>24</sup> On the biennial system it would indicate Userkaf reigned at least 11 years, in conflict with the Turin Canon’s 7 years.

Two earlier scholars, Ricke and Kaiser, placed the four blocks in the reign of Neferirkare (who reigned 10 + x years) as does Spalinger, but the latter with a question mark.<sup>25</sup> Verner explores the different views of scholars and decides in favor of Sahure who completed Userkaf’s sun temple after the death of the king.<sup>26</sup> Userkaf was the first king to build a sun temple at Abusir.

The question of whether Userkaf reigned 7 years or 11 years (or more) can be assisted by the number of compartments/years that come between the seventh year of Userkaf and the first year of Sahure, his successor. See Figure 21.1.

According to Wilkinson, Sahure’s *second* year appears on the right-hand side of Cairo 1 in register three where only the last three text columns are preserved.<sup>27</sup> Therefore, Sahure’s first year is the preceding year. Based on the width of the annals in register two and the width of the almost complete sixth year for Userkaf in the Palermo Stone, Userkaf can be assigned his final two years, his 10th and 11th, to the right of Sahure’s first year in register three. In register two, there are three compartments to the left of Userkaf’s sixth year in the Palermo Stone. The annals affirm that Userkaf reigned 11 years altogether.

However, the question of the ownership of the three blocks referring to the “Year of the 5th occurrence” and the fourth referring to the “Year after the 5th occurrence”<sup>28</sup> is not settled because, as we shall see, Sahure reigned 15 years and Neferirkare Kakai reigned 11 years; thus, they too could have had a “year after the 5th occurrence.”

Userkaf is here attributed 11 years as indicated by the compartmental space given to him in the annals, regardless of whose reign the four blocks came from. The seven years credited to Userkaf by the Turin Canon appear to be deficient by four years.

## Sahure

The name of the king who follows Userkaf is lost in the Turin Canon at section 4.18, but it gives him 12 years. Sahure is the name of the king following Userkaf in the AbKL (no. 27) and in the Saqqara Tablet (no. 26). Evidently, Sahure is the name missing in the Turin Canon.

Sahure’s reign is represented in the annals for his second year (Cairo 1), and fifth and sixth years (the Palermo Stone) in register three (see Figure 21.4), and final (15th)

<sup>21</sup> Spalinger, “Dated Texts,” 294.

<sup>22</sup> Verner, “Archaeological Remarks,” 386.

<sup>23</sup> Spalinger, “Dated Texts,” 295.

<sup>24</sup> *Ibid.*, 295-96.

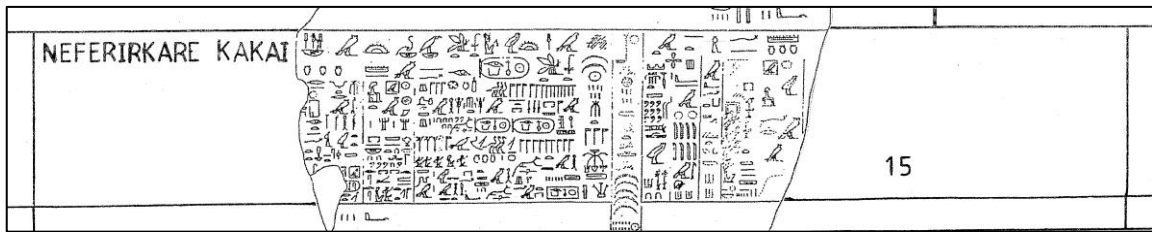
<sup>25</sup> *Ibid.*, 295-96 and n. 51.

<sup>26</sup> Verner, “Archaeological Remarks,” 386-90.

<sup>27</sup> Wilkinson, *Royal Annals*, 220. In his fig. 6 of the verso of Cairo 1 only the second and third columns are transcribed in register three.

<sup>28</sup> Spalinger, “Dated Texts,” 295-96.

year in register four (the Palermo Stone, see Figure 21.5), though that is disputed by some scholars.



**Figure 21.5:** Sahure’s final year shown on register four of the Palermo Stone, followed by Neferirkare Kakai’s first year.

Mason’s inscriptions from Sahure’s mortuary temple attest to *rnpt zp 2* (Year 4), *rnpt zp 4* (Year 8), and inscriptions from Userkaf’s sun temple have been attributed to Sahure: *rnpt zp 5* (Year 10) in tablets A, B, and C, and *rnpt(m-)ht zp 5* (Year 11) in tablet D.<sup>29</sup> Verner discusses a “Year 12” found in the damaged pavement of Sahure’s valley temple. He concluded that the date was written by a visitor to Sahure’s temple complex sometime in the New Kingdom.<sup>30</sup>

The last three text-columns of Sahure’s second year appear on the right edge of Cairo 1 in register three (see Figure 21.1). The second text column records “six likenesses of Sahure” referring to statues,<sup>31</sup> which confirms that it belongs to Sahure’s reign. Wilkinson also notes that the compartment refers to the first occasion of an event that may be the “making of an inventory of the House-of-Horus-and-Seth.” He notes Daressy’s prior suggestion that the inventory may have been made in the king’s first year and published in his second. If so, there was not only the biennial system of counting cattle, but also a system of biennial inventories.<sup>32</sup> The “first occasion” (*rnpt zp 1*) identifies this compartment as belonging to Sahure’s second year.

Sahure’s third compartment follows the second in Cairo 1. Most of it falls in Cairo 1 and a final portion of it would have extended beyond the broken left edge. All that Wilkinson could read was the usual phrase, “The dual king Sahura: he made as his endowment for: his father?...”<sup>33</sup> Sahure’s fourth year compartment falls entirely in the gap between Cairo 1 and the Palermo Stone.

As shown in Figure 21.4, his fifth year compartment begins to the right of the Palermo Stone in the gap, though most of the compartment is present on the Palermo Stone. The size of Sahure’s fifth compartment on the Palermo Stone can be compared with the complete compartment of Userkaf above it in register two (see Figure 21.1). Both end almost at the same place with Sahure’s sixth year compartment in register three ending slightly to the left of Userkaf’s in register two, suggesting that they both began at about the same place. From this we may assume that the same number of compartments in both registers can be fitted into the distance from the right edge of the annals across to the Palermo Stone on the left (including those in Cairo 1).

Apart from the introductory formula, Sahure’s fifth year compartment is divided into precisely defined text columns of uniform width. The upper part of the last column refers to the “third occasion of making of an inventory of the House-of-Horus-and-Seth”<sup>34</sup> which, as we noted earlier, Wilkinson assumed had also been written in the last

<sup>29</sup> Verner, “Archaeological Remarks,” 391 and nn. 223-27, 229; idem, “Dynasties 4 to 5,” 137-38.

<sup>30</sup> Verner, “Archaeological Remarks,” 392-93.

<sup>31</sup> Wilkinson, *Royal Annals*, 220.

<sup>32</sup> Ibid., 220-21.

<sup>33</sup> Ibid., 221.

<sup>34</sup> Ibid., 161, 165.

column of Userkaf's fifth year where only part of the sign remains on the damaged edge.<sup>35</sup> This column concludes by recording the cattle count in the "year after the second occasion of the census," thus confirming that it belongs to Sahure's fifth year.

A *rnpt* marker separates Sahure's fifth year from the beginning of the sixth. Of the latter only a small portion of the right side survives in the Palermo Stone with the remainder lost to the left. Before the edge of the annals there is space for two more compartments, Sahure's seventh and eighth. Sahure's reign continues on the right of register four with his ninth year. Wilkinson notes that there is no titulary band separating register three and register four. He suggests that this is because there was no need to repeat Sahure's titulary since it had been given in the preceding register.<sup>36</sup> Four compartments would have been present in register four before the right edge of Cairo 1. Sahure's 13th year would have occupied most of Cairo 1 with about a quarter of his 14th year on the left side. Nothing is legible there now.

Approximately the last third of Sahure's 15th and final compartment appears in register four on the right side of the Palermo Stone (Figure 21.5). It is separated from the next compartment by a column of text that extends down to the next register (which does not have a titulary band). In its upper part, the column contains a cattle count, and in its lower part the months and days of the king's last year. Apparently, there was too much text to be contained in the normal column length. The signs are very worn and difficult to read.

Spalinger agrees with the view of earlier scholars that the cattle count signs read, "Year after the 7th occurrence";<sup>37</sup> that is, Sahure's 15th year. Gardiner's transcription shows the presence of seven strokes.<sup>38</sup> However, Wilkinson's transcription shows the presence of six strokes.<sup>39</sup> He writes, "The most plausible reading is *rnpt (m-)ht zp 6 tnwt*, 'year after the sixth occasion of the census'."<sup>40</sup> He suggests it may refer to Sahure's 13th year.<sup>41</sup> Though the year itself is unclear, the "year after" sign is not in dispute.

According to the space provided for the years of Sahure's reign, his last year was his 15th. If it had been his 13th year, the size of the compartments in register four would have had to be disproportionately larger than those of the preceding registers.

Between the right edge of the annals and the right edge of the Palermo Stone in register one there are six and a half compartments; in registers two and three there are six (being slightly larger than those of register one); and in registers four and five there are six and three quarters (because the damaged edge of the Palermo Stone slopes to the left). In other words, there is some comparability of size of the compartments in all the registers.

But if two compartments were taken out of register four, to give Sahure 13 years, there would only be five compartments to the right of the Palermo Stone—unless one was taken from register three and one from register four. But the same disproportion of compartment sizes per register would occur. This conclusion indicates that the census count was for the "year after the 7th occasion" in Sahure's last compartment and was based on biennial counting.

According to Gardiner's reconstruction, Sahure's last year consisted of 9 months and 28 days, with the complement being seen in Neferirkare's first year where he is

<sup>35</sup> Ibid., 152, 165.

<sup>36</sup> Ibid., 167.

<sup>37</sup> Spalinger, "Dated Texts," 297.

<sup>38</sup> Gardiner, "Regnal Years," 12, n. 1 and fig. d.

<sup>39</sup> Wilkinson, *Royal Annals*, fig. 6.

<sup>40</sup> Ibid., 169, 171.

<sup>41</sup> Ibid.

given two months and seven days.<sup>42</sup> Sahure, therefore, reigned 14 years, 9 months, and 28 days, or a rounded 15 years.<sup>43</sup> The 12 years given to Sahure in the Turin Canon (section 4.18) has apparently lost three strokes.

### London Fragment: Verso

Associated with the reign of Sahure is the small London Fragment. Its verso side covers a small area. Nothing is seen in the upper and middle areas, but the lower part shows traces of signs. The positioning of the London Fragment in relation to the Palermo Stone in register five of the recto precisely defines its location on the verso side, confirmed by measurements. The upper part of the London Fragment falls mostly in the bottom left corner of Sahure's sixth year compartment, and the larger part falls in the second year of Neferirkare's reign, concurring with earlier suggestions of other scholars.<sup>44</sup> The small portion of preserved text has no data of chronological value, but it does mention arable land.<sup>45</sup>

### Neferirkare Kakai

The name of Sahure's successor and the years he reigned are lost in the Turin Canon at section 4.19. However, he is named in the AbKL as Kakai (no. 28) and as Neferirkare in the Saqqara Tablet (no. 27). Once understood to be Sahure's brother, new evidence has now been interpreted to mean that Neferirkare was the elder of twins, the other being Netjerirenre, Sahure's firstborn of six sons.<sup>46</sup>

As noted above, Neferirkare's first compartment/year follows that of Sahure's in register four on the Palermo Stone (Figure 21.5). Along the top of, and within, the compartment are the preserved signs of his titulary.<sup>47</sup> Noted in the first text column is the duration of his accession year amounting to two months and seven days, the complement of Sahure's last partial year.

Two stonemasons' inscriptions, one from the pyramid of Khenthaus II (Neferirkare's queen), and the other from Neferirkare's own pyramid, both record the king's *rnpt zp 5*, his 10th year.<sup>48</sup> A *rnpt zp 5* appears in the small preserved section on the left upper corner of the Palermo Stone in register five,<sup>49</sup> and this is confirmed as belonging to Neferirkare's 10th year because his cartouche appears in the next compartment, his 11th year/compartment.

In register five of the Palermo Stone his 11th compartment appears directly below his first compartment in register four (see Figure 21.6).

<sup>42</sup> Gardiner, "Regnal Years," 12 n. 1 and fig. d. Note the assumption of 30-day months, plus five epagomenal days.

<sup>43</sup> Verner states that the length of Sahure's tenure cannot be established because it is not known how regular census counts were held in his reign ("Dynasties 4 to 5," 127). The conclusion above that Sahure reigned 15 years to "the year after the 7th occasion" indicates that the census count was biennial.

<sup>44</sup> Ibid., 252.

<sup>45</sup> Ibid.

<sup>46</sup> For Sahure's family relationships and progeny see T. El Awady, "The Royal Family of Sahura. New Evidence," *Abusir and Saqqara in the Year 2005: Proceedings of the Conference held in Prague (June 27-July 5, 2005)*, (eds. M. Bárta, F. Coppins, J. Krejčí; Prague: Czech Institute of Egyptology, Charles University 2006) 191-218. See also, "Neferirkare Kakai," [http://en.wikipedia.org/wiki/Neferirkare\\_Kakai](http://en.wikipedia.org/wiki/Neferirkare_Kakai)

<sup>47</sup> Wilkinson, *Royal Annals*, 173.

<sup>48</sup> Verner, "Archaeological Remarks," 393; idem, "Dynasties 4 to 5," 138.

<sup>49</sup> Wilkinson, *Royal Annals*, 177.

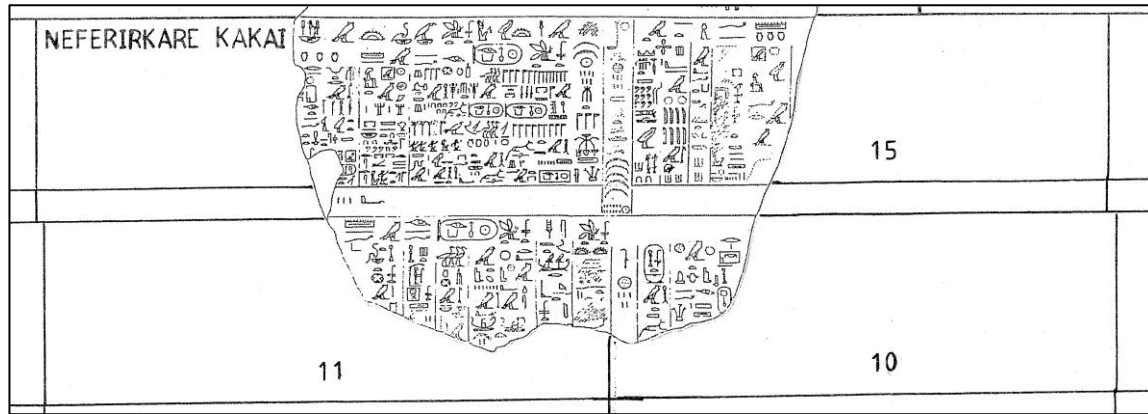


Figure 21.6: Neferirkare Kakai's first and final years shown on the Palermo Stone's fourth and fifth registers respectively.

Neferirkare has three compartments/years in register four, the first on the Palermo Stone then two more to the left edge of the annals. From the right edge of register five there are eight compartments/years to his 11th and final year on the Palermo Stone. Neferirkare's 11th year compartment on the Palermo Stone, of which only the upper right part survives, is the last section of the annals that is preserved.

There is space for two more compartments in register five on the left of the Palermo Stone after Neferirkare's 11th year. Was Neferirkare's 11th year his final year? Verner discusses a stonemason's graffito found on a yellowish block in the core of Neferirkare's pyramid to the west of the burial site, earlier commented on by Borchardt in 1909. Spalinger proposed that the damaged reading could be "Year of the 10 + xth occurrence, 4th month...." And he hesitantly suggested that it might refer to Neferirkare and a possible 15 or 16 years.<sup>50</sup> However, Verner points out that such a high date is not in accord with the archaeological evidence for Neferirkare, and the position of the block *in situ* excludes its assignment to a later king, such as Niuserre.

Furthermore, the signs for the dates are horizontal, whereas Edel, an earlier scholar, emphasized that at this time numerals were written in a vertical line. Based on these considerations, Verner suggests that with a vertical reading the inscription read *rnpt zp 5, 3bd 4*;<sup>51</sup> that is, the fifth census count and the fourth month of the year. This adds to the two dates for the same fifth count and month four as referred to above, and agrees with the annals' count stating his fifth census count in Neferirkare's 10th year compartment. Therefore, no higher date for Neferirkare is known than his 11th year on the last (partially) existing compartment in the Palermo Stone. Neferirkare's name is written within a cartouche in the introductory phrase along the top.<sup>52</sup>

### Shepseskare

Shepseskare's name is lost in the Turin Canon, but the king at section 4.20, where he would have appeared, is attributed seven years. His name is missing in the AbKL between Kakai and Neferefre, but it appears in the Saqqara Tablet as Shepseskare (no. 28). He is known as Shepseskare Isi (or Isesi). Only a few contemporaneous written

<sup>50</sup> Spalinger, "Dated Texts," 297-98.

<sup>51</sup> Verner, "Archaeological Remarks," 394.

<sup>52</sup> Wilkinson, *Royal Annals*, 179.

sources refer to Shepseskare and only four of five sealings bear his name. No contemporary monuments refer to him or give his name.<sup>53</sup>

Neferirkare Kakai is known to have had only two sons, Neferefre his firstborn, and Niuserre.<sup>54</sup> Shepseskare's position between Neferirkare and Neferefre has been challenged by some scholars due to archaeological considerations.

Verner has suggested that Shepseskare reigned *after* Neferefre. He notes that, "The four pyramids of kings were built in Abusir in the order: Sahura, Neferirkara, Neferefra ... and Nyusera."<sup>55</sup> Shepseskare is not included. This same sequence is found in strings of titles of tomb owners, and Shepseskare's name never occurs in them, or in personal names, or in names of funerary estates.<sup>56</sup>

Verner wonders why Shepseskara, who is not present in lists of Sahure's descendants, is placed between Neferirkare and Neferefre in the Turin Canon. He suggests that archaeological evidence places Shepseskare *after* Neferefre. He points to the fact that the pyramid of Neferefre appears to have been built immediately after that of Neferirkare.<sup>57</sup> But Verner's suggestion that Shepseskare reigned *after* Neferefre has to be ruled out.

As I asserted in chapter 16, the period from Neferefre's accession in 2750 BCE to the end of Unas's reign in 2622 BCE amount to 128 years, being the total for the reigns of Neferefre (2–3), Niuserre (31), Menkauhor (8), Djedkare Isesi (56), and Unas (30). These are confirmed by the *w3gy* date in Neferefre's reign (based on a lunar and a Sothic date) and lunar dates in the reigns of Djedkare Isesi, and Unas. There is *no possibility* of inserting Shepseskare's reign after Neferefre into this sequence of kings. Therefore, Shepseskare must have reigned after the death of Neferirkare, where the king-lists put him. Verner's proposal that in the Turin Canon Neferirkare's place should be moved from section 3.19 to 3.20 (now section 4.19–4.20) so that Neferirkare can be attributed the seven years now assigned to Shepseskare<sup>58</sup> has no merit. Furthermore, seal impressions bearing Shepseskare's name, Horus Sekhemkau, were found in the oldest part of Neferefre's mortuary temple at Abusir, built after Neferefre's death, suggests that Shepseskare reigned after Neferirkare and before Neferefre.<sup>59</sup>

It has also been suggested that Shepseskara may have been one of Sahure's sons.<sup>60</sup> Tarek El Awady hypothesizes that after the death of Neferirkare and before Neferefre was old enough to become king—he died at the age of about 22 after reigning 2–3 years—Shepseskare ascended the throne for a "short time."<sup>61</sup> The only attestation for the length of Shepseskare's reign is the seven years given him in the Turin Canon, though Verner thinks it is too long, asserting that a pyramid on the northern edge of Abusir was scarcely begun when it was abandoned. Had it been constructed it would have been the second largest pyramid at Abusir (after Neferirkare's). Verner proposed that Shepseskare was "an ephemeral king whose reign was only short-lived."<sup>62</sup>

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<sup>53</sup> M. Verner, "Who was Shepseskara, and when did he Reign?" *Abusir and Saqqara in the Year 2000*, (eds. M. Barta and J. Krejčí; *Archive Oriental Supplement IX*. Prague: Oriental Institute of the Czech Academy of Sciences, 2000) 582-85; idem, "Archaeological Remarks," 396, 400.

<sup>54</sup> *Ibid.*, 590.

<sup>55</sup> *Ibid.*, 586.

<sup>56</sup> *Ibid.*, 588.

<sup>57</sup> Verner, "Archaeological Remarks," 397.

<sup>58</sup> *Ibid.*, 395.

<sup>59</sup> M. Verner, *The Pyramids* (New York: Grove Press, 2001) 310.

<sup>60</sup> Verner, "Who was Shepseskara?" 595-97.

<sup>61</sup> El Awady, "Royal Family of Sahura," 217.

<sup>62</sup> Verner, "Archaeological Remarks," 400.

The only kings of the 5th Dynasty whose pyramids have not been identified are those of Shepseskare and Menkauhor, with Shepseskare being the better candidate as Menkauhor's pyramid is thought to have been built at Dahshur or at North Saqqara.<sup>63</sup>

### **Years for Neferirkare and Shepseskare**

Returning now to the number of years to be allocated to Neferirkare and Shepseskare before the reign of Neferefre began, of the 639 years covered by the Turin Canon from Menes to Neferefre only 7 years remain unaccounted for.

The Turin Canon gives 7 years to Shepseskare, which means that no further years can be attributed to Neferirkare beyond the 11 years already assigned to him! To the left of the Palermo Stone in register five of the annals, Shepseskare has two compartments with the remaining five on the right of register six before Neferefre's reign begins. The fact that the seven years is the exact number required to complete the 639 years, and there is no other king who might have come between Shepseskare and Neferefre, makes it almost certain that Shepseskare reigned seven years, regardless of the short reign that is attributed to him by some archaeologists.

### **End of Verso**

To conclude our discussion on the verso side of the Royal Annals, we note that Neferefre is allocated two and a half years/compartments in register six, leaving the remaining two and a half compartments for the beginning of Niuserre's reign. If the verso of the annals extended to the same depth as on the recto there would be space for another three registers, except that there is no titulary band between registers three and four, and four and five. If registers seven, eight, and nine had 10 compartments each they would account for 30 years. Niuserre reigned 31 years. This would leave one compartment unassigned, but if the annals were to end with Niuserre's reign, it is feasible that one of the registers had only nine compartments so that the annals finished with Niuserre's 31st year at the left edge. However, there is no surviving fragment to indicate when the annals ended on the verso.

### **Allocation of Years and Dates from Menes to Shepseskare**

It now remains to allocate years to the kings as given in this reconstruction (Table 21.1) based on the Turin Canon and the Royal Annals beginning with Menes and ending with Shepseskare.

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<sup>63</sup> Ibid., 398.



**Table 21.1: Royal Annals: Menes to Shepseskare: Compartments, years, and dates**

No.	Turin Canon ref.	Royal Annals ref. to compartments	King	Regnal years	Date BCE
1	3.11	Register I recto Not provided	<i>Dyn. 1 starts</i> Menes	30	3389–3359
2	3.12	II. 1–25	Aha	24 yr, 6 mo	3359–3334
3	3.13 & 14	II. 26–72	Djer	46 yr, 6 mo	3334–3288
4	3.15	II. 73–88 + III. 1–4	Djet	19	3288–3269
5	3.16	III. 5–48	Den	44	3269–3225
6	3.17	III. 49–55	Anedjib	6 yr, 6 mo	3225–3218
7	3.18	III. 55–65	Semerket	8 yr, 6 mo	3218–3210
8	3.19	III. 66–99	Qa'a	36	3210–3174
9	3.20	III. 100–109 + IV.28	<i>Dyn. 2 starts:</i> Hetepsekhem & Raneb	37	3174–3137
10	3.21				
11	3.22	IV. 29–74	Ninetjer	44 yr, 6 mo	3137–3099
12	3.23	IV. 74–86	Weneg	12 yr, 6 mo	3099–3080
13	3.24	IV. 97–128 + V. 1–6	Sened & Aaka	48	3080–3032
14	3.25				
15	4.1	V. 7–15	Neferkasokar	8 yr, 3 mo	3032–3024
16	4.2	V. 15–16	“Hudjefa”	1 yr, 9 mo	3024–3022
17	4.3	V. 17–34	Khasekhemwy	17 yr, 2 mo, 23 d	3022–3005
18	4.4		[Nebka deleted here]		
19	4.5	V. 34–61	<i>Dyn. 3 starts</i> Netjerikhet (Djoser I)	27 yr, 6? mo	3005–2978
20	4.6	V. 61–67	Sekhemkhet	6 yr, 6? mo	2978–2971
21	4.7	V. 68–76	Nebka (Sanacht)	ca. 9	2971–2962
22	4.8	V. 77–100	Huni	ca. 24	2962–2938
23	4.9	V. 101 + VI. 1–44 + VII. 6	<i>Dyn. 4 starts</i> Sneferu	50	2938–2888
24	4.10	VII. 7–31 + VIII. 10	Khufu (Cheops)	35	2888–2853
25	4.11	VIII. 11–18	Djedefre	8	2853–2845
26	4.12	VIII. 19–29 + IX. 1–15	Kaphre	26	2845–2819
27	4.13	IX. 16–17	Bakare	2	2819–2817
28	4.14	IX. 18–28 + verso I. 1–7	Menkaure	18	2817–2799
29	4.15	I. 8–11	Shepseskaf	3½	2799–2795
30	4.16	I. 11 + II. 1	Djedefptah	1½	2795–2794
31	4.17	II. 2–10 + III. 1–2	<i>Dyn. 5 starts</i> Userkaf	11	2794–2783
32	4.18	III. 3–10 + IV. 1–7	Sahure	15	2783–2768
33	4.19	IV. 8–10 + V. 1–8	Neferirkare Kakai	11	2768–2757
34	5.1	V. 9–11 + VI. 1–5	Shepseskare	7	2757–2750
	<b>Total</b>	<b>640 compartments</b> <sup>64</sup>	<b>Total</b>	<b>639 yr, 2 mo, 23 d</b>	<b>3389–2750</b>

Dyn. = Dynasty.

The reconstruction of the annals giving 639 years from Menes to the last year of Shepseskare in 2750 BCE (shared with Neferefre) dates Menes' accession to 3389 BCE. From this date down to Neferirkare of the 8th Dynasty (ending in 2434 BCE), there are 955 years as recorded in the Turin Canon summation total of section 5.16–5.17. The concurrence of regnal years giving the span of 955 years makes credible the summation record. This indicates that the original numbers *in the Turin Canon* and the reign lengths afforded to the kings *in the annals* were from an authentic record. Over the course of time, many of the figures in the Turin Canon were lost or damaged or were corrupted in

<sup>64</sup> Aha's last compartment and Djer's first compartment are parts of the same year so there is one more compartment than there are regnal years. Obviously, in very many cases, years are approximate having been rounded up or down, despite the attempt by some entries in the Turin Canon and of data in the annals to state reign lengths with absolute precision.

the process of copying or miss-copying, and as a result the figures as now given do not add up to the 955 years.

What has been recovered from the annals in the existing fragments gives a good indication that the annals were once a reliable record of the kings' reigns. The accession year of Menes set in 3389 BCE may be the earliest date that we can ever credibly assign to Egyptian historical chronology.

### The Early 5th Dynasty

In chapter 16, I discussed the kings from Neferefre of the mid-5th Dynasty to the end of the 6th Dynasty because the kings of this period could be confirmed by lunar dates. The same is not true for the kings of the earlier 5th Dynasty for which we have no lunar-dated events. Instead, their regnal years are reckoned by using the Royal Annals and contemporary records. The regnal years and dates for Userkaf to Shepseskare are given at the bottom of Table 21.1 and make up the first half of the 5th Dynasty. The table for the latter half of the 5th Dynasty can be found in chapter 16, page 236 (Table 16.8).

### Comparison with Manetho's Kings

For comparison, the 5th Dynasty given by Manetho is shown below in Table 21.2. The introduction states that it was composed of eight kings (though nine are given) who reigned from *Elephantine*.

However, the "5th Dynasty" kings of the *Turin Canon* reigned from *Memphis*. Because scholars seek to reconcile the dynasties as though they were referring to the same kings, the following table compares the names and regnal years for the 5th Dynasty from the *Turin Canon* and from *Manetho*.

The versions of *Manetho* have become confused at the 5th Dynasty with only Africanus giving a list of kings with regnal years.<sup>65</sup> Eusebius and the Armenian record only two kings: Othoes, the first king, who was killed by his bodyguard, and Phiops the fourth king who reigned for 94 years from the age of six.<sup>66</sup> However, these two kings have been wrongly recorded for the 5th Dynasty, having been taken from the 6th Dynasty as given by Africanus. Thus there are no 5th Dynasty kings recorded by Eusebius or the Armenian. Accordingly, there is only one actual version in *Manetho* for the 5th Dynasty, that of Africanus, shown in Table 21.2.

**Table 21.2: Comparison of the Turin Canon section 4.17–4.24 with the 5th Dynasty from *Manetho* (Africanus)**

Turin Canon			<i>Manetho</i>		
Ref.	King	Years	No.	King	Years
4.17	Userkaf	7	1	Usercheres	28
4.18	Sahure	15	2	Sephres	13
4.19	Neferirkare Kakai	11	3	Nephercheres	20
4.20	Shepseskare	7	4	Sisires	7
4.21	Neferefre	2½	5	Cheres	20
4.22	Niuserre	31	6	Rathures	44
4.23	Menkauhor	8	7	Mencheres	9
4.24	Djedkare Isesi	56	8	Tancheres	44
4.25	Unas	30	9	Onnus	33
	<b>Total</b>	<b>167½ (rounded to 168)</b>		<b>Total</b>	<b>218</b>

The first four kings seem to show some resemblance in their names—those in the *Turin Canon* being transliterated from Egyptian and those in *Manetho* translated into Greek. Of the remaining five names, only the last, Unas with 30 years, and Onnus with

<sup>65</sup> *Manetho*, 52-55.

<sup>66</sup> *Ibid.*, 50-53.

33 years, seem identifiable with each other. Even if it could be argued that some of the kings were known by alternate names, all the regnal years are different except for Shepseskare and Sisires who both reigned seven years.

But since the preceding kings in the Turin Canon reigned 33 years and in *Manetho* reigned 61 years, the reigns of Shepseskare and Sisires do not coincide. It seems hardly credible that only *one* king from *Manetho*'s list could have had his regnal years survive intact and all the rest be divergent from the actual as reconstructed above and in the previous chapters. Furthermore, the Turin Canon totals 168 years and *Manetho* totals 218 years. Our previous comparison (chapter 16) of the 6th Dynasty kings in the Turin Canon and *Manetho* showed even greater dissimilarity, where only Pepi II with 90 regnal years (the Turin Canon) is similar to Phiops with 94 years. It is hard to see how the kings listed in the Turin Canon (and the associated king-lists) and the annals, can be identified as the same as those listed by *Manetho*. The Turin Canon demonstrates its original similarity with the Royal Annals in names and numbers, even if it has become corrupted and fragmented over the centuries. But the same similarity is not demonstrated in *Manetho*'s dynastic lists for the Old Kingdom.

Nevertheless, *Manetho* is indispensable when compiling the chronology for the Middle Kingdom, the New Kingdom, and the Third Intermediate Period—as we shall see.



## Chapter 22

### Surveying the 9th–11th Dynasties

The discussion of the 1st–8th Dynasties in earlier chapters determined the period from Menes (Turin Canon section 3.11) to Neferirkare (section 5.13) may be confirmed as 955 years and 10 days (section 5.16–5.17), dated to the years 3389–2434 BCE.

#### **Kings of the Turin Canon Section 5.18–6.10 Representing the 9th and 10th Dynasties**

Following the summation at 5.16–5.17, the Turin Canon continues with another section of 18 lines representing 18 kings. The summation for this section at 6.10 preserves only the words “Total: 18 kings...” with the remainder lost.<sup>1</sup> Following this there is a heading at 6.11 of which only “Kings of” remains. But it is followed by the names and some regnal years of the kings of the 11th Dynasty that can be identified as such from contemporary sources. Egyptologists consider the kings between Neferirkare at section 5.13 and before the 11th Dynasty with its heading at section 6.11, as kings of the 9th and 10th Dynasties. The Abydos King-list (AbKL) and the Saqqara Tablet do not record these kings.

Most Egyptologists recognize the 9th and 10th Dynasty kings, and kings of the 11th Dynasty down to Mentuhotep II (Nehepetre), the fifth of seven kings, as belonging to the First Intermediate Period.<sup>2</sup> During this time, Egypt is understood to have been divided between competing powers—the kings residing at Herakleopolis and the kings in Upper Egypt at Thebes. The Thebans conquered the north under the rule of Mentuhotep II who is credited with the reunification of Egypt.<sup>3</sup> This victory defines the end of the First Intermediate Period.

Scholars attribute the 9th and 10th Dynasties to the 18 kings of the Turin Canon by appropriation from Manetho’s 9th and 10th Dynasties. However, according to Africanus, for the 9th Dynasty there were 19 kings of Herakleopolis who reigned for 409 years, but Eusebius and the Armenian have four kings of Herakleopolis who reigned for only 100 years. It is possible that *Manetho* originally had 109 years for four kings, which, in the version of Africanus, has been corrupted to 409 kings, and then the four kings changed to 19 appropriated from the next dynasty (Manetho’s 10th Dynasty), to take into account this expanded number. The 100 years given to the 9th Dynasty by the Eusebius version and the Armenian version may have been corrupted from an original 109 years. The only king mentioned in all three versions is the first, King Achthoes, who is described as being crueler than all his ancestors, went mad, and was eaten by a crocodile.<sup>4</sup> His regnal years are not stated.

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<sup>1</sup> K. Ryholt, “The Turin King-List or So-called Turin Canon (TC) as a Source for Chronology,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, and D.A. Warburton; Leiden and Boston: Brill, 2006) 29.

<sup>2</sup> S.J. Seidlmayer, “First Intermediate Period,” *AEC* (2006) 159.

<sup>3</sup> *Ibid.*, 159.

<sup>4</sup> *Manetho*, 60-63.

For the 10th Dynasty, all three versions of *Manetho* have 19 kings who reigned for 185 years, which, when added to 109 years for the 9th Dynasty allocates 294 years to the 23 kings. The Turin Canon with 18 lines for 18 kings does not indicate two separate dynasties covering 294 years. In order to explain the disparity between the Turin Canon's 18 kings and Manetho's 23 kings, Jaromír Malek has hypothesized that the first four kings became separated from the main group of the Turin Canon due to misunderstandings when the original was copied. The 19 kings stated by Africanus for the 9th Dynasty is said to be a duplication of the 19 kings stated for the 10th Dynasty.<sup>5</sup> The discrepancy of an extra king is explained by Seidlmayer as a possible omission of the last king who was supposedly not legitimate and removed from power when the Thebans triumphed over the Herakleopolitans.<sup>6</sup> Since the alleged textual corruption caused the one dynasty to become two, Seidlmayer suggests that the Herakleopolitan rule be recognized as having had only one phase, not an earlier and later phase.<sup>7</sup>

If Manetho is not referring to the same kings as in the Turin Canon, the disparity does not exist and textual corruption need not be hypothesized.

### The 9th and 10th Dynasties?

In the 18 lines of the Turin Canon from section 5.18–6.9, only seven names are represented. The names or partial names are:

- 5.18 (lost)
- 5.19 (lost)
- 5.20 Neferkare
- 5.21 Kheti
- 5.22 Seneh[...]
- 5.23 (lost)
- 5.24 Mer[ibre]
- 5.25 Shed[...]
- 5.26 H[...]

The lines in section 6.1–6.9 are from a new column and have neither names nor regnal years for the kings and only the word “months” appears in line 6.1 and the aforementioned total of 18 kings at line 6.10.

### The House of Kheti

Egyptologists identify Achthoes/Ochthosis of Manetho's 9th Dynasty, the first ruler and only king named by Manetho, with a king known from contemporary sources as Wakhare Kheti, who is designated Kheti I, assumed to be the name of the missing king at section 5.18.

Then another Kheti, known as Wankare Kheti, is presumed to be the former's grandson, Kheti II, the Kheti at section 5.21. Meribre at section 5.24 is also known as Kheti<sup>8</sup> either III or IV depending on whether there was a Khety at section 5.23.

Seidlmayer notes that the Herakleopolitan kingdom was referred to as *pr Hty* “the house of Khety” in contemporary sources.<sup>9</sup> He suggests that Neferkare (section 5.20) could be identical with a *k3-nfr-R<sup>c</sup>* found “on a label in the tomb of °Ankhtifi at

<sup>5</sup> J. Malek, “The Original Version of the Royal Canon of Turin,” *JEA* 68 (1982) 105; amplified by Seidlmayer, “First Intermediate Period,” 164.

<sup>6</sup> Seidlmayer, “First Intermediate Period,” 164.

<sup>7</sup> *Ibid.*, 164.

<sup>8</sup> “Kheti,” <http://en.wikipedia.org/wiki/Kheti>

<sup>9</sup> Seidlmayer, “First Intermediate Period,” 164, 166.

Moalla.”<sup>10</sup> He also proposes that the last king of the dynasty may be a Merykare who is known from texts associated with the “final phase of the Theban–Herakleopolitan war in Siut tomb IV and whose pyramid complex at Saqqara is attested in the titles of funerary priests.”<sup>11</sup>

The contemporary sources indicate that the surviving names *in the Turin Canon* accord well with a Herakleopolitan dynasty. However, the identity of Manetho’s Achthoes, also from Herakelopolis, with the *missing name* at section 5.18, presumed to be Kheti I, is not confirmed. Moreover, Malek’s reduction of Manetho’s 9th and 10th Dynasties to just one dynasty of 19 kings in order to reconcile Manetho’s record with the Turin Canon’s 18 kings is mere speculation when there are two different dynasty lengths, possibly 109 years for the 9th and 185 for the 10th, amounting to 294 years.

If the Turin Canon is not recording the same kings as Manetho, then there can be no agreement of dynasty names or numbers. Seidlmayer writes that if Manetho’s data is disregarded “there are no other sources available for fixing the length of Herakleopolitan rule before Dyn. 11.”<sup>12</sup> How long then did the period from section 5.18 to section 6.9 of the Turin Canon last; that is, from the end of the (so-called) 8th Dynasty to the beginning of the 11th Dynasty?

The total regnal years of the Turin Canon’s 18 kings can be determined if the date for the beginning of the 11th Dynasty is subtracted from the date of 2434 BCE at the end of the 8th Dynasty. We now seek to determine the date for the beginning of the 11th Dynasty; that is, the kings beginning with a damaged heading at section 6.11, and we need to discuss the 11th Dynasty in order to do so.

### Manetho’s 11th Dynasty

Unlike the period from Menes down to the end of the summation at Turin Canon section 6.10, which, as I have concluded, gives a different line of kings from those in *Manetho* for Dynasties 1 to 10, the 11th and 12th Dynasties record the *same* kings as those of the Turin Canon from section 6.12 (Mentuhotep I) to section 7.2 (Queen Sobeknofru).

In the Turin Canon, the years for the kings of the 11th Dynasty are partially recorded followed by a summation line at section 6.18 which contains “[...] 6 kings, making [...] years [...] [*wsf* = erased] 7, total 143.” Manetho’s equivalent summation of the 11th Dynasty is brief. Africanus writes, “The Eleventh Dynasty consisted of sixteen kings of Diospolis who reigned for 43 years. In succession to these Ammenemes ruled for 16 years. Here ends the First Book of Manetho. Total for the reigns of 192 kings, 2300 years.”<sup>13</sup> The Eusebius version and the Armenian version are similarly worded. It is apparent that the 6 kings have become 16, and the 143 years is now 43 years.

It should be noted that Ammenemes is included in succession to, not as part of, the 11th Dynasty. This is important because it infers he reigned between the 11th and 12th Dynasties, but only his 16 regnal years are recorded here.

Book II of *Manetho* begins with the 12th Dynasty and does not include the mention of Ammenemes. However, a list of seven kings is given; the first king being “Sesonchosis, *son* of Ammenemes,” which leads scholars to identify Ammenemes referred to in Book I as the first king of the 12th Dynasty. In the Turin Canon (section 6.20) a Sehetepibre is understood to be Amenemhet I, presumably the same as Ammenemes because he comes after Mentuhotep IV, the last king of the 11th Dynasty,

<sup>10</sup> *Ibid.*, 165; citing J. Vandier, *Mocalla* (Cairo: *BdE* 18, 1950) 36. Moalla is 30 km south of Thebes.

<sup>11</sup> Seidlmayer, “First Intermediate Period,” 165.

<sup>12</sup> *Ibid.*, 166.

<sup>13</sup> *Manetho*, 65.

and before Kheperkare, otherwise Sesostris I. On this identification, Sesostris I (Sesonchosis in *Manetho*) becomes the second king of the 12th Dynasty.

Manetho's brief statement of the 11th Dynasty can be supplemented by the Turin Canon, represented in the table below, which integrates the available data. Only two partial names have survived in the Turin Canon at section 6.12–6.17. Fortunately, the kings have been identified from contemporary sources, and their names have been added to the list below. The Karnak King-list from the “Chamber of Ancestors” in the Festival Hall of Thutmose III has five lines at the beginning of its second row that refer to kings of the 11th Dynasty. In reverse order, the first name is Intef (no. 13), the second is Men[...] (no. 12), the third is In[...] (no. 11), the fourth is Intef. The fifth name is destroyed.<sup>14</sup> It is not clear which of the names are represented by those in Table 22.1 since the order is different and not all kings are present. The Saqqara Tablet has only two names identified with kings of the 11th Dynasty: Nehepetre, known as Mentuhotep II (no. 46) and Seankhare, known as Mentuhotep III (no. 45).

**Table 22.1: Kings of the 11th Dynasty**

Ref. Turin Canon	King Turin Canon 6.11–6.18	Ref. Saqqara Tablet	Saqqara Tablet	Known as	Regnal years, Turin Canon
6.11	Heading				The kings
6.12	Wah[...]			Mentuhotep I	lost
6.13	lost			Intef I	lost
6.14	lost			Intef II	49
6.15	lost			Intef III	8
6.16	lost	no. 46	Nebhepetre	Mentuhotep II	51
6.17	Sankhka[re]	no. 45	Seankhkare	Mentuhotep III	12
<b>6.18</b>	<b>Summation</b>				<b>6 kings, making [...] years [...] [erased] 7, total 143</b>

### Mentuhotep I and Intef I

The first king of the 11th Dynasty has been identified as Mentuhotep I (or Montuhotep) a local Egyptian prince (nomarch) of Thebes. He was the father of Intef I<sup>15</sup> also known as Antef or Inyotef. Intef I is credited with gaining control of Coptos, Dendera, and three of the nomes (territorial areas) of Hierakonpolis (in the south) by the end of his reign. He was succeeded by Intef II, who was possibly his brother.<sup>16</sup>

The regnal years for Mentuhotep I and Intef I in the Turin Canon have been lost due to damage, but their combined reigns can be allocated by subtracting the known reign lengths, as discussed below, from the total of 143 years given in the summation at section 6.18. That gives 16 years between them.

### Intef II

Intef II is attributed 49 years in the Turin Canon (section 6.15). His throne name was Wahankh. Intef II expanded his domain from the First Cataract south, possibly by his 30th year, judging by a *sed*-festival robe found at Elephantine, and to Abydos in the north held by the nomarchs of Herakleopolis. The stela of Djary, a military officer under Intef II, recounts that, “Intef fought the house of Khety to the north of Thinis.”<sup>17</sup>

### Intef III

Intef II was succeeded by his son, Intef III. The relationship is confirmed by the stela of Tjeti, chief treasurer during the reigns of Intef II and III, which records the

<sup>14</sup> “Karnak king list,” [http://en.wikipedia.org/wiki/Karnak\\_king\\_list](http://en.wikipedia.org/wiki/Karnak_king_list)

<sup>15</sup> “Mentuhotep I,” [http://en.wikipedia.org/wiki/Mentuhotep\\_I](http://en.wikipedia.org/wiki/Mentuhotep_I)

<sup>16</sup> “Intef I,” [http://en.wikipedia.org/wiki/Intef\\_I](http://en.wikipedia.org/wiki/Intef_I)

<sup>17</sup> “Intef II,” [http://en.wikipedia.org/wiki/Intef\\_II](http://en.wikipedia.org/wiki/Intef_II)



accession of Intef III, the *son* of Intef II, upon the latter's death.<sup>18</sup> During his reign Intef III defended the territory won by Intef II.<sup>19</sup> The Turin Canon attributes to him eight years (section 6.15).

Intef III married Iah, thought to be his sister, and they became parents of Mentuhotep II.<sup>20</sup> The parentage is confirmed by the stele of his chief steward, Henenu, (Cairo 36346) and by a relief at Shatt er-Rigal.<sup>21</sup>

## Mentuhotep II

Mentuhotep II's throne name was Nebhetepre. The Turin Canon credits Mentuhotep II with 51 years (section 6.16). Egyptologists place Mentuhotep II as the first king of the Middle Kingdom within the 11th Dynasty. In his 14th year, Mentuhotep II crushed a revolt at Abydos, driving the Hierakleopolitan forces north, which eventually led to his rule over both Upper and Lower Egypt.<sup>22</sup> Thus, he is famous as the king who reunited Egypt.

## Dating Mentuhotep II's reign

The possibility of dating Mentuhotep II's reign comes from an inscription on a coffin (T3C) belonging to Princess Ashyat found in Mentuhotep II's mortuary temple complex at Deir El Bahri in 1920. A star clock on the coffin records a heliacal rising of Sothis on II *prt* 21.<sup>23</sup> Because the star clock precedes the death of the princess, its date is attributable to the reign of Mentuhotep II, but a regnal year is not given. Assuming that the observation of the heliacal rising of Sirius was viewed from Thebes (in the vicinity the coffin was found), we can calculate the date of the rising from the beginning of a Sothic cycle that commenced ca. 2870 at Thebes. II *prt* 21 is 171 days from I *3ht* 1, which amounts to 684 years from the cycle's inception, bringing the date to 2186 BCE (see Casperson's table, Table 22.2).

**Table 22.2: Sothic date in the reign of Mentuhotep II (rising of Sothis from –2185)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-2185	5	29	-2185	5	11	596	4	8	5	19:32	5:26	460	5:26	149	5:25	40
<b>-2185</b>	<b>6</b>	<b>28</b>	-2185	6	10	596	<b>5</b>	<b>8</b>	7	2:47	5:13	229	5:13	95	5:12	-4
-2185	7	27	-2185	7	9	596	6	7	1	10:35	5:12	283	5:12	149	5:12	37

DoW = day of week; ToD = time of day.

Converting this table to Sothic risings recorded in Upper Egypt, the date of I *prt* 8 equates to II *prt* 8; that is, June 28. Therefore, II *prt* 21 fell 13 days later on July 11 in –2185 to –2182. Using an altitude of 3 degrees the HELIAC Program sets the date on 11, 12 or 13 July in these years. So the date of II *prt* 21 falls on the day of a heliacal rising of Sothis as the tomb inscription states. Between 2259 and 2186 BCE, there are 73 years. The years for Mentuhotep I and Intef I combined are 16, dated to 2259–2243 BCE, followed by Intef II with 49 years, 2243–2194; and Intef III with 8 years, 2194–

<sup>18</sup> "Intef III," [http://en.wikipedia.org/wiki/Intef\\_III](http://en.wikipedia.org/wiki/Intef_III)

<sup>19</sup> Ibid.

<sup>20</sup> S.J. Seidlmayer, "First Intermediate Period (c.2160–2055 BC)," *Oxford History of Ancient Egypt* (ed. I. Shaw, OUP, 2003 chap. 6, pp.108-136) 125; "Intef III," [http://en.wikipedia.org/wiki/Intef\\_III](http://en.wikipedia.org/wiki/Intef_III)

<sup>21</sup> "Mentuhotep II," [http://en.wikipedia.org/wiki/Mentuhotep\\_II](http://en.wikipedia.org/wiki/Mentuhotep_II); J. Dunn, "Mentuhotep II, First Ruler of the Middle Kingdom," <http://www.toureygypt.net/featurestories/mentuhotep2.htm>

<sup>22</sup> Ibid.; Seidlmayer, "First Intermediate Period (c.2160–2055 BC)," 125-26.

<sup>23</sup> R. Krauss, "Egyptian Sirius/Sothis Dates, and the Question of the Sothis-based Lunar Calendar," *AEC* (2006) 447, and see articles cited there.

2186, which amount to the same 73 years. Thus, the Sothic date was recorded in Mentuhotep II's first regnal year in 2186 BCE.

### **Mentuhotep III**

Mentuhotep II was succeeded by his son Mentuhotep III, whose birth name was Sankhkare,<sup>24</sup> which appears in the Turin Canon at section 6.19, where he is attributed 12 years. Since his father had a long reign, Mentuhotep III was probably quite old when he became king. He is particularly known for an expedition to Punt in his eighth year.<sup>25</sup> He reigned from 2135–2123 BCE.

### **Mentuhotep IV**

The Turin Canon closes the section for the 11th Dynasty kings with a summation at section 6.18, but another king, Nebtawyre Mentuhotep, is known from contemporary sources as the last king of the 11th Dynasty. He is presumed to be the son of Mentuhotep III. Mentuhotep IV is absent from king-lists, but inscriptions from Wadi Hammamat record his expeditions to the Red Sea to quarry stones for his monuments.<sup>26</sup> Despite Mentuhotep IV's absence in the Turin Canon, the summation refers to an *wsf* "lost or erased" seven years as part of the total of 143 years for the dynasty and it is understood by Egyptologists that these apply to Mentuhotep IV. His reign can be dated to 2123–2116 BCE.

### **Summation for the 11th Dynasty**

The Turin Canon gives 143 years (section 6.18) to the 11th Dynasty. The years as given for five of the seven kings account for 127 years. The remainder of 16 years has been allocated jointly to the first two kings, Mentuhotep I and Intef I, as given above. Manetho's versions, which give 16 kings for 43 years, is understood to be an error of 6 kings for 143 years. The *wsf* or missing king was presumably not counted in the number of kings as there ought to be seven kings not six. The seven kings add up to 143 years and date to 2259–2116 BCE.

### **Period Covered by the 18 Kings**

Having resolved the date of 2259 BCE for the beginning of the 11th Dynasty and the end of the 8th Dynasty in 2434 BCE, the period of the 18 kings in the Turin Canon at section 5.18–6.9 amounts to 175 years. It is not possible to give a table for these kings because of the missing names and regnal years in the Turin Canon.

Before concluding the discussion of the 11th Dynasty, we need to resolve the years to be attributed to Ammenemes.

### **Ammenemes**

The 143 years of the Turin Canon at the closure of the 11th Dynasty does not include the 16 years that Manetho credited to Ammenemes after the end of the 11th Dynasty.<sup>27</sup> Where then should Ammenemes and his 16 years be placed?

Manetho does not begin the 12th Dynasty with a king Ammenemes but with Senonchosis, that is, Sesostris I, but he describes him as the "son of Ammenemes." Thus, the Ammenemes at the end of the 11th Dynasty is probably the father of Sesostris I. Furthermore, in this position, between the last king of the 11th Dynasty, Mentuhotep IV, and Sesostris I (Kheperkare in the Turin Canon section 5.21) there is a Sehetepibre,

<sup>24</sup> "Mentuhotep III," [http://en.wikipedia.org/wiki/Mentuhotep\\_III](http://en.wikipedia.org/wiki/Mentuhotep_III)

<sup>25</sup> Ibid.

<sup>26</sup> "Mentuhotep IV," [http://en.wikipedia.org/wiki/Mentuhotep\\_IV](http://en.wikipedia.org/wiki/Mentuhotep_IV)

<sup>27</sup> *Manetho*, 62–65.

otherwise known as Amenemhet I. The Turin Canon assigns to Amenemhet I [x]9 years (section 6.20),<sup>28</sup> which can be restored to 29, the number of years now credited to Amenemhet I by Egyptologists.<sup>29</sup>

If Ammenemes is actually the same person as Amenemhet I, how long did he reign? Are the 16 years attributed to him by *Manetho* part of the 29 years attributed to him as Amenemhet I by the Turin Canon? Or are they two distinct but consecutive periods?

### Applying Sothic Dates

The time-span between the end of the 11th Dynasty in 2116 BCE and a Sothic date in the reign of Sesostris I can be consulted to see how many years fit into this period and whether it conforms to 16 years, or 29 years, or some other number.

Pre-empting our later discussion in chapter 24 of the date for Sesostris I's fifth year found in the Hekanakhte Letters, Sesostris I's fifth year can be dated by a Sothic rising to 2075 BCE, making his first year 2079 BCE. Between 2116 and 2079 BCE are 36 years. This means that the 16 years of Ammenemes followed by 20 of the 29 years of Amenemhet I are needed to fill the space between Mentuhotep IV's last year and Sesostris I's first year. It is probable that after Ammenemes ruled for 16 years, he was raised to the status of king and began the 12th Dynasty reigning for a further 29 years—the last nine being co-regent with his son Sesostris I. This is the view of most Egyptologists.<sup>30</sup> It will be determined in our next chapter that the first six kings of the 12th Dynasty had co-regencies.

The Turin Canon records 143 years for the 11th Dynasty. With the addition of the 16 years to be credited to Ammenemes, there are about 159 years to be attributed to the chronology: the years 2259–2100 BCE. However, in discussing the 12th Dynasty in the next chapter, Sesostris I's fifth year is dated to 2075 BCE making his first year in 2079 BCE. With the prior 20 years for Amenemhet I, the 12th Dynasty began *in 2099 BCE* not 2100 BCE. The one-year discrepancy is probably because no months and days have been added to the 143 years, which is a rounded figure, as are the reign lengths of the individual kings. Assuming that the 143 years should have added months and days, the final date for Ammenemes as the successor to Mentuhotep IV can be dated 2116/2115–2099 BCE. Altogether, the 11th Dynasty lasted 160 years as shown in Table 22.3 on the following page. Its final date of 2099 BCE concurs with the commencing date of the 12th Dynasty.

<sup>28</sup> The number 9 is assumed on the presence of a tip of the hieratic at the left edge of fragment 64 (Gardiner, *Royal Canon*, 16).

<sup>29</sup> Based on an inscription found at Korosko referring to Amenemhet's 29th year. M. Bunson, "Korosko," *Encyclopedia of Ancient Egypt* (Revised Edition; New York: Facts On File, 2002). See [http://ancientegypt.enacademic.com/108/Ammenemes\\_I](http://ancientegypt.enacademic.com/108/Ammenemes_I)

<sup>30</sup> See, e.g., J. Dunn, "Amenemhet I, 1st King of the 12th Dynasty," <http://www.touregypt.net/featurestories/amenemhet1.htm>

**Table 22.3: 11th Dynasty = Turin Canon section 6.11–6.18**

<b>Turin Canon ref.</b>	<b>King</b>	<b>Years</b>	<b>Dates BCE</b>	<b>Sothic date</b>
6.11	The Heading			
6.12 and 6.13	Mentuhotep & Intef I	16	2259–2243	
6.14	Intef II	49	2243–2194	
6.15	Intef III	8	2194–2186	
6.16	Mentuhotep II	51	2186–2135	II <i>pri</i> 21 seen at Thebes in Mentuhotep II's first yr in 2186
6.17	Mentuhotep III	12	2135–2123	
[6.18 lost]	Mentuhotep IV	7	2123–2116	
	<b>Total</b>	<b>143 yr + x mo</b>		
<b>Manetho: Dyn. 11.</b>	Ammenemes	16	2116/2115–2099	
	<b>Total</b>	<b>160 yrs</b>	<b>2259–2099</b>	

## Chapter 23

### Establishing the 12th Dynasty

In addition to the date of 2099 BCE for the accession of Amenemhet I and the accession of his son Sesostris I in 2079 as discussed in chapter 22, chapters 11 to 13 undertook a study of 12th Dynasty feasts. These feasts were set on lunar days dated to the civil calendar in the reigns of Sesostris III and Amenemhet III. A Sothic rising was predicted for IV *prt* 16 in Sesostris III's seventh year and it fell in 1980 at Illahun. This was confirmed by new moon dates in Sesostris III's sixth and eighth years, consistent with further lunar dates in his reign and that of his son Amenemhet III.

Based on the previous study of Sothic and lunar dates, Sesostris III's accession took place in the year 1986 BCE, and his son, Amenemhet III, became his co-regent 19 years later in 1967. Therefore, the years of sole reign attributed to the 12th Dynasty kings must be consistent with these accession dates. Between Sesostris I and Sesostris III only Amenemhet II (Turin Canon section 6.22) and Sesostris II (section 6.23) remain to be allocated regnal years and dates. These fixed dates are stated in Table 23.1, which will also assist comprehension of repeated names and successive relationships involved.

**Table 23.1: 12th Dynasty kings with Sothic & Lunar references.**

Kings	Total reign	Co-regent period	Years of sole reign	Dates BCE (sole reign)	Sothic and lunar dates
Amenemhet I	29 yr, 2 mo, 7d	9 yr, 2 mo, 7 d	20	2099–2079	
Sesostris I	45 yr, [x] mo	4 yr	42	2079–2037	Yr 5 Sothic rising on III <i>prt</i> 20 in 2079
Amenemhet II					
Sesostris II					
Sesostris III	39 yr, [x] mo	20 yr	19	1986–1967	Yr 7 Sothic rising on IV <i>prt</i> 16 in 1980; Lunar dates from years 5–18
Amenemhet III	48 yr, [x] mo	1 yr	47	1967–1920	Lunar dates from years 1–38

x = an uncertain number

Between Sesostris I and Sesostris III only Amenemhet II (Turin Canon section 6.22) and Sesostris II (section 6.23) remain to be allocated regnal years and dates.

#### Other References to 12th Dynasty Kings

In the Turin Canon, the kings' names and regnal years are only partly preserved, but are supplemented by the records from *Manetho* and contemporary sources. Unlike the preceding 1st–8th Dynasties in *Manetho*, which do not correspond to the names and years of the kings in the Turin Canon, *Manetho*'s 12th Dynasty kings are evidently the same as listed in the Turin Canon (section 6.20–7.3), recognizable primarily by their reign lengths. The Turin Canon starts the 12th Dynasty with a heading at section 6.19 of which only “[Kings of] the residence of 'It –t3wy” (Itj-tawi) remains.<sup>1</sup> The regnal years

<sup>1</sup> K. Ryholt, “The Turin King-List,” *Ä und L* 14 (2004) 141.

originally included the months and days of the final year, but these survive only for a new section in the canon (section 7) for the last two rulers, Amenemhet IV (section 7.1) and (Queen) Sobeknefru (section 7.2), and in the summation (section 7.3).

The names now recognized by scholars for these kings are given in the first column of Table 23.2. Sesostriis is also known as Senwosret or similar. I have alluded to a co-regency between Amenemhet I/Ammenemes and his son Sesostriis I. Most Egyptologists recognize that co-regencies were a feature of this dynasty.

**Table 23.2: 12th Dynasty kings reported in *Manetho* and the Turin Canon**

Recognized names for the kings (prenomen and nomen)	Manetho's names for the kings	Africanus, Eusebius (Eus.) & the Armenian (Arm.) kings' years		Turin Canon ref.	Turin Canon's names for the kings	Turin Canon kings' years
Sehetepibre Amenemhet I	missing	missing		6.20	[Sehet]p-ib-[re]	[x]9
Kheperkare Sesostriis I	Sesonchosis	46		6.21	[Kheper]-ka-[re]	45 +
Nubkaure Amenemhet II	Ammenemes	38		6.22	lost	1 or 10 + ; [30 +]
Khakheperre Sesostriis II	Sesostriis	48		6.23	lost	1[9] +
Khakhaure Sesostriis III	Lachares (or Lamares)	8		6.24	lost	30 +
Nimaatre Amenemhet III	Ameres	8	Eus. & Arm. = 42 yrs for the last 3 kings	6.25	lost	40 +
Maakherure Amenemhet IV	Ammenemes	8		7.1	Maakherure	9 yr, 3 mo, 27 d
Sobekkare Sobeknefru	Scemiophris "his sister"	4		7.2	Sobek]nef[ru]-re	3 yr, 10 mo, 24 d
	<b>Total</b>	<b>160</b>	<b>245 yrs, actual 182</b>	<b>7.3</b>	<b>Summation</b>	<b>213 yr, 1 mo, 17 d</b>
					<b>Actual total</b>	<b>206 yr, 1 mo, 17 d (incl. 30 for Amenemhet II)</b>

x = an uncertain number

### Regnal Years of the Kings of the 12th Dynasty

Discussion of the individual reigns for each king will determine the sole-reign years and the co-regent years, taking into account the predetermined dates for Sesostriis I, Sesostriis III, and Amenemhet III.

#### Amenemhet I (Sehetepibre)

The first king of the 12th Dynasty was Amenemhet I, mentioned in the Turin Canon by his throne name Sehetepibre (section 6.20) who was probably the Ammenemes who succeeded the 11th Dynasty before the beginning of the 12th Dynasty referred to in *Manetho*, as noted in the previous chapter.

Amenemhet I is not mentioned by *Manetho* apart from saying that Sesostriis I was the son of Ammenemes. The earlier chronology demonstrated that the 16(+) years of Ammenemes and the 20 sole-reign years of Amenemhet I were both necessary to fill the period between Mentuhotep IV whose last year fell in 2116 BCE and Sesostriis I whose first year was 2079. Amenemhet I is given a damaged [x]9 years in the Turin Canon (section 6.20) based on the trace of a hieratic nine. This indicates that Amenemhet I reigned 29 years altogether and had a nine-year co-regency with his son, Sesostriis I.

#### The Co-regency Debate Regarding Amenemhet I and Sesostriis I

Earlier objections to the kings having co-regent years, argued by scholars such as

C. Obsomer, R.D. Delia, and W. Helck, have now been overcome by evidence supporting co-regencies from various sources.<sup>2</sup> Regarding a co-regency between Amenemhet I and Sesostris I, the Cairo stela CG 20516 (also known as the stela of Intef or Antef or In-yotef) records in its top two lines on its left side a Year 30 of Amenemhet I and on its right side a Year 10 for Sesostris I.<sup>3</sup> This is consistent with Amenemhet I having a sole reign of 20 years and his death in his 10th co-regent year, giving to him 29 full regnal years.

The stela of Nesu-Montu or Nesmont also known as Louvre C1, has a damaged dateline. Murnane translates: “Regnal year [...]4 ... under the Majesty of the Horus ‘Repeater of Births’... Amenemhet (I) ... (and) the Horus ‘Living of Births’ ... Senwosret (I), living forever like Re.”<sup>4</sup> From this inscription, it appears that a regnal year of Amenemhet I ending in “four” corresponds to an undesignated year of Sesostris I.<sup>5</sup> If the damaged number is read as 24 and the length of Amenemhet I’s reign is 29 years plus months and days as given by the Turin Canon, and the co-regency started in Amenemhet I’s 20th year as inferred from the Cairo stela 20516, then Sesostris I is already in his fourth or fifth year of co-regency with his father.

Karl Jansen-Winkeln points out that the stela gives *one* date for *two* kings, which he sees as evidence for a co-regency.<sup>6</sup> Jansen-Winkeln also cites a door lintel from Heliopolis, which has four lines giving the throne and proper names of Amenemhet I and Sesostris I on either side. Since door lintels are ascribed to *living* kings, it follows that both kings must have been alive and, therefore, co-regents.<sup>7</sup>

A co-regency between Amenemhet I and Sesostris I is inferred from three graffiti from rock inscriptions at Wadi el-Girgawi (Lower Nubia). One graffito, RILN 64,<sup>8</sup> dates to the 29th year of an unnamed king and the other two, RILN 59 and RILN 65 date to a ninth year of a king also not named. Detlef Franke proposed that because these belonged to three brothers who participated in a field campaign led by Sesostris I they refer to a co-regency between Amenemhet I and Sesostris I due to the relative proximity of the rocks and the regnal years given. The 29th year is now dated to Amenemhet I and the ninth year to Sesostris I.<sup>9</sup>

“Control notes” of Sesostris I’s pyramid at el-Lisht indicate that the funerary temple of Sesostris I was not begun before his tenth year. This infers that Amenemhet I’s

<sup>2</sup> T. Schneider, “Middle Kingdom and the Second Intermediate Period,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 170-71.

<sup>3</sup> W. Murnane, *Ancient Egyptian Co-regencies* (SAOC 40; Chicago, IL: Oriental Institute of the University of Chicago, 1977) published at <http://oi.uchicago.edu/pdf/saoc40.pdf>; idem, “In Defense of the Middle Kingdom Double Dates,” *BES* 3 (1981) 76-77; Schneider, “Middle Kingdom,” 171. For objection see R.D. Delia, “A New Look at some Old Dates: A Reexamination of Twelfth Dynasty Double Dated Inscriptions,” *BES* 1 (1979) 15-16; idem, “Doubts about Double Dates and Co-regencies,” *BES* 4 (1982) 55-56, photo of stela taken by James Romano of The Brooklyn Museum, p. 69.

<sup>4</sup> Murnane, “Defense of,” 81; see also idem, *Ancient Egyptian Co-regencies*, 2.

<sup>5</sup> See, e.g., W.K. Simpson, “The Single-Dated Monuments of Sesostris I: An Aspect of the Institution of Co-regency in the Twelfth Dynasty,” *JNES* 15 (1956), 215; Murnane, “Defense of,” 80-81; Delia, “Doubts About,” 61-62; K. Jansen-Winkeln, “Zu den Koregenzen der 12. Dynastie,” *SAK* 24 (1997) 123-25.

<sup>6</sup> Jansen-Winkeln, “Zu den Koregenzen,” 122-25.

<sup>7</sup> *Ibid.*, 125.

<sup>8</sup> RILN = Rock Inscriptions of Lower Nubia.

<sup>9</sup> D. Franke, “Zur Chronologie des Mittleren Reiches (12.-18. Dynastie) Teil 1: Die 12. Dynastie,” *Orientalia* 57 (1988) 116, citing, Zb. Žába, *The Rock Inscriptions of Lower Nubia. Czechoslovak Concession* (Prag 1974). Delia objects to the co-regency on the grounds that the proximity of the rocks to each other “does not prove their creation in the same year. Rock inscriptions made elsewhere at different times were often placed side by side.” (“Doubts about Double Dates,” 62-64).



tomb had not yet been finished and that he was still alive, and shows that the two kings were co-regents.<sup>10</sup> Jimmy Dunn writes, “Egyptologists who believe Amenemhet I may have waited until his twentieth year to make the move to his new city, base their evidence on an inscription found on the foundation blocks of the pyramid’s mortuary temple. It records Amenemhet’s royal jubilee, and also that *year one* of a new king had elapsed, suggesting that the pyramid was started very late in the king’s reign.”<sup>11</sup>

A statue of the king in the Egyptian Museum (Cairo J. d’E. 60520) has a text on its left side that refers to Amenemhet I and his “first occasion of the Sed Festival.”<sup>12</sup> This infers the king’s 30th year. It is reported in the *Instructions of Amenemhet for his son Sesostri*s that Amenemhet I was assassinated in a conspiracy by his guards while Sesostri I was campaigning in Libya. The *Story of Sinuhe* records Amenemhet I’s ascent to the horizon (death) in Year 30, III 3*ht* 7.<sup>13</sup> The date of his death indicates that his accession 30 years previously began before III 3*ht* 7. If Sesostri I became co-regent on I 3*ht* 1, as seems to have been the practice in the 12th Dynasty, then he reigned only two months and seven days of his 30th year; thus a 29-year reign.

Gardiner noted a problem in the Berlin Leather Roll, which states that in the third year of Sesostri I on III 3*ht* 8 Sesostri I discussed a plan with his counselors for the building of a huge temple to the god H<sub>ar</sub>akhti in Heliopolis. The date comes on the day after the third anniversary of the death of Amenemhet I.<sup>14</sup> Gardiner notes that if Sesostri I had a co-regency beginning in the 20th year of Amenemhet, then the third year after the death of Amenemhet I ought to be designated the 13th year of Sesostri I.

The options to resolve this are: either there was no co-regency; or the number should be 13 not 3; or Sesostri I is dating from the death of his father though having been in a nine-year co-regency with him.

From the evidence for a co-regency, the first option can be dismissed, and an emendation is not necessary if the last option is adopted.<sup>15</sup> Amenemhet I should be attributed 20 years as sole ruler, plus nine years, two months, and seven days as co-regent with his son before he died. The nine co-regent years are attributed to Sesostri I as the first years of his reign—the younger ruler taking over the main responsibilities from the older king.<sup>16</sup> Amenemhet I can be attributed the years 2099–2079 BCE.

### **Sesostri I (Kheperkare) (also known as Senusret I or Senwosret I)**

The Turin Canon gives to Kheperkare (the throne name of Sesostri I) 45 years (section 6.20). In fragment 20 of the Turin Canon, the positioning of the five digit strokes of the 45 years, three on the top line and two on the bottom offset from the three

<sup>10</sup> Schneider, “Middle Kingdom,” 171, citing, F. Arnold, *The Control Notes and Team Marks* (New York: PMMA 23, 1991) 19ff, 30ff; Jansen-Winkeln, “Zu den Koregenzen,” 125-26.

<sup>11</sup> “Amenemhet I, 1st King of the 12th Dynasty,” at

<http://www.touregypt.net/featurestories/amenemhet1.htm>

<sup>12</sup> W.K. Simpson, “Studies in the Twelfth Egyptian Dynasty: I-II,” *JARCE* 2 (1963) 60; A.H. Gardiner, *Egypt of the Pharaohs* (Oxford: Oxford University Press, 1961) 130-31.

<sup>13</sup> Simpson, “Studies in the Twelfth Egyptian Dynasty,” 60.

<sup>14</sup> A.H. Gardiner, “The Accession Day of Sesostri I,” *JEA* 32 (1946) 100. See also Murnane, *Ancient Egyptian Co-regencies*, 3; W. Barta, “Thronbesteigung und Krönungsfeier als unterschiedliche Zeugnisse Königlicher Herrschaftübernahme,” *SAK* 8 (1980) 35 and n. 15.

<sup>15</sup> Jansen-Winkeln understands that Sesostri I’s third year was reckoned from the beginning of his sole reign after the death of his father to make clear that he took responsibility for the new temple (“Zu den Koregenzen,” 127-28). Note also that Sesostri III’s pyramid dates to a 39th year of the king, indicating that the older king’s regnal years could be used to apply to his building projects. (See the section on Sesostri III below).

<sup>16</sup> Simpson, “The Single-Dated Monuments,” 214-19.



above, show that there was not a 46th year.<sup>17</sup> Murnane writes, “A clear ‘forty-five years’ for Sesostris I is followed by the tips of two signs that formed part of the word for ‘month’ (pl. II. col. V). Sesostris I thus ruled a full forty-five regnal years plus a fraction, and died in his forty-sixth year.”<sup>18</sup> *Manetho*, in all three versions, attributes to Sesostris I 46 years, which is consistent with the 45 years plus months of the Turin Canon.<sup>19</sup>

The fifth year of Sesostris I is dated to 1075 BCE on the basis of a Sothic rising date derived from a calendar in the *Letters of Hekanakhte*, which I discuss further in chapter 24.

The stela of Wepawetō (Stela Leiden V 4) displays in one long cartouche in the moulding at the top of the stela the names of Sesostris I on its right side and Amenemhet II on its left. Below the panel, inscribed vertically, appear “Year 44” on the right, and “Year two” on the left.<sup>20</sup> This is thought by many scholars to indicate a co-regency.<sup>21</sup> If Amenemhet II became co-regent in Sesostris I’s 43rd year as suggested by the stela, he reigned 42 years followed by a co-regency with Amenemhet II, which lasted about four years till Sesostris I died in his 46th year. The four co-regent years are attributed to Amenemhet II. Therefore, for the first nine years of his official reign, Sesostris I was co-regent with his father, Amenemhet I.

After Amenemhet I died, Sesostris I reigned a further 33 years as the sole king before Amenemhet II became his co-regent in his 43rd year. Sesostris I contributed a reign of 42 years to the overall length of the 12th Dynasty, the years 2079–2037 BCE.

### Amenemhet II (Nubkaure)

Manetho attributes to Amenemhet II a reign of 38 years.<sup>22</sup> The damaged fragment of the Turin Canon (of which only one stroke remains) allows him a possible 10 years with a following digit number, and months and days now lost (section 6.22). However, it is assumed that the original number could have had 30 years plus months and days because of the figure given in *Manetho*, and the total regnal years given in the summation requires these years to be included.

Annals from the reign of Amenemhet II describe his long reign involving military campaigns, trading expeditions in the Mediterranean area and Mesopotamia, donations to temples, lists of statues and buildings, and hunting activities,<sup>23</sup> so it is quite possible that he reigned 38 years.

A co-regency of Amenemhet II with his son Sesostris II appears to be indicated in the inscription on the stela of Hapu from Elephantine. It records Hapu’s inspection of the fortresses in Wawat (Nubia) in regnal year three of Sesostris II “corresponding to” (*hfti*) the regnal year 35 of Amenemhet II.<sup>24</sup> This appears to indicate that a co-regency began in Amenemhet II’s 33rd year, giving him 32 official years. If he reigned 38 years,

<sup>17</sup> Gardiner, *Turin Canon*, pl. 2 col. 5, line 21.

<sup>18</sup> Murnane, *Ancient Egyptian Co-regencies*, 5 n. 20.

<sup>19</sup> *Manetho*, 66-71.

<sup>20</sup> Murnane, *Ancient Egyptian Co-regencies*, 5; idem “Defense of,” 76-77. Delia opposes this as an example of a co-regency, “New Look,” 16, 28 Figure 2; idem, “Doubts About,” 56-58.

<sup>21</sup> J. von Beckerath, “Die Chronologie der XII. Dynastie und das Problem der Behandlung gleichzeitiger Regierungen in der ägyptischen Überlieferung,” *SAK* 4 (1976) 45; idem, “Nochmals zur Chronologie der XII. Dynastie,” *Orientalia* 64 (1995) 447; Murnane, “Defense of,” 77-80; Jansen-Winkel, “Zu den Koregenzen,” 117-18; Schneider, “Middle Kingdom,” 172.

<sup>22</sup> *Manetho*, 66-73.

<sup>23</sup> From annals discovered at Mit Rahina (part of Memphis). J. Dunn, “Amenemhet II, 3rd King of the 12th Dynasty,” <http://www.touregypt.net/featurestories/amenemhet2.htm>

<sup>24</sup> Murnane, *Ancient Egyptian Co-regencies*, 7; idem, “Defense of,” 73-76; Delia, “New Look,” 17, 24-27; idem, “Double Dates,” 58-59; Schneider, “Middle Kingdom,” 172.

Amememhet II and Sesostris II had a six year co-regency. Therefore, Amememhet II reigned 32 sole-reign years, the years 2037–2005 BCE.

### Sesostris II (Khakheperre)

Manetho's three versions give Sesostris II 48 years.<sup>25</sup> The Turin Canon has a ten-sign plus three small strokes in a vertical line (section 6.23). Six further strokes are assumed lost in two vertical lines giving to the king 19 years.<sup>26</sup>

Sesostris II was co-regent with Amenemhet II before the latter died in his 46th year. Sesostris II was succeeded by his son, Sesostris III, whose reign began in 1986 known by the Sothic date in his seventh year in 1980 BCE. Therefore, Sesostris II's reign lasted 19 years from 2005 BCE to 1986 BCE, confirming the 19 years presumed to have been originally indicated in the Turin Canon. The 19 years agrees with Frank Yurco's opinion that it would have taken Sesostris II 15–20 years to build his pyramid at Illahun as well as his funerary temple and adjacent buildings.<sup>27</sup> The 48 years given to Sesostris II by Manetho is evidently corrupt and may be a late emendation.

A year eight on a small red-sandstone stela found at an unused quarry at Toshka in June 1933 and a year eight from stela Cairo JE59485 are Sesostris II's highest dated inscriptions.<sup>28</sup> On the basis of these, Schneider emended the "19 years" of the Turin Canon to give Sesostris II just eight of nine years,<sup>29</sup> but the Sothic and lunar dates prove that 19 years is correct.

### A Co-regency between Sesostris II and Sesostris III

Chapter 11 went extensively into Sothic and Lunar Dates for Sesostris III. It determined that Sesostris III's sixth, seventh, and eighth years are dated to 1981, 1980, and 1979 BCE respectively, which provide an anchor for the 12th Dynasty. The length of Sesostris III's reign is discussed below, but I first look at his accession in the year 1986 and the question of a co-regency with Sesostris II.

Some scholars point out that a scarab displaying the names of Sesostris II and Sesostris III, and a dedication inscription showing them celebrating the resumption of rituals, might imply a co-regency.<sup>30</sup> The text from pBerlin 10055 recto records that Sesostris II died on the fourth day of the fourth winter month, that is, IV *prt* 4.<sup>31</sup> If Sesostris III began to reign on the fourth or the fifth there would have been no co-regency. But the earlier analysis of the feast days provided by the Illahun papyri for the reigns of Sesostris III and Amenemhet III (chapters 11–13) demonstrate that there must have been a co-regency between Sesostris II and Sesostris III because the regnal years and Julian dates assigned to the feasts conflict with Sesostris III's reign beginning on IV *prt* 4 or 5.

For example, if Sesostris III's accession was dated to IV *prt* 5 then each successive regnal year would also have started on IV *prt* 5. Therefore, his *tenth* year should have started on IV *prt* 5 in –1976. However, what I found was that a new phyle

<sup>25</sup> Manetho, 66-73.

<sup>26</sup> Gardiner, *Royal Canon*, pl. 2, col. 5, line 23 from fragment 67.

<sup>27</sup> F. Yurco, "Black Athena: An Egyptological Review," *Black Athena Revisited* (ed. M. Lefkowitz; University of North Carolina Press, 1996) 69. For description of Sesostris II's pyramid see M. Verner, *The Pyramids: The Mystery, Culture, and Science of Egypt's Great Monuments* (tr. Steve Rendall; New York: Grove Press, 2001) 409-15.

<sup>28</sup> M.C. Stone, "Reading the Highest Attested Regnal Year Date for Senwosret II: Stela Cairo JE 59485," *GM* 159 (1997) 91-99. Cited by Schneider, "Middle Kingdom," 172 n. 24.

<sup>29</sup> Schneider, "Middle Kingdom," 172, 174.

<sup>30</sup> "Senusret II," [http://en.wikipedia.org/wiki/Senusret\\_II](http://en.wikipedia.org/wiki/Senusret_II)

<sup>31</sup> J. von Beckerath, "Die Chronologie der XII. Dynastie," 46.

began on the new moon of IV *3ht* [30] in –1976 (equated to April 28 in 1977 BCE).<sup>32</sup> In other words, the tenth year had already started *before* IV *prt* 5, and indeed even before IV *3ht* 30.

This situation also applies to Sesostri III's 11th year when a new moon prior to a feast of Joy fell on I *3ht* 21 in –1975 (January 19 in 1976 BCE). If the accession of Sesostri III had been dated to IV *prt* 5, I *3ht* 21 would still have been in his *tenth* year. Furthermore, in Sesostri III's 12th year a *w3gy* feast was held on II *šmw* 22 following a new moon on II *šmw* 5. From I *3ht* 21 in his 11th year down to II *šmw* 5 in his 12th year there are about 22 months, which indicates that in about two months' time another regnal year was about to begin; that is, sometime after II *šmw* 5 and before I *3ht* 21, and the appropriate date would be at the beginning of the civil year on I *3ht* 1.

I note below that Amenemhet III's co-regency with his father, Sesostri III, seems to have begun on I *3ht* 1 perhaps based on the precedent that Sesostri III's co-regency with his father (Sesostri II) had also begun on I *3ht* 1.<sup>33</sup> Assuming the co-regency of Sesostri II and Sesostri III did begin on I *3ht* 1 of 1986 BCE, and the death of Sesostri II occurred seven months and four days later ending the period of co-regency, I allocate Sesostri II a full reign of 19 years, 7 months, and 4 days.

In this period of Egyptian history, the beginning of the Egyptian year on I *3ht* 1 corresponds closely to the beginning of the Julian year on January 1. This can be illustrated from Caspersen's table (Table 23.3) using the year of –1985 (1986 BCE) for Sesostri III's first year based on his seventh year in 1980, the year of the heliacal rising of Sothis on IV *prt* 17.

**Table 23.3: Sesostri III's first regnal year in –1985 (new moon listing from –1985)**

Illumun; Lat. 29.2, Long. 31.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1986	12	12	-1986	11	25	795	12	15	3	12:01	6:50	270	6:51	152	6:51	41
<b>-1985</b>	<b>1</b>	<b>10</b>	-1986	12	24	796	<b>1</b>	<b>9</b>	4	22:12	6:57	375	6:57	204	6:57	90
-1985	2	9	-1985	1	23	796	2	9	6	7:28	6:47	262	6:47	120	6:46	22
-1985	3	10	-1985	2	21	796	3	8	7	16:24	6:26	357	6:25	141	6:24	39
-1985	4	9	-1985	3	23	796	4	8	2	1:32	6:00	169	6:00	51	5:59	-28
-1985	5	8	-1985	4	21	796	5	7	3	11:31	5:36	226	5:35	73	5:34	-10
-1985	6	6	-1985	5	20	796	6	6	4	23:01	5:15	348	5:14	125	5:14	25
-1985	7	6	-1985	6	19	796	7	6	6	12:39	5:03	218	5:03	90	5:03	2
<b>-1985</b>	<b>8</b>	<b>5</b>	-1985	7	19	796	<b>8</b>	<b>6</b>	1	4:39	5:08	178	5:08	<b>76</b>	5:09	-12
-1985	9	3	-1985	8	17	796	9	5	2	22:28	5:26	260	5:27	158	5:28	64
-1985	10	3	-1985	9	16	796	10	5	4	16:43	5:52	236	5:53	140	5:54	45
-1985	11	2	-1985	10	16	796	11	5	6	9:49	6:20	218	6:20	120	6:21	20
-1985	12	2	-1985	11	15	796	12	5	1	0:45	6:44	194	6:44	92	6:45	-14
-1985	12	31	-1985	12	14	796	13	4	2	13:20	6:57	268	6:57	151	6:57	47

DoW = day of week; ToD = time of day.

In 1986 BCE, the Egyptian New Year and the Julian calendar New Year began only one day apart; I *3ht* coincided with January 2. It so happened that a new moon fell on IV *prt* 5 in –1985, equated with August 4, so IV *prt* 4, on which Sesostri II died equates to August 3.

I now turn my attention to the length of Sesostri III's reign.

<sup>32</sup> The day date is reconstructed from the lunar table, but the month is certain.

<sup>33</sup> Scholars understand that co-regencies take place on I *3ht* 1. See, e.g., von Beckerath, "Die Chronologie der XII. Dynastie," 46; K. Ryholt, *The Political Situation in Egypt During the Second Intermediate Period, c.1800-1550 B.C.* (Carsten Niebuhr Institute of Near Eastern Studies Publications 20; Copenhagen: University of Copenhagen and Museum Tusulanum Press, 1997) 212 n. 728.

### The Regnal Years of Sesostri III (Khakhaure) (also known as Senwosret III or Senusret III)

The same text that recorded Sesostri II's death on IV *pṛt* 4 (pBerlin 10055) also records that "the date of certain deliveries pass from the 19th regnal-year of Senwosret III, 4th month of Shemu, day 21, directly to the 1st regnal-year of Amenemhet III, 1st month of Akhet, day 1 (or 2)."<sup>34</sup> It appears from this that the last known date of Sesostri III's sole-reign was IV *šmw* 21, just nine days before I *3ḥt* 1.

It is irrefutable that Sesostri III's 19th year was followed immediately by Amenemhet III's first year demonstrated by the lunar tables that record Sesostri III's 18th year when a *w3gy* feast was held on II *šmw* 17 in 1969 BCE (–1968) (see chapter 13) and Amenemhet III's third year when a new priestly phyle began on III *šmw* 17 in 1965 (–1964) (see chapter 12), indicating Amenemhet III's first year began in 1967 (–1966). This can be confirmed by a new moon from a *w3gy* feast of an unnamed king that fell on II *šmw* 9. The lunar table identifies the date as coming from the first year of Amenemhet III in 1967 BCE (–1966) (see chapter 13).

Ryholt notes that, "fragments of a crowning ritual of Amenemhet III ... in the presence of Senwosret III ... was later copied by Hatshepsut ... to legitimize herself (as co-regent with Thutmose III) which would suggest that the original concerned a genuine co-regency."<sup>35</sup> Ryholt also refers to "scarab and cylinder seals inscribed for both kings" which may have been made to commemorate a co-regency.<sup>36</sup> It is assumed that Amenemhet III began to reign on I *3ḥt* 1, New Year's Day, when he became co-regent at the beginning of Sesostri III's 20th regnal year.

How long was Sesostri III's reign, including his co-regency with Amenemhet III? The Turin Canon gives to Sesostri III 30 + *x* years (section 6.24). In 1990, the Egyptian Expedition of The Metropolitan Museum of Art led by Dieter Arnold found a dated "control note" in débris from Sesostri III's Dashur pyramid, which dated to a year 30 and the third month of summer, day 20 (III *šmw* 20).<sup>37</sup>

Josef Wegner notes the possible indication of a *sed*-festival on a lintel from the Montu Temple at Medamud showing "Sesostri III seated in the double Sed pavilion," and an "almost identical lintel from Bubastis showing Amenemhat III in the Sed pavilion."<sup>38</sup> The latter is more specific because it has the accompanying text, "*sp tpy ḥb-sd*, 'first occurrence of the Heb-Sed.'" Wegner also points out that D. Arnold found "A number of relief fragments from the South Temple [which] derive from scenes depicting Senwosret III celebrating the Sed-festival."<sup>39</sup> The "control note" and the *sed*-festival references, indicate that Sesostri III reigned at least 30 years.

Furthermore, Wegner discussed at length the evidence for a co-regent reign of Sesostri III (whom he calls Senwosret) with Amenemhet III, basing his main argument

<sup>34</sup> Ryholt, *Political Situation*, 212 n. 728.

<sup>35</sup> *Ibid.*, 212 n. 728.

<sup>36</sup> *Ibid.*, 212 n. 728. Ryholt criticized Detlef Franke's assertion that Hatshepsut's co-regency was "fictive" as stated in Franke's, "Zur Chronologie des Mittleren Reiches (12.-18. Dynastie); Teil 1: Die 12. Dynastie," *Orientalia* 57 (1988) 118. Karl Jansen-Winkel concurs with Franke ("Zu den Koregenzen der 12. Dynastie," *SAK* 24 (1997) 120. A refutation of this "fictional co-regency" appears later in the context of Hatshepsut's reign (18th Dynasty).

<sup>37</sup> F. Arnold, "New Evidence for the Length of the Reign of Senwosret III?" *GM* 129 (1992) 27-31. "Control notes" are "dockets written during the transportation of limestone blocks" (p. 27).

<sup>38</sup> J.W. Wegner, "The Nature and Chronology of the Senwosret III—Amenemhet III Regnal Succession: Some Considerations Based on New Evidence from the Mortuary Temple of Senwosret III at Abydos," *JNES* 55 (1996) 263.

<sup>39</sup> Wegner, "Nature and Chronology," 263 and n. 38 citing D. Arnold and A. Oppenheim, "Reexcavating the Pyramid Complex of Senwosret III at Dahshur," *KMT* 6/2 (1995), 54-55.

on a hieratic administrative note discovered at Abydos by the 1994 Pennsylvania–Yale Expedition.<sup>40</sup> This “control note” is dated to a year 39 of an unnamed king, but identified as belonging to Sesostris III because it was found in debris coming from his mortuary temple, and can be placed late in his reign.<sup>41</sup>

The damaged regnal year entry in the Turin Canon of 39 years plus  $x$  months and  $x$  days refers to his full reign. If we knew when Sesostris III died we could fill in those extra months and days of his 40th year. But, as Wegner remarks, “The regnal figure of ‘30 +  $x$ ’ years [of the Turin Canon] would exclude the possibility of a 41st regnal year.”<sup>42</sup>

Based on the evidence of a total reign of 39 years plus  $x$  months and days, Sesostris III must be attributed 19 sole-reign years and a 20-year co-regency with his son, Amenemhet III.<sup>43</sup> The 19 years provide the dates for his sole reign: 1986–1967 BCE.

Manetho’s list of the 12th Dynasty kings handed down through the writings of Africanus gives only eight years to a certain Lachares or Lamares.<sup>44</sup> This king is identified by scholars as Sesostris III because he is fourth in the list and follows a Sesostris, understood to refer to Sesostris II. The eight-year reign attributed to Sesostris III is obviously incorrect, as is the 48 years attributed to Sesostris II. Similarity of names may have led to errors in recording the regnal years of the kings, with Sesostris III, Amenemhet III, and Amenemhet IV all (incorrectly) attributed eight years by Africanus.

### Amenemhet III (Nimaatre)

The Turin Canon assigns Amenemhet III 40 +  $x$  years (section 6.25). Africanus gives Amenemhet III the name of Ameres and attributes eight years to him.<sup>45</sup> He is not mentioned in Eusebius and the Armenian versions. Taking the two periods together indicates a possible reign of 48 years, assuming 40 years has been dropped from Africanus.

The previous discussion has determined that the first year of Amenemhet III began on I 3 $ht$  1 in 1967 when he became co-regent with his father, Sesostris III, and that Amenemhet III was still king when his father died in his 39th regnal year in 1947. The 40 years of the Turin Canon (section 6.25) appears to be a rounding up of the king’s years. Amenemhet III was co-regent with his father for 20 years. How much longer did he reign? A first *sed*-festival for Amenemhet III is attested for his 30th regnal year as was the custom in the 12th Dynasty.<sup>46</sup> The lunar dates from the Illahun papyri account for the first 38 years of Amenemhet III’s reign (see chapter 13).

Apart from the 48 years mentioned above, Amenemhet III’s highest known date is a year 46, I 3 $ht$  22, found on a papyrus at Illahun.<sup>47</sup> A rock inscription at Konosso in

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<sup>40</sup> Ibid., 249-79.

<sup>41</sup> Ibid., 251-61.

<sup>42</sup> Ibid., 268.

<sup>43</sup> Greenberg’s proposal that Sesostris III reigned 39 *sole* years is contradicted by the lunar evidence and other arguments (Gary Greenberg, “Manetho’s Twelfth Dynasty and the Standard Chronology,” *JSSEA* 29 (2002, published in 2004).

<sup>44</sup> *Manetho*, 69-73.

<sup>45</sup> *Manetho*, 68-69.

<sup>46</sup> A limestone stela of Nebipusenwosret, who served under both Sesostris III and Amenemhet III mentions the latter’s *sed*-festival in its center register. See the stela online in the collection database search of the British Museum; Wegner, “Nature and Chronology,” 264.

<sup>47</sup> This is a badly torn and worn papyrus of account notes consisting of red and black lines on the recto and refers to year 46 of Amenemhet III. See <http://www.digitalegypt.ucl.ac.uk/lahun/uc32153.html>

Nubia equates a damaged regnal year with a number, 46, 47, or 48 with year one of Amenemhet IV.<sup>48</sup>

Further discussion shows that 47 years are required for Amenemhet III to bring the total years for the dynasty to 233 years (the 213 years lacking 20 years), thus Amenemhet III can be attributed one-year as co-regent with Amenemhet IV.<sup>49</sup> He may be attributed 47 full-reign years, the years 1967–1920 BCE.

#### **Amenemhet IV (Maakherure)**

The Turin Canon attributes to Amenemhet IV 9 years, 3 months, and 27 days (section 7.1).<sup>50</sup> Africanus attributes eight years to Ammenemes;<sup>51</sup> but is not mentioned by Eusebius or the Armenian version.

Amenemhet III seems to have had no male heir and chose a man of non-royal parentage but of high rank to be his successor, now known as Amenemhet IV.<sup>52</sup> Amenemhet IV's highest known year is his ninth from a Sinai inscription (122) with a possible 10th year in an Illahun papyri.<sup>53</sup> Amenemhet IV's reign of 9 years, 3 months, and 27 days would date to 1920–1911 BCE. He was succeeded by his half-sister or aunt, Sobeknofru.<sup>54</sup> There is no proof of a co-regency between the two.<sup>55</sup>

#### **Sobeknofru (Sobek-kare, also known as Sobekneferu or Neferusobek)**

The Turin Canon gives Sobeknofru 3 years, 10 months, and 24 days (section 7.2), which is consistent with Manetho's four years, given only by Africanus.<sup>56</sup>

Sobeknofru was the last monarch of the 12th Dynasty and reputed to be Egypt's first known queen. Monuments more often associate her with Amenemhet III than with Amenemhet IV. Ryholt notes that she never adopted the title of "Queen" or "King's sister," but only that of "King's daughter" intimating that she was the daughter of Amenemhet III. She was married to Amenemhet IV who may have been her brother.<sup>57</sup> Africanus calls her "Scemiophris" and describes her as the sister of Amenemhet IV. Assuming the years for Amenemhet III and IV are as given above, Sobeknefru's 3 years, 10 months, and 24 days date to the years 1911–1907 BCE.

#### **Total Regnal Years for the 12th Dynasty Kings**

The above analysis shows that the Turin Canon originally recorded the *full* reigns of each king. Some of its damaged numbers can be restored quite plausibly with the figures gained from other sources as shown in Table 23.4.

<sup>48</sup> "Amenemhat III," at [http://en.wikipedia.org/wiki/Amenemhat\\_III](http://en.wikipedia.org/wiki/Amenemhat_III)

<sup>49</sup> For further possible evidence of a co-regency, see Murnane, *Ancient Egyptian Co-regencies*, 13-20.

<sup>50</sup> His name begins a new column where fragment 72 is better preserved than column 6 and fragments 20 and 76 for the preceding kings of the 12th Dynasty.

<sup>51</sup> *Manetho*, 68-69. Ammenemes (Amenemhet IV) is preceded by two kings also given eight years by Africanus showing likely corruption of the figures.

<sup>52</sup> Ryholt recounts how Amenemhet IV came from a family that included a top official known as "the Overseer of Fields Ankhew." Amenemhet IV was apparently the uncle of Ankhew. Ankhew acted as a temple scribe during the reign of Sesostris III, and then as a retainer to Amenemhet III when he was a young prince. Thus, when Amenemhet IV came to the throne, Ankhew was already quite aged (Ryholt estimates about 78 years), and presumably his uncle was older still, though this is not certain (*Political Situation*, 211-12).

<sup>53</sup> Murnane, *Ancient Egyptian Co-regencies*, 14-15; Schneider, "Middle Kingdom," 173.

<sup>54</sup> See "Amenemhat IV," at [http://en.wikipedia.org/wiki/Amenemhat\\_IV](http://en.wikipedia.org/wiki/Amenemhat_IV)

<sup>55</sup> Murnane, *Ancient Egyptian Co-regencies*, 20-23.

<sup>56</sup> *Manetho*, 68-69.

<sup>57</sup> Ryholt, *Political Situation*, 213, 294.

**Table 23.4: Total regnal years of the 12th Dynasty kings**

Turin Canon ref.	Kings	Turin Canon	Total years from other sources
6.20	Amenemhet I	[2]9 + [x]	29 yr, 2 mo, 7 d
6.21	Sesostris I	45 + [x]	46
6.22	Amenemhet II	30 + [x]	38
6.23	Sesostris II	19 + [x]	19 yr, 7 mo, 4 d
6.24	Sesostris III	30 + [x]	39
6.25	Amenemhet III	40 + [x]	48
7.1	Amenemhet IV	9 yr, 3 mo, 27 d	9 yr, 3 mo, 27 d
7.2	Sobeknofru	3 yr, 10 mo, 24 d	3 yr, 10 mo, 24 d
<b>7.3</b>	<b>Summation total</b>	<b>213 yr, 1 mo, 17 d (actually now 206 yrs)</b>	<b>233 yr, 0 mo, 2 d</b>

x = an uncertain number

The present numbers of the Turin Canon add up only to 206 years, not the amended total of 233 years. Twenty of the 27 years may already have been lost from the reign of Amenemhet I and another seven from one of the other kings. It is evident that a discrepancy in the figures has arisen after the original total was recorded.

*Manetho's* totals do not fare any better. The reign of Amenemhet with his 29 years is not included in the total, either because of damage to Manetho's list or because he was not considered part of the 12th Dynasty. Without his 29 years, the dynasty should total about 204 years. The stated total for the dynasty given by Africanus is 160 years, and 245 years given by Eusebius and the Armenian. Yet, their individual reign lengths add up to just 182 years. The 22 years difference between 160 and 182 can be accounted for because in Africanus the last three kings add up to only 20 years; whereas, in the two other versions, they amount to 42 years as stated. The actual figures for the three kings are 48 years for Amenemhet III; 9 years, 3 months, and 27 days for Amenemhet IV; and 3 years, 10 months, and 24 days for Sobeknofru—amounting to approximately 61 years. The 42 years falls short by 19 years. Even adding 19 years to 182 to equal 201 years, the three versions lack about three years. A total of 233 years to the dynasty falls short by 32 years. Reinstating Amenemhet I's reign by 29 years still leaves a shortfall of about three years. The discrepancy may be the 48 years for Sesostris II and 8 years to Sesostris III, amounting to about 56 years. The correct figure for Sesostris II is 19 years, 7 months, and 4 days; and for Sesostris III about 39 years—a difference of about two or three years. Reinstating the correct years to Sesostris II and Sesostris III can make up the shortfall to give 233 years to the dynasty.

### Sole-reign Years

Reckoning on 233 years for the total reign provides the figure of 192 years, 2 months, and 21 days to the sole-reign years with the total co-regent periods amounting to 40 years, 9 months, and 11 days (see Table 23.5, following page).



**Table 23.5: 12th Dynasty kings' sole-reign and co-regency years**

Kings	Total reign	Co-regent period	Years of sole reign	Dates BCE (sole reign)	Sothic and lunar dates
Amenemhet I	29 yr, 2 mo, 7 d	9 yr, 2 mo, 7 d	20	2099–2079	
Sesostris I	45 yr, [x] mo	4 yr	42	2079–2037	Yr 5 Sothic rising on III <i>prt</i> 20 in 2079
Amenemhet II	38 yr, [x] mo	6 yr	32	2037–2005	
Sesostris II	19 yr, 7 mo, 4 d	7 mo, 4 d	19	2005–1986	
Sesostris III	39 yr, [x] mo	20 yr	19	1986–1967	Yr 7 Sothic rising on IV <i>prt</i> 16 in 1980; Lunar dates from yrs 5–18
Amenemhet III	48 yr, [x] mo	1 yr	47	1967–1920	Lunar dates from yrs 1–38
Amenemhet IV	9 yr, 3 mo, 27 d	--	9 yr, 3 mo, 27 d	1920–1911	
Sobeknofru	3 yr, 10 mo, 24 d	--	3 yr, 10 mo, 24 d	1911–1907	
<b>Total</b>	<b>232yrs + mths and d = 233 yrs</b>	<b>40 yr, 9 mo, 11 d</b>	<b>192 yr, 2 mo, 21 d</b>	<b>2099–1907</b>	

x = an uncertain number

Since the sole-reign years of the first six kings were the periods from I *3ht* 1 at their accession to their successor's accession also on I *3ht* 1, the sole-reign years consist of only years and not additional months and days. However, because neither Amenemhet IV nor Sobeknofru had a co-regency, months and days are allocated to their years. Altogether, the 12th Dynasty lasted from 2099 BCE to 1907 BCE for a period of approximately 233 years.

Before leaving the 12th Dynasty, I will comment in the next chapter on the calendar of the *Hekanakhte Letters* that gives us the date for Sesostris I's fifth regnal year.



## Chapter 24

### Reading Hekanakhte's Letters

The famous Hekanakhte Letters derive from Sesostris I's fifth regnal year in 2075 BCE and contain the names of several months associated with seasonal activities. They allow the opportunity to determine whether the calendar used in the early 12th Dynasty by Hekanakhte, a priest and landowner living at Thebes, was the calendar of Upper Egypt or Lower Egypt. The letters also provide a date for a Sothic rising cited in the previous chapter.

The Hekanakhte papyri were discovered at Thebes in 1921–1922 by an Egyptian expedition from the New York Metropolitan Museum of Art. The papers now form part of the gallery's permanent Egyptian collection. The Hekanakhte Letters were published by T.G.H. James in 1962.<sup>1</sup>

The letters were found together, unopened, in an intact tomb belonging to a certain *Msh* (Meseh), consisting “of five complete letters, four complete accounts, and four or five fragments ... Each of the complete documents was found folded; two were tied with string and sealed with a lump of clay impressed with the same stamp. The papyri are dated to the early Middle Kingdom—i.e. to about 2000 B.C.”<sup>2</sup>

James thought the materials probably come from the end of the 11th Dynasty. Dorothea Arnold's more recent analysis based on the type of pottery jars found with the burial led her to conclude that Meseh should be dated to the early years of the reign of Sesostris I, because the fragile nature of the papyri, found in pristine condition, could not have lasted above ground from the time of the late 11th Dynasty, or the early years of the reign of Amenemhet I. They must have been deposited in the tomb soon after they were written.<sup>3</sup>

The letters were written by Hekanakhte and an associate, a lady called Sitnebsekhtu (otherwise spelled Zat-Neb-sekhtu), apparently in Memphis, and assigned to Hekanakhte's courier, Za-Hathor, to be taken to people in different locations south of Thebes. However, for reasons that can only be speculated (like robbery of other items the courier carried), the letters never reached their destination and were discarded in the tomb.<sup>4</sup>

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<sup>1</sup> T.G.H. James, *The Hekanakhte Papers and other Early Middle Kingdom Documents* (New York: Publications of the Metropolitan Museum of Art, Egyptian Expedition, Volume 19, 1962).

<sup>2</sup> M. Silver, “Review of James P. Allen, *The Heqanakht Papyri* (New York: Metropolitan Museum of Art: Yale University Press, 2002.” EH.Net Economic History Services (Nov. 9 2004); [http://eh.net/book\\_reviews/heqanakht-papyri](http://eh.net/book_reviews/heqanakht-papyri)

<sup>3</sup> D. Arnold, “Amenemhet I and the Early Twelfth Dynasty at Thebes,” *Metropolitan Museum Journal* 26 (1991): 36-37. Includes photo of a letter from Hekanakhte to Herunefer, overseer of Lower Egypt (fig. 55), and coffin of Meseh as found in his chamber; in 1921–1922 (fig. 56); A.J. Spalinger, “Calendrical Evidence and Hekanakhte,” *ZÄS* 123 (1996) 86.

<sup>4</sup> H. Goedicke, *Studies in the Hekanakhte Papers*, Baltimore, MD: Halgo (1984) 3-7.

### Household Instructions in an Agricultural Setting

Hekanakhte identifies himself as a funerary priest, but the letters concern his land-holding in the south.<sup>5</sup> He describes his intention to stay in the north of Egypt during *šmw* (Letter II, line 29). He gives directions to his household in the south (presumed to be in the Theban area) for issuing rations during the time of scarcity before the harvest could be gathered. Two regnal years are mentioned, years five and eight,<sup>6</sup> but not the name of the king concerned. The reference to year eight is about “advances due in the future.” The letters are all written at approximately the same time,<sup>7</sup> and indicate a fifth regnal year.

Anthony Spalinger gives the following calendrical references from Hekanakte’s Letters.<sup>8</sup>

- (1) “Have him bring me 3 *h3r* [*khar*] of wheat together with whatever northern barley you are able but (only) what is in excess of four [*sic* your?] food requirements until you reach *šmw*” (Letter I, verso line 8).
- (2) The phrase of Hekanakhte referring to this sojourn in the north: “I will spend *šmw* here” (Letter II, line 29).
- (3) “One shall begin to issue these rations about which I have written you on the 1st of *Hnt-hty-prty* for the 1st of the month for/of *m3wt*” (Letter II, lines 31–32).
- (4) “Regnal year 5, 2 *smw* day 9” (Letter V, line 1). This note occurs at the beginning [of the account].
- (5) “Regnal year 8” (Letter V, line 34).
- (6) “What is with Sitnebsekhtu being the balance of the yarn on the first day of *Šf-bdt*” (Letter VII, lines 9–11).
- (7) “*Nfr-sb3w* begins with the rations in *Rkh-...*” (Letter VII, line 15).”

### Which Months are Referred To?

What numerical month-position in the year do the references to *hnt-hty-prty* (in Letter II), *šf-bdt*, and *rkh-...* (in Letter VII) refer to, and what is the month-name for the date of “2 *šmw* day 9” (in Letter V)?

Spalinger’s analysis indicates to him that the household has to rely on rations while waiting for the recently planted seed to produce their crops. According to (3) above, a letter was written about the rations of the first day of *hnt-hty-prty* and they were to be issued on the first of the month for/of *m3wt*. Unfortunately, no month of this name is so far known, and the word *m3wt* occurs nowhere else; thus, its meaning is obscure. According to Goedicke, it has some connection to agriculture, and he suggests it may be the old name of the month Renenutet (later Pharmouthi), the eighth month of the year.<sup>9</sup> (Goedicke means IV *pri* in the civil calendar as in the Greco–Roman calendar; that is, the calendar of Lower Egypt). Spalinger is undecided about the interpretation of *m3wt*.<sup>10</sup>

On first analysis Spalinger assumes that *hnt-hty-prty* is the month of II *šmw* when Hekanakhte wrote his letter, and that rations were to be distributed on the first day of the next month, the month apparently named *m3wt*—taking up Goedicke’s suggestion that *m3wt* was the name of a month.<sup>11</sup> Spalinger asks, “What month does Hekanakhte refer

<sup>5</sup> Ibid., 11–12.

<sup>6</sup> Goedicke notes that the hieratic writing could be 8, but prefers to read the number as 6 because it does away with the disjunction between 5 and 8, and makes for an interrelated group of accounts (*Hekanakhte Papers*, 8, 93).

<sup>7</sup> Ibid., 8.

<sup>8</sup> Spalinger, “Calendrical Evidence,” 89–90.

<sup>9</sup> Goedicke, *Hekanakhte Papers*, 30–31.

<sup>10</sup> Spalinger, “Calendrical Evidence,” 92–93.

<sup>11</sup> Ibid., 93.

to? Given that there are only two remaining, 3 and 4 *šmw*, and that the last month was overtly named after the festival of *wp rnpt*, itself following on the first of Thoth in the next year (I *3ht* 1), I would suspect that 3 *šmw* (the old *Ipt-ḥmt*) is the indication."<sup>12</sup> On this understanding Spalinger tables a scenario in which II *šmw*, III *šmw* and IV *šmw* equate to the Julian calendar months of 17 September to 28th November in the year 1939 BCE.<sup>13</sup>

But he is not happy with it. He writes:

I think that the reference to *Ḥnt-ḥty-prty* fits better with the next month of 3 *šmw* than the following, since the 29th of October virtually concludes the basin drying-out phase as well as the commencement of sowing. Further support for this can be seen in lines 4–5 of the same letter (No. II) where Hekanakhte informs his mother Ipi as well as Hetepet that, owing to the inundation, rations [*sic* rations] were established for his household. In addition, if we take to heart the comment in line 29 of the same letter, then Hekanakhte himself would plan to return to the south around the end of November or the beginning of December ... planning to be back at his homestead in mid-December, at a time when the crops were growing into their maturity but still were quite short from being ripe for reaping.<sup>14</sup>

### Upper Egypt Calendar?

Spalinger's preference for *Ḥnt-ḥty-prty* being equated with III *šmw* and not II *šmw* is important for the identification of the calendar used. If *Ḥnt-ḥty-prty* is III *šmw* and the seventh month of the civil year, then *wp rnpt* and not *thy* (Thoth) was the first month. Our previous analysis led to the conclusion that *wp rnpt* was the first month of the calendar of Upper Egypt and only became the last month along with the name Re Horakhty after the merging of the calendars of Upper and Lower Egypt evident in the 18th–20th Dynasties.

*Wp rnpt* was still in *first* position as late as the early 18th Dynasty as shown in the Ebers calendar papyrus from the reign of Amenhotep I. The use of a calendar beginning with *wp rnpt* in the 12th Dynasty is demonstrated previously in the Illahun papyri 10069, and in many other sources adduced in chapter 8 and tabled in Tables 8.2 and 8.3. In a calendar having *wp rnpt* as the first month *rkh-wr* and *rkh-nds* appear as the seventh and eighth months of the year, or III and IV *prt*.

Since Hekanakhte was writing to his relatives and tenants in Upper Egypt, it is not surprising that he would use the calendar of Upper Egypt. The calendar, of course, was also used to date the heliacal rising of Sothis, the appearance of which after 70 days of invisibility, heralded the new solar/agricultural year.

The first month of the solar/agricultural year appears to be the month of *rkh wr*. The translation of Letter VII line 15 given by Spalinger reads, "*Nfr-sbw* [Nefer-sebau] begins with the rations in *rkh-..*".<sup>15</sup> To this Goedicke adds, "when the head of the river had come down." He interprets this to refer to the second *rkh-* month, *rkh-nds*, when the water was "prevailing,"<sup>16</sup> but Spalinger disagrees and understands the words to mean, "a time during the lowest ebb of the river,"<sup>17</sup> that is, the month of *rkh-wr*, when the inundation was expected. Spalinger understood the end of the submersion period to

<sup>12</sup> Ibid.

<sup>13</sup> Ibid.

<sup>14</sup> Ibid.

<sup>15</sup> Ibid., 90.

<sup>16</sup> Goedicke, *Hekanakhte Papers*, 104.

<sup>17</sup> Spalinger, "Calendrical Evidence," 94.

correspond to 10–30 October in the Gregorian calendar.<sup>18</sup> In the Julian calendar it coincides with November.

Assuming that Hekanakhte based his comments on a calendar that began with *wp rnpt*, *hnt-hty-prty* would be III *šmw*—see column three of Table 24.1—when the letter directing the distribution of rations was written. Column three relates the solar/agricultural year to the heliacal rising of Sothis on III *prt* 20, the calendar of Upper Egypt, assumed to begin with the month of *wp rnpt*.

**Table 24.1: The Calendar Used by Hekanakhte**

Months of civil year	Corresponding to agricultural seasons	Months of solar/agricultural year beginning with heliacal rising of Sothis on III <i>prt</i> 20 at Thebes corresponding to Julian months
<i>wp rnpt</i>	<i>3ht</i> = inundation	III <i>prt</i> 20 ( <i>rkh wr</i> ) = July 13 to August 12
<i>thy</i>	<i>3ht</i> = inundation	IV <i>prt</i> 20 ( <i>rkh nds</i> ) = August/Sept.
<i>mnht</i>	<i>3ht</i> = inundation	I <i>šmw</i> 20 ( <i>rnwt</i> ) = Sept./Oct.
<i>hwt hr</i>	<i>3ht</i> = inundation	II <i>šmw</i> 20 ( <i>hnsu</i> ) = Oct./Nov.
<i>k3 hr k3</i>	<i>Prt</i> = sowing and planting	III <i>šmw</i> 20 ( <i>hnt-hty-prty</i> ) = Nov./Dec.
<i>šf-bdt</i>	<i>Prt</i> = sowing and planting	IV <i>šmw</i> 20 ( <i>ipt-hmt</i> ) = Dec./Jan.
<i>rkh wr</i>	<i>Prt</i> = sowing and planting	I <i>3ht</i> 20 ( <i>wp rnpt</i> ) = Jan./Feb.
<i>rkh nds</i>	<i>Prt</i> = sowing and planting	II <i>3ht</i> 20 ( <i>thy</i> ) = Feb./March
<i>Rnwt</i>	<i>Šmw</i> = harvesting	III <i>3ht</i> 20 ( <i>mnht</i> ) = March/April
<i>hnsu</i>	<i>Šmw</i> = harvesting	IV <i>3ht</i> 20 ( <i>hwt hr</i> ) = April/May
<i>hnt-hty-prty</i>	<i>Šmw</i> = harvesting	I <i>prt</i> 20 ( <i>k3 hr k3</i> ) = May/June
<i>ipt-hmt</i>	<i>Šmw</i> = harvesting	II <i>prt</i> 20 ( <i>šf-bdt</i> ) = June/July

Letter VII refers to the preceding Letter V, headed “Year 5, 2nd month of *šmw*, day 9,” which would then refer to II *šmw*, the last month of the inundation season (compare column three with column two). It lists quantities of grains turned over to Merisu, cattle to be transferred to Za-neb-niut, and feed for the bulls to be distributed to his tenants, Za-Hathor, Merisu, and Za-neb-niut.<sup>19</sup> In the calendar in Table 24.1 *hnt-hty-prty* is the month of III *šmw* (see column three), and corresponds to the beginning of the season of sowing, that is *prt*, when the floods have receded, and when food was scarce before the next harvest could be gathered. Goedicke indicates that the word *m3wt* “seems connected with ‘the new fields’, i.e. the next agricultural year.”<sup>20</sup>

On that scenario, *m3wt* would be the last month (if that is its correct interpretation) of the civil year and the second month of *prt*; that is, of the sowing and planting season. If *hnt-hty-prty* is III *šmw*, the month of *šf-bdt* referred to in Letter VII lines 9–11 must refer to II *prt*. And *rkh...* in Letter VII line 15 must refer to *rkh wr*; that is, III *prt*, the first month of the solar/agricultural year. It was the month of the heliacal rising.

### Fifth Year of Sesostri I

The date for the heliacal rising of Sothis in the seventh year of Sesostri III has earlier been shown to fall on IV *prt* 17 in 1980 BCE as observed at Illahun. A count can be made backwards from the seventh year of Sesostri III in 1980 BCE, to the fifth year of Sesostri I, to identify the month in the calendar of Upper Egypt that coincided with the heliacal rising of Sothis, which month it applied to, and specifically whether the year begins with III *prt*; that is, *rkh wr*.

Sesostri I reigned 42 years (plus nearly four as co-regent) from the years 2079–2037 BCE making his fifth year, when the Hekanakhte Letters were written, fall in 2075 BCE.

<sup>18</sup> Ibid., 90.

<sup>19</sup> Goedicke, *Hekanakhte Papers*, 91.

<sup>20</sup> Ibid., 30.

The time-span from the fifth year of Sesostri I in 2075 BCE to the seventh year of Sesostri III in 1980 BCE amounts to 95 years, which is to  $23\frac{3}{4}$  days in the Sothic cycle (because Sothis takes four years to move one day). Reckoning 24 days before IV *prt* 17 will yield III *prt* 23 when Sothis rose heliacally at *Illahun*.

### Sothic Rising at Thebes

However, Hekanakhte, whose land holdings and relatives were located in the *south* would have used the calendar relevant to the seasonal cycle of Upper Egypt. The heliacal rising of Sothis is seen about three and a half days earlier at Thebes than at *Illahun* in any given year. Therefore, in 2075 the Sothic rising at *Thebes* fell on III *prt* 20 or 21. According to the HELIAC program, Sothis rose heliacally on 11, 12, or 13 July (jul.) in 2075 BCE (using an altitude of 3°). The chronology can be checked using Casperson's lunar table for the year -2074 (2075 BCE) assumed here to be Sesostri I's fifth year.

**Table 24.2: Sesostri I's fifth year -2074 (new moon listing from -2074)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-2074	6	30	-2074	6	13	707	6	8	1	11:15	5:12	204	5:12	100	5:12	21
-2074	7	30	-2074	7	13	707	7	8	3	3:42	5:13	179	5:13	89	5:14	3
-2074	8	30	-2074	8	11	707	8	7	4	20:42	5:27	253	5:27	160	5:28	67

DoW = day of week; ToD = time of day.

The table uses the calendar of Lower Egypt, but converted to the table of Upper Egypt *numbered* one month earlier, it shows that IV *prt* 8 (otherwise 7 8) corresponds to 30 July. III *prt* 20 would fall 18 days before IV *prt* 8, which corresponds to 13 July in 2075 BCE. Thus, the date assigned to Sesostri I's fifth year concurs with the proposed date for the heliacal rising of Sothis seen at Thebes in 2075 BCE.

### Important Deductions

Several important deductions result from this discussion. Firstly, Hekanakhte used the calendar of Upper Egypt giving further evidence for its existence.

Secondly, it supports the proposal that Sesostri II (the grandson of Sesostri I) reigned 19 years (plus 7 months and 4 days) as given by the Turin King-list, and concurs with the Sothic rising on 13 July in 2075 BCE as given independently by the HELIAC program.

Thirdly, Spalinger's conclusion that the Hekanakhte Letters appear to infer that the month of *hnt-hty-prty* was III *šmw* and not II *šmw* as in the calendar of Lower Egypt, is borne out by the above analysis, but for the year 2075 BCE not 1939 BCE.

Fourthly, a calendar having the rising of Sothis on III *prt* 20 corresponds to the beginning of a new solar or agricultural year in the month of *rkḥ wr*, when the inundation of the Nile was soon to occur and already food had been harvested and rationed out before the harvest would come in again in a further eight months' time (see Table 24.1). Hekanakhte said in his letter that he would stay in the north during *šmw* (Letter II, line 29). If he meant the four months of *šmw*, then according to the calendar this period corresponds to the third to sixth months of the agricultural/solar year, being the last two months of inundation and the first two months of sowing/planting. This indicates that Hekanakhte is intending to be back at his estate in the south of Egypt in the month of *wp rnpt*, the first month of the *civil* year, which may have been a significant time for him either as a funerary priest<sup>21</sup> or land owner. By *wp rnpt*, corresponding to III *prt*, the crops

<sup>21</sup> *Ibid.*, 8.

should have been about two months from the beginning of the harvest. The first month of seasonal *šmw* or harvest coincided with the civil month of III *3ḥt*, and four months later harvesting would have finished in *'ipt-ḥmt* (Epiphi) or IV *šmw*, the last month of the solar/agricultural year, (but equated with the month of II *pṛt* in the civil calendar, known as the month of *šf-bdt*).

Fifthly, the reference to the lady Sitnebsekhtu concerning the payment for the balance of the yarn on the first day of the month of *šf-bdt* (Letter VII, lines 9–11) apparently refers, according to Goedicke, to the date when the account was established.<sup>22</sup> Spalinger notes that the balance was drawn up on day 1 of *šf-bdt*.<sup>23</sup> That account left one month remaining before the next year began in *rkḥ wr*.

The analysis of the dated citations in the Hekanakhte Letters proposes that Hekanakhte used the calendar of Upper Egypt with *wp rnpt* as its first month, but due to the lag between the solar and civil calendar, the “first” month at the time of Sesostri I in 2075 BCE was *rkḥ wr*.

### **Likeness to the Ebers Calendar**

The calendar derived from the Hekanakhte Letters has the same function as proposed for the Ebers calendar. Both show a calendar beginning with the month of *wp rnpt* and ending with *'ipt-ḥmt*. The remaining columns equate the months of the solar year based on the date for the rising of Sothis with the civil calendar giving the designations for the corresponding Egyptian seasons. Knowing when the seasons of inundation, sowing, and harvest occurred in the year that was no longer in accord with the months of the civil calendar would have been useful to the ancient Egyptians when making domestic and agricultural transactions like those portrayed in these letters.

The discussion about the Hekanakhte Letters concludes the 12th Dynasty chronology. It lasted approximately 192 years, from 2099 to 1907 BCE. The latter date commences the Second Intermediate Period.

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<sup>22</sup> Ibid., 109.

<sup>23</sup> Spalinger, “Calendrical Evidence,” 94.

## Chapter 25

### Reporting on the 13th–17th Dynasties

The death of Sobeknofru ended the 12th Dynasty. The era known as the Second Intermediate Period began, comprising the 13th–17th Dynasties. This period lacks the abundance of inscriptions and documentation of the prior 12th Dynasty, and from the 18th Dynasty forwards into the New Kingdom and the Third Intermediate Period.

#### The Boundaries of the Second Intermediate Period

The overall length of the Second Intermediate Period can be determined by the time-span from the last date of the 12th Dynasty in 1907 BCE to the first date of the 18th Dynasty. Previous and forthcoming discussion of lunar and Sothic dates determines that the 18th Dynasty began in 1676 BCE. Therefore, the Second Intermediate Period amounted to a period of 231 years. This is near to the general framework estimated by Ryholt, which he says, “adds up to an absolute minimum of 234 years,” but he opts for a “high” date of 253 years.<sup>1</sup>

Having a beginning to the 18th Dynasty in 1676 BCE established by Sothic records, but with a paucity of firm data for the span of the Second Intermediate Period, the discussion enters a period where no certainty exists except at its beginning and end. The Turin List is a jigsaw with many pieces missing.

#### Turin Canon and *Manetho* Record Different Lineages

The Turin Canon and *Manetho* offer very divergent accounts for this period. Furthermore, the monumental evidence does not validate *Manetho*’s dynastic record. To quote W.A. Ward:

“It is impossible to equate the names preserved in the various recensions of *Manetho* with these actually known from the monuments ... It is clear that most of the names preserved in this tradition are too corrupted to have any value ... The present discussion will therefore ignore *Manetho* as being unreliable.”<sup>2</sup>

A comparison of the Turin Canon record with *Manetho*’s record from Menes as first king of the 1st Dynasty, down to Neferirkare as the last king of the 8th Dynasty (that is, Turin Canon’s section 3.11–5.15), also rendered the opinion that the kings noted by the Turin Canon were different from those noted by *Manetho*, both in their names and their given regnal years. That is also the situation for the following section of the Turin Canon at 5.18–6.10, supposedly the 9th and 10th Dynasties, for which *Manetho* has given only the name of the first king of the 9th Dynasty, a certain Achthoes. *Manetho*

<sup>1</sup> K. Ryholt, *The Political Situation in Egypt during the Second Intermediate Period c. 1800–1550 B.C.* (Carsten Niebuhr Institute of Near Eastern Studies Publications 20; Copenhagen: University of Copenhagen and Museum Tusulanum Press, 1997) 185.

<sup>2</sup> W.A. Ward, “Royal-Name Scarabs,” *Studies on Scarab Seals. Vol. II. Scarab Seals and their Contribution to History in the Early Second Millennium BC* (ed. O. Tufnell; Warminster: Aris and Philips, 1984) 162; cited by T. Schneider, “Middle Kingdom and the Second Intermediate Period,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 193.

gives to the 9th Dynasty, probably 109 years from a corrupt 409, and 185 years to the 10th Dynasty for a total of 294 years; whereas our analysis of the period ascertained that the Turin Canon once recorded 175 years for 18 kings (section 6.10).

On the other hand, the Turin Canon at section 6.11–7.3 cites the same kings as *Manetho* for the 11th and 12th Dynasties.

The difference between *Manetho*'s records for the 13th–17th Dynasties, and those of the Turin Canon and the monuments, forces the conclusion that once again *Manetho* is not recording the same dynasties or kings as the Turin Canon known from the monuments. A summary of the years afforded to the respective dynasties by *Manetho* appears below in Table 25.1.

**Table 25.1: *Manetho*'s 13th–17th Dynasties**

Ref	No of kings	Years
Dyn. 13	60 (of Diospolis, i.e. Thebes)	453
Dyn. 14	76 (of Xoïs)	184 (var. 484)
Dyn. 15	6 ("shepherd kings")	284 (var. 250)
Dyn. 16	32 ("shepherd kings") or 5 kings of Thebes	518 (var. 190)
Dyn. 17	4 ("shepherd kings")	103 (var. includes Theban kings 151 yr)
<b>Total</b>	<b>178 kings</b>	<b>1,214 years</b>

Dyn. = Dynasty; var. = variant.

### ***Manetho* and Lower Egypt?**

Obviously the number of kings and total years afforded the dynasties by *Manetho* cannot be indicative of consecutive dynasties. Ryholt has a model in which the 13th and 14th Dynasties succeeded the 12th Dynasty to run concurrently. They, in turn, were succeeded by the 15th and 16th Dynasties, with the 17th succeeding the 16th prior to the collapse of the 15th Dynasty; thus the 15th Dynasty overlapped both the 16th and the 17th Dynasties before the beginning of the 18th Dynasty.<sup>3</sup>

Apart from the 13th Dynasty, which *Manetho* says was located in Thebes, the 14th–17th Dynasties are portrayed by *Manetho* as situated in the Delta or lower region of Egypt. During most of the Second Intermediate Period, Egypt was ruled by Theban kings in Upper Egypt and Hyksos kings in Lower Egypt—perhaps with the latter recorded by *Manetho*. This is demonstrated when we come to discuss the 18th Dynasty given by *Manetho*, which is at odds with the kings of the monumental records.

### **Turin Canon and Upper Egypt?**

It appears that the Turin Canon agrees with monuments that record the ruling kings of Upper Egypt. Observation of the preceding dynasties, confirmed by lunar and solar dates, affirms that the Turin Canon provides a consecutive record of its kings. This practice can be assumed to continue to the end of the list,<sup>4</sup> though the end of the existing papyrus has been cut away in antiquity.<sup>5</sup>

Ryholt gives a number of proposed summations and headings for the Turin Canon linking them to *Manetho*'s dynasties.<sup>6</sup> A heading for the 13th Dynasty following the summation for the 12th Dynasty appears at section 7.4. Ryholt suggests that a summation came at section 8.28(?). At this point, Ryholt's column numbering becomes the same as Gardiner's. What would be column nine in Ryholt's new numbering (because of the insertion of a column between columns 1 and 2) reverts to column eight. This makes for a long period between section 7.4 and section 8.28. Between the first

<sup>3</sup> Ryholt, *Political Situation*, 5-6, table 1.

<sup>4</sup> Idem, "The Turin King-List," *Ä und L* 14 (2004) 137-38.

<sup>5</sup> Ibid., 138, 140.

<sup>6</sup> Ibid., 146 table 4.



section 7.4 (section 6.4 in Gardiner’s numbering) and the second section 7.4 there are 26 names.

For the 14th Dynasty, Ryholt does not propose a line for a heading but suggests that a summation could have appeared around section 10.21. For the 15th Dynasty, Ryholt proposes a heading at ca. section 10.22 and a summation and heading at ca. section 10.29–10.30. The 16th Dynasty follows at ca. section 10.30 with a summation at section 11.15. Ryholt positions an unidentified dynasty at section 11.16–11.31 (end of papyrus),<sup>7</sup> presumably representing the 17th Dynasty.

Of the summations, only that at section 10.21, assumed by Ryholt to be referring to the 14th Dynasty, but referred to by Schneider as the 15th Dynasty,<sup>8</sup> has preserved part of its total:  $100 + x$  years. In 1997, Ryholt had suggested 108 years as the reading, but later changed his mind thinking it was possibly more like 140 years.<sup>9</sup> Because of lacunae, it is not clear whether this  $100 + x$  years refers to the preceding seven kings (an earlier summation being at section 10.13) with existing reign lengths for unknown kings of three years (section 10.14), eight years plus three [months] (section 10.15), and 40 years plus (section 10.17), or whether it refers to more than one section.

It is clear that the period from section 7.4 (following the 12th Dynasty) to section 10.21 in the Turin Canon lasted considerably more than 100 years. A further seven kings appear at section 10.23–10.29 with a summation at section 10.30 with names and regnal years lost (except for two partial names: Zeket[...] at section 10.25 and Ar[...] at section 10.26). Another 15 entries follows at 11.1–11.15 (there are lines for only 14 kings), with a summation of [...]5 kings. These kings of the 16th Dynasty beginning in column 11 have a better preservation of names and regnal years than the preceding kings of the 13th–15th Dynasties. Schneider estimated that the 15 kings cover 75–100 years and the 17th Dynasty kings about 15 years.<sup>10</sup> Ryholt estimated that the 17th Dynasty lasted about 31 years.<sup>11</sup>

The Turin Canon provides us with the information for Table 25.2 for the kings of the 16th Dynasty and the first two kings of the 17th Dynasty, at which point the papyrus has been cut off.

**Table 25.2: Kings of the 16th Dynasty and the first two of the 17th Dynasty**

Turin Canon ref.	Known as	King	Turin Canon regnal years
11.1	Rahotep	Sekhemrewahkhaw	3
11.2	Sobekemsaf I	Sekhemrewadjkhaw	16
11.3	Sobekemsaf II	Sekhemreshedtawy	1[...]
11.4	Mentuhotep VII	Sewadjjenre/Seankhenre	1[ ]
11.5	Nebiriaw I	Sewadjjenre?	29 (?)
11.6	Nebiriaw II		lost
11.7	Semenenre		lost
11.8	Seweserenre	Bebiankh	12
11.9		Sekhemre Shedwaset	lost
11.10	Intef/Inyotef VI	Sekhemrewepmaat	lost
11.11	Intef/Inyotef VII	Nebkheperre	lost
11.12	Intef VIII	Sekhemre-Herhermaat	lost
11.13	unknown	lost	lost
11.14	Rahotep	Sekhemre-wahkhaw	lost
11.15	summation		[ ] 5 kings
11.16		Weserenre	
11.17	Senwosret IV	Seneferibre	

<sup>7</sup> Ibid., 140, table 3.

<sup>8</sup> Schneider, “Middle Kingdom,” 194.

<sup>9</sup> Ryholt, *Political Situation*, 118 cited by Schneider, “Middle Kingdom,” 194 n. 126.

<sup>10</sup> Schneider, “Middle Kingdom,” 192.

<sup>11</sup> Ryholt, *Political Situation*, 203–204.

### The 17th Dynasty

The 13th–17th Dynasties await further clarification.<sup>12</sup> The conclusions of Schneider and Ryholt would appear to be reconcilable with the 231 years proposed for the 17th Dynasty in this chronology. Of course, the dates are different. Schneider writes: “A conclusive judgment about the length of the SIP still needs further evidence.”<sup>13</sup>

Scholars continue to debate the order of the kings known to have reigned during the 17th Dynasty (see Table 25.3). Ryholt and Aidan Dodson position Sobekemsaf II Sekhemrewadjkhaw between Antef VIII Sekhemre-Heruhirmaat and Senakhtenre Ahmose. But other scholars, such as Daniel Polz, prefer to place him after Sobekemsaf I Sekhemreshedtawy, presumed to be his father.<sup>14</sup> Using the latter position, the order and regnal years of the kings is proposed, as tabled below, collated from recent writings as noted.

**Table 25.3 Partial list of 17th Dynasty kings—incomplete years**

King	Regnal years estimated	approx. dates BCE
Rahotep Sekhemrewahkhaw	4	1707–1703
Sobekemsaf I Sekhemrewadjkhaw	7	1703–1696
Sobekemsaf II Sekhemreshedtawy	3	1696–1693
Intef VI Sekhemrewepmaat	2	1693–1691
Intef VII Nebkheperre	5	1691–1686
Intef VIII Sekhemre-Heruhirmaat	0	1686
Senakhtenre Ahmose	1	1686–1685
SeqenenreTao	4	1685–1681
Kamose	5	1681–1676
<b>Total</b>	<b>31 years</b>	

Most scholars understand that Rahotep Sekhemrewahkhaw was the first king of the 17th Dynasty. Ryholt attributes to him an estimated four regnal years.<sup>15</sup> His name appears in the Karnak King-list as no. 54. His predecessor is unknown, but Sobekemsaf I Sekhemrewadjkhaw is thought to be his son. An inscription dates to his seventh regnal year.<sup>16</sup> Sobekemsaf I had a son named Sobekemsaf, and he is presumed to be Sobekemsaf II Sekhemreshedtawy.

An inscription on a door jamb built by Intef Nebkheperre found on a 17th Dynasty temple at Gebel Antef on the Luxor–Farshut road names a Sobekemsaf as his father, presumed to be Prince Sobekemsaf, son and successor of Sobekemsaf I noted on Cairo Statue CG 386; that is, Sobekemsaf II.<sup>17</sup> Sobekemsaf II Sekhemreshedtawy is attributed three years.<sup>18</sup> He was the father of Intef VI Sekhemrewepmaat and Intef VII Nebkheperre, his successors.<sup>19</sup> Ryholt attributes them two years and five years, respectively.<sup>20</sup> Nebkheperre’s highest attested date is a year three on the Koptos stela, but being one of the better attested kings of the 17th Dynasty, Ryholt credits him with

<sup>12</sup> See Ryholt, *Political Situation*; Schneider, “Middle Kingdom,” 175–196, and works cited therein.

<sup>13</sup> Schneider, “Middle Kingdom,” 196.

<sup>14</sup> “Sobekemsaf I,” [http://en.wikipedia.org/wiki/Sobekemsaf\\_I](http://en.wikipedia.org/wiki/Sobekemsaf_I)

<sup>15</sup> Ryholt, *Political Situation*, 204.

<sup>16</sup> *Ibid.*, 174; Schneider, “Middle Kingdom,” 191.

<sup>17</sup> “Sobekemsaf II,” [http://en.wikipedia.org/wiki/Sobekemsaf\\_II](http://en.wikipedia.org/wiki/Sobekemsaf_II)

<sup>18</sup> Ryholt, *Political Situation*, 204.

<sup>19</sup> “Sobekemsaf II,” see “Sekhemre-Wepmaat Intef,” [http://en.wikipedia.org/wiki/Sekhemre-Wepmaat\\_Intef](http://en.wikipedia.org/wiki/Sekhemre-Wepmaat_Intef)

<sup>20</sup> Ryholt, *Political Situation*, 204.

five years.<sup>21</sup> His building program and the completion of his tomb may indicate a much longer reign.<sup>22</sup>

Nubkheperre was probably followed by a short-reigned king Intef VIII Sekhemre-Heruhirmaat. He is clearly attested by his coffin (Louvre E 3020). Ryholt suggested Sekhemre-Heruhirmaat had a short co-regency with his father but this is disputed by other scholars. The modesty of his coffin leads scholars to think there was no time to prepare a royal coffin for him so only a few months is attributed to his reign.<sup>23</sup>

A little attested king was previously thought to be known as Senakhtenre Siamun or Tao. But hieroglyphic inscriptions published in 2012 of a “large 17th dynasty limestone door built for a granary of a temple of Amun at Karnak which bears Senakhtenre’s full royal name ... shows that this ruler’s birth name or nomen was in fact Ahmose not Tao.”<sup>24</sup>

Since Senakhtenre’s reign is not well attested, it is presumed to have been brief—lasting not more than about a year.<sup>25</sup> Senakhtenre’s successor was Seqenenre-Tao, probably the son of Senakhtenre Ahmose and Queen Tetisheru. They were the parents of Kamose, last king of the 17th Dynasty, and Ahmose, first king of the 18th Dynasty. Seqenenre-Tao apparently died in battle with the Hyksos kings, judging from the axe wounds to his head and dagger wounds to his neck found on his mummy discovered in the Deir el-Bahri cache in 1881. He began the war that eventually saw the overthrow of the Hyksos by his son, Ahmose.<sup>26</sup>

The last king of the 17th Dynasty was Kamose, the presumed son of Seqenenre Tao and brother of Ahmose, founder of the 18th Dynasty. Kamose is known to have campaigned against the Nubians prior to his third year, as recorded on the Second Stela of Kamose. In his third year, he led a military campaign against the Hyksos, recounted on the Carnarvon Tablet. A second expedition to the Nubians after his third year is related in his year three Second Stela. This infers that Kamose may have reigned at least five years.<sup>27</sup>

The previous account provides a line of succession of nine kings from Rahotep to Kamose, and a minimum number of 31 regnal years. Having ascertained that the 18th Dynasty began in 1676 BCE, these 31 years take Rahotep’s accession back to at least 1707 BCE (see Table 25.3).

### Sothic Rising Date in the 17th Dynasty

There do not appear to be any known records of lunar dates associated with the Second Intermediate Period, and only recently has a Sothic date been discovered. The Theban Desert Road Survey in 1991 uncovered the ancient Alamat Tal Road between Thebes and Gebel Tjauti where a rock was found that dates a heliacal rising of Sothis. Now called the Gebel Tjauti Rock Inscription 11, it was published in 2002 by John C. Darnell.<sup>28</sup>

<sup>21</sup> Ibid., 204.

<sup>22</sup> “Nubkheperre Intef,” [http://en.wikipedia.org/wiki/Nubkheperre\\_Intef](http://en.wikipedia.org/wiki/Nubkheperre_Intef)

<sup>23</sup> “Sekhemre-Heruhirmaat Intef,” [http://en.wikipedia.org/wiki/Sekhemre-Heruhirmaat\\_Intef](http://en.wikipedia.org/wiki/Sekhemre-Heruhirmaat_Intef)

<sup>24</sup> “Senakhtenre Ahmose,” [http://en.wikipedia.org/wiki/Senakhtenre\\_Ahmose](http://en.wikipedia.org/wiki/Senakhtenre_Ahmose) The inscription was published by the Centre Franco-Égyptien d’Étude des Temples de Karnak in March 2012.

<sup>25</sup> “Senakhtenre Ahmose”.

<sup>26</sup> “SeqenenreTao,” [http://en.wikipedia.org/wiki/Seqenenre\\_Tao](http://en.wikipedia.org/wiki/Seqenenre_Tao)

<sup>27</sup> “Kamose,” <http://en.wikipedia.org/wiki/Kamose>

<sup>28</sup> J.C. Darnell with the assistance of Deborah Darnell, *Theban Desert Road Survey in the Egyptian Western Desert, Vol. 1: Gebel Tjauti Rock Inscriptions 1-45 and Wadi El-Hôl Rock Inscriptions 1-45* (Oriental Institute Publications 119; Chicago, IL: Oriental Institute of the University of Chicago, 2002) 49-52. Viewed at <http://oi.uchicago.edu/OI/DEPT/PUB/SRC/OIP/119/OIP119.html>, 49-52.

The text reads, “Regnal year 11, second month of the Shemu season, day 20: Observing the (heliacal) rising of Sothis.”<sup>29</sup>

The date is II *šmw* 20, in the 11th year of an unnamed king. Darnell notes, “This is the only observation of the heliacal rising of Sothis/Sirius from ancient Egypt for which one may say that the location of the point of observation, at least down to the minutes, and the elevation, approximately 450 meters above sea level, are known.”<sup>30</sup>

He adds, “This is the only inscription on Gebel Tjauti to be dated with certainty to the Seventeenth Dynasty, despite the Seventeenth Dynasty military road and twin fortress towers near the Theban terminus of the road, and the abundance of Seventeenth/early Eighteenth Dynasty pottery on the road.”<sup>31</sup>

The Julian date of II *šmw* 20 can be calculated on the basis of the Ebers calendar date of the Sothic rising on III *šmw* 9 in Amenhotep I’s 9th year. As discussed previously, the date in Amenhotep I’s reign fell in 1642, the first of four years that Sothis rose on this date at Thebes. Reckoning back to II *šmw* 20 provides the year 1718 BCE for the Sothic rising at Gebel Tjauti. This is only 11 years earlier than the estimated date for Rahotep at the beginning of the 17th Dynasty. If this is indeed Rahotep’s 11th year, then the dynasty began in 1729 BCE and lasted till 1676 BCE when the 18th Dynasty began under Ahmose.

On the other hand, if the Sothic rising in the 11th year fell in a later king’s reign, such as that of Intef VII Nebkheperre, one of the best attested kings, then the years of the preceding kings may have begun much earlier, reaching back to an undetermined date.

Of the 231 years that are attributable to the time between the end of the 12th Dynasty and the beginning of the 18th Dynasty (1907–1676 BCE), minimal years are 100 + *x* years at section 10.21 in the Turin Canon, and 53 years for the 17th Dynasty—assuming Rahotep’s 11th year fell in 1718 BCE—leaving a remainder of 78 years to be allocated.

The identity of the king whose 11th year dates the Sothic inscription and its bearing on the allocation of reigns during the 17th Dynasty must await further information and clarification.

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<sup>29</sup> Darnell, *Theban Desert Road Survey*, 49. The transliteration of the inscription is also provided.

<sup>30</sup> *Ibid.*, 51.

<sup>31</sup> *Ibid.*, 52.

## Chapter 26

### Reinstating the 18th Dynasty - Introduction

The dates given by present scholars for the 18th Dynasty, and indeed for the entire Egyptian chronology, are based on the initial assumption that the dates attributed to the Assyrian King-list are correct and reliable *before* the solar eclipse of 763 BCE. But, as I have sought to demonstrate in *The Reconstructed Chronology of the Divided Kingdom*, the dates are only corroborated *after* 763, notably by synchronisms with the Babylonian kings and their king-list beginning from 747 BCE.<sup>1</sup>

The initial assumption that the Assyrian King-list is complete back to 910 BCE, which scholars seem to accept without hesitation or need of verification, is directly responsible for the dates that Egyptologists attribute to Egypt's kings. The earliest verifiable date comes with the accession of Psammetichus I at the beginning of the 26th Dynasty in 664 BCE. Earlier than that, the dates are still open to debate.

To gain dates for the 18th Dynasty, most scholars work backwards from the supposed date of Rehoboam of Judah's fifth year falling in 925 BCE, based on the Assyrian King-list dates for a synchronism between Ahab's last year and Shalmaneser III's sixth year in 841. Rehoboam's fifth year is synchronized with Shoshenq I's 20th year, which is recognized as the year when the biblical Shishak conquered Jerusalem and carried off its treasures (1 Kgs 14:25–26; 2 Chr. 12:2–9).

#### Dating Ramesses II and Thutmose III

Thus Shoshenq's accession and the beginning of the 22nd Dynasty are dated to 945 BCE. From this date, scholars seek a date in the 19th Dynasty for Ramesses II's 52nd year when a ship's log gives the date of II *prt* 27 as *pśdntyw*; that is, the first day of the lunar month, when the thin lunar crescent is no longer visible before sunrise, the day of the new moon. Attendant to this date is the earlier date, in the 18th Dynasty, of Thutmose III's accession year, determined by records of two new moon dates, one in his 23rd year and the other in his 24th year.

The 23rd year is a date recorded from the Battle of Megiddo on I *šmw* 20 (emended from I *šmw* 21) and the 24th year date is derived from a "stretching-of-the-cord" ceremony, an act in laying the foundations of a temple, dated to II *prt* 30. Scholars reckon on about 200 years between the accessions of Thutmose III and Ramesses II. They then seek to date the new moons. As already noted, the dates for new moons tend to recur in a cycle every 25 years. By assuming that the Assyrian chronology is reliable for Rehoboam's fifth year, a date in the 13th century is sought for Ramesses II's lunar date and in the 15th century for Thutmose III's dates.

In the latter part of the 20th century, Egyptologists discussed at length the dates that should be attributed to these kings.<sup>2</sup> Dates of 1504 or 1490 BCE were proposed for

<sup>1</sup> See pages 95-104; 155-178.

<sup>2</sup> L.W. Casperson, "The Lunar Dates of Thutmose III," *JNES* 45 (1986) 140-41. Casperson mentions W.C. Hayes, E. Hornung, K.A. Kitchen, D.B. Redford, J. von Beckerath, W.J. Murnane, E. Wente, Wente and van Siclen, and G. Lello.

Thutmose III, and 1304 and 1290 BCE for Ramesses II. But a new shift in thinking has recently taken place.

### Parker's Proposals

In 1957, an article by Richard Parker was published in which he checked seven possibilities for the new moon dates for Thutmose III and six for Ramesses II, in the 15th and 13th centuries, respectively.<sup>3</sup> For Thutmose III, he concluded that of three possible pairs of dates giving accessions in 1515, 1490, and 1465 BCE for Thutmose III's 23rd and 24th years, the most probable pair was the accession date of 1490 with a *pśdntyw* date on I *šmw* 20 on 11 May 1468 BCE, and II *pṛt* 29 on 20 February 1466 BCE. Parker also noted a "less probable" accession date of 1479 BCE for the respective new moons on 8 May 1457 and 17 February 1455 BCE. He notes that these dates are only possible if the following month began in error. He said that for the 24th year *pśdntyw* date, "Strangely enough, not one solution is exact"; thus, he had to use an incorrect date to posit an accession date of 1490.<sup>4</sup> He remarked that no recent historian had considered the accession of Thutmose III to begin "as early as 1515 or as late as 1479 B.C."<sup>5</sup>

For Ramesses II's date of II *pṛt* 27 in the 52nd year, Parker did not find one date that matched exactly, so of three possibilities (II *pṛt* 28 in 1253, II *pṛt* 26 in 1239, and II *pṛt* 28 in 1228 BCE), he selected II *pṛt* 26 on 21 December 1239 BCE, giving Ramesses II an accession in 1290 BCE. In order to find a date in the 13th century, Parker had again to recourse to an inexact date. The reason he could not find an exact date for two of the three *pśdntyw* dates was because he was relying on dates derived initially from the Assyrian King-list, then transferred to the Hebrew kings, and again transferred to Egyptian kings. That error led him to look in the wrong century.

### Brinkman and Bierbrier

In 1970, an article by John Brinkman was published where he reassessed the regnal years of the Kassite and Assyrian rulers and presented a table giving the maximum and minimum variations possible for these kings prefaced by the statement, "For the time being—for the sake of argument—one grants that the CAH (Cambridge Ancient History) figures for the Assyrian monarchs are correct."<sup>6</sup>

Of significance is his proposition that a Kassite ruler by the name of Meli-Shipak could have his regnal years altered from the "standard" 1188–1174 to 1192–1178 maximum, and 1179–1165 minimum.<sup>7</sup> He did warn that "Babylonian chronology ... is not a reliable standard against which to measure other chronologies of the late second millennium."<sup>8</sup>

Morris Bierbrier picked up on Brinkman's adjusted dates for the Assyrian and Babylonian rulers. In a book published in 1975, he explained that with adjustments to the reigns of the eastern kings they could support a date as late as 1279 BCE for Ramesses II. Also, by applying a minimum chronology to the Egyptian kings' reigns, and a generation count with only 25 years per generation, he could lower the date for Ramesses II's accession to 1279, though it could also accommodate 1290 BCE.<sup>9</sup> In a

<sup>3</sup> R.A. Parker, "The Lunar Dates of Thutmose III and Ramesses II," *JNES* 16 (1957) 39-43.

<sup>4</sup> Parker, "Lunar Dates," 41, 42.

<sup>5</sup> *Ibid.*, 42.

<sup>6</sup> J.A. Brinkman, "Notes on Mesopotamian History in the Thirteenth Century B.C.," *BiOr* 27 (1970) 306.

<sup>7</sup> *Ibid.*, 306-07.

<sup>8</sup> *Ibid.*, 307.

<sup>9</sup> M.L. Bierbrier, *The Late New Kingdom in Egypt (c. 1300–664 B.C.)* (Warminster: Aris and Phillips, 1975) 109-13.

1978 article Bierbrier referred to the city of Emar and the date of Meli-Shipak, and its consequences for the date of Ramesses II's accession. The city of Emar was destroyed by fire. In the aftermath was found a tablet dating to the second year of Meli-Shipak, which on Brinkman's calculations "could vary from 1191 to 1178 B.C."<sup>10</sup> Bierbrier notes that Egyptian records recount how Hatti, Carchemish, and surrounding states were invaded by Sea-People "whose forces reached Egypt no later than year 8 of Ramesses III."<sup>11</sup>

He associates these invaders with the destruction of Emar, which must then have happened before year eight of Ramesses III, and ties this to the year two of Meli-Shipak's date coming after 1191 BCE. Having gained this date for year eight of Ramesses III, Bierbrier reckons on a minimum of 101 years between Ramesses II and year eight of Ramesses III (67 years Ramesses II, 10 Merenptah, 6 Seti II, 8 Siptah and Twosret, 2 Setnakhte, and 8 Ramesses III). This provides a date of ca. 1292 BCE. Bierbrier states that a 1290 accession date would be possible with the maximum chronology or the previous standard date of 1178 BCE allowing slight additions, but not with a later date for the invasion.<sup>12</sup>

Applying a 1304 BCE accession to Ramesses II would mean that the distance between him and Ramesses III would have to be extended from 101 years to 113 and only if the date of 1191 was used for Ramesses II (1191 + 113 years = 1304). But what is most significant is Bierbrier's last comment, "If the 1279 B.C. date is used for the accession [of Ramesses II] then year 8 of Ramesses III would fall in 1178 B.C. exactly or slightly later with the addition of a year or so."<sup>13</sup> From these results he concludes that the 1304 date is most in doubt and he hopes for more definite conclusions from Syrian excavations.<sup>14</sup>

Thus the idea gained ground that the date of 1279 BCE for Ramesses II's accession could in fact be possible, displacing the earlier dates of 1304 and 1290, and consequently the dates 200 years earlier for Thutmose III's accession in 1479 BCE. The dates have been variously discussed by scholars such as Wenté and van Siclen, Krauss, Hornung,<sup>15</sup> and others.

### Casperson

Prior to 1986, Lee Caspersion had noted that Parker's dates for Thutmose III (based on Neugebauer's out-dated lunar tables) had not been re-examined, so he recalculated them using Parker's dates for the 15th century (noted above). Caspersion's computer-generated tables for the new moons were published in 1986.<sup>16</sup> He found that the date of I *šmw* 20 (agreeing with the amendment from I *šmw* 21) was consistent with Thutmose III's 23rd year, and accession in 1504 BCE.<sup>17</sup> For Thutmose III's date in Year 24, the 1504 dates yielded a new moon on III *prt* 1, a day late, which, he says, can be

<sup>10</sup> Idem, "The Date of the Destruction of Emar and Egyptian Chronology," *JEA* 64 (1978) 136.

<sup>11</sup> *Ibid.*, 136.

<sup>12</sup> *Ibid.*, 136.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*, 136-37.

<sup>15</sup> E. F. Wenté and C. C. Van Siclen III, "A Chronology of the New Kingdom," *Studies in Honor of George R. Hughes* (eds. J. H. Johnson and E. F. Wenté; SAOC 39; Chicago: Oriental Institute of the University of Chicago, 1976) 224; R. Krauss, "Das Ende der Amarnazeit," (*HÄB* 7; Hildesheim: Gerstenberg, 1978) pt. 2, 166-203; E. Hornung "Chronologie in Bewegung," *Festschrift Elmar Edel* (eds. M. Görg and E. Pusch; Bamberg, 1979) 247-52.

<sup>16</sup> Caspersion, "Lunar Dates of Thutmose III," 139-150.

<sup>17</sup> *Ibid.*, 146.

explained by assuming that the observers did not see the crescent the previous day.<sup>18</sup> So Casperson's conclusion in 1986 was that the date of 1504 BCE for Thutmose III's accession was better than a date of 1490.<sup>19</sup> The possibility of an accession in 1479 was noted but not discussed.<sup>20</sup>

Casperson followed up his 1986 article with another in 1988 on the date of Ramesses II's new moon on II *prt* 27 in his 52nd year, again using Parker's dates from the 13th century.<sup>21</sup> Like Parker, he found that not one of the five dates gave an exact match. He found that the new moons giving an accession in 1304 fell on II *prt* 28, and II *prt* 27 would have meant that the (theoretically) visible crescent was not seen.<sup>22</sup> In 1290 BCE, the new moon fell on II *prt* 26 indicating that the observer thought he saw a thin crescent—when in fact it was not visible—and thought the new moon fell on the next day on the 27th. For the 1279 BCE accession date, an observer would have marginally missed seeing a visible crescent on the 27th when the actual day of first invisibility was the 28th (or with different visibility criteria it might have even been invisible).

Thus, Casperson finds that the accession of Ramesses II in 1279 “is almost consistent with the text.”<sup>23</sup> The result of his recalculations giving a “best date” of 1279 BCE for Ramesses II's accession implies a date 200 years earlier in 1479 for Thutmose III's accession. Because Casperson merely recalculated Parker's dates of possible new moons in the 13th and 15th centuries, the dates were still computed in the wrong period of history.

### High, Middle, or Low?

In 1987, a Colloquium on Absolute Chronology was held at the University of Gothenburg on 20–22 August. It had as its title and theme, “High, Middle or Low?” reflecting the fact that scholars had not come to a definitive conclusion as to which of the paired dates for Thutmose III and Ramesses II should set the dates for the entire New Kingdom, or whether the Sothic date in the ninth year of Amenhotep I associated with the Ebers calendar should be dated to the high, medium, or low dates. In his opening remarks, Erik Hornung stated:

In my paper I wanted to stress that all present chronology of the New Kingdom is based entirely on dated contemporaneous material and on synchronisms with the Ancient Near East. We have not to rely on king-lists like Manetho or the Turin Canon and we have not to rely on astronomical computation for the famous Ebers' datum or for lunar dates of the new Kingdom. If you compare the results of Helck, Kitchen and myself there are some minor differences but a general agreement, we all start the New Kingdom at about the same time. Kitchen and I in 1539 and Helck a little later in 1530 with the end of the Hyksos at 1515.<sup>24</sup>

Hornung goes on to say, “I think it is now very clear that Ramesses II cannot have started his reign before 1279 and Thutmosis III before 1479.”<sup>25</sup> Thus the idea that 1479 and 1279 are the correct dates was becoming accepted by scholars. This is

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<sup>18</sup> Ibid., 148.

<sup>19</sup> Ibid., 148, 150.

<sup>20</sup> Ibid., 141.

<sup>21</sup> L.W. Casperson, “The Lunar Date of Ramesses II,” *JNES* 47 (1988) 181-84.

<sup>22</sup> Ibid., 183-84.

<sup>23</sup> Ibid., 184.

<sup>24</sup> E. Hornung, “E. Hornung's paper,” *High, Middle or Low? Acts of an International Colloquium on Chronology held at the University of Gothenburg, 20th – 22nd August 1987* (Gothenburg: Paul Åströms Förlag; Part 3, 1989) 34.

<sup>25</sup> Ibid., 34-35.



reinforced by a paper written for the conference by Kitchen, who was absent, and summarized by Bierbrier.<sup>26</sup>

Kitchen, after discussing the individual kings' reigns for the 18th Dynasty, allowing for small adjustments, concludes in his paper, "Thus 1479 BC is an excellent match for 1279 BC, and should be the preferred date for Tuthmosis III, to match Ramesses II in 1279 BC."<sup>27</sup>

In a supplementary paper written after the 1987 Gothenburg Colloquium, Kitchen writes:

It is clear that virtual unanimity exists on setting the accession of Ramesses II at 1279 BC as a kind of New Kingdom baseline date ... even so widely-agreed a consensus is no guarantee of it being the truth .... Precisely two centuries earlier, the accession of Tuthmosis III can reasonably be set at 1479 BC, on a combination of dead reckoning of reigns and corresponding lunar dates. Into this framework, especially with Shoshenq I close to 945–926 BC and Psamtek I from 664 BC, the rest of Egyptian chronology of the New Kingdom and Late Period can readily be fitted with disputes over only minor details.<sup>28</sup>

### The Egyptian Enigma Remains

From these quotes it is clear that the late dates for Thutmose III and Ramesses II are becoming firmly entrenched in the minds of the Egyptologists, even though the chronology for Assyria (let alone the ancient Near East) in this time period has never been corroborated, but is trusted implicitly for synchronisms and dates. But with the lowering of the dates for Thutmose III and Ramesses II, a new problem was discerned. If Thutmose III's accession was dated to 1479 BCE, then the earlier reign of Amenhotep I had to be a "low" date also. This had repercussions for the Sothic rising date in the ninth year of Amenhotep I, observed on III *šmw* 9.

Kitchen notes in his Gothenburg Colloquium paper that earlier scholars had assumed that the Ebers date was observed at Memphis, but now the site of Thebes was being regarded, not only because the Ebers papyrus was found there, but it was also the capital of Ahmose—the founder of the 18th Dynasty—and of Amenhotep I. Scholars thought this location would set the Sothic date in the ninth year of Amenhotep I at 1517 ending his 21st year in 1504 BCE. The 25 years between 1504 and 1479 could be closed by attributing 12 or 13 years each to Thutmose I and II.<sup>29</sup>

Krauss, however, proposed Elephantine as the observation site for the Ebers date.<sup>30</sup> This would have the effect of lowering Amenhotep I's reign by 11 years from 1517 to 1506. Kitchen noted this had "the chronic disadvantage of cramming the two reigns of Tuthmosis I and II into the mere 14 years between 1493 and 1479 BC."<sup>31</sup>

Nevertheless, jumping ahead to Kitchen's chronology of the New Kingdom published in 1996,<sup>32</sup> and with an addendum in 2000,<sup>33</sup> we find that he is attributing to

<sup>26</sup> M.L. Bierbrier summarizing K.A. Kitchen's "Supplementary Notes on 'The Basics of Egyptian Chronology,'" *High, Middle or Low?* pt. 3 (1989) 7, 152-59.

<sup>27</sup> K.A. Kitchen, "The Basics of Egyptian Chronology in Relation to the Bronze Age," *High, Middle or Low?* pt 1, (1987) 37-55.

<sup>28</sup> Kitchen, "Supplementary Notes," 158.

<sup>29</sup> Kitchen, "Basics of Egyptian Chronology," 42.

<sup>30</sup> R. Krauss, *Sothis- und Monddaten: Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim; Gerstenberg, 1985) 109-10.

<sup>31</sup> Kitchen, "Basics of Egyptian Chronology," 42.

<sup>32</sup> K.A. Kitchen, "The Historical Chronology of Ancient Egypt, A Current Assessment," *Acta Archaeologica* 67 (1996) 1-13.

Amenhotep I an *accession* in 1515 BCE, which means Amenhotep's ninth year falls in 1507. Thutmose I has a reign of 12 years followed by Thutmose II with three years (relying on an emendation from Manetho who gives to a certain Chebron whom Kitchen equates with Thutmose II, 13 years),<sup>34</sup> thus giving Thutmose III an accession date of 1479 BCE.

This dating appears to infer that Kitchen has accepted Krauss' argument that the Ebers date was recorded at Elephantine, but referring to his dates of the 18th Dynasty he now says, "These dates coincide quite closely with the supposed Sothic-rising datum of Papyrus Ebers, but most opinion now disallows this document as real evidence of the record of a specific rising of Sothis (references, cf. von Beckerath 1992a, 24, notes 8–10.)"<sup>35</sup>

### **Amenhotep I Dated by the Sothic Cycle and the Calendar of Upper Egypt**

Supposing the date for Amenhotep I's ninth year fell in 1507/1506 on III *šmw* 9, there would be 57 days to the end of the Sothic cycle; that is, 22 days (inclusive) from III *šmw* 9–30, 30 days for IV *šmw* and five epagomenal days. Since the rising of Sothis falls on the same day for four consecutive years before moving on to the next day, it will take 228 years to travel to the end of the cycle. Subtracting 228 years from 1507/1506 will yield the year 1279/1278 BCE as the end of the cycle. The problem with this date is that it has no corroboration from other sources. The goal of this research, expounded in earlier chapters, has been to explain Egyptian calendar(s) and chronology, and chapter 10 determined that a new Sothic cycle began in Lower Egypt on I *3ht* 1 in 1314. The cycle of Upper Egypt began 100 years earlier in 1414 BCE. These provide assured anchor points for Egyptian chronology, and working backwards, the date for Amenhotep I's ninth year in 1642.

### **Sothis Disallowed by Egyptian Scholars**

The commonly accepted date of III *šmw* 9 in 1507/06 for Amenhotep I's ninth year is about 135 years too late. Scholars explain their dates for Thutmose III and Ramesses II by disallowing the Sothic date, as acknowledged by Hornung and Kitchen in the above-cited passages. Helck also had previously said at the Gothenburg Colloquium that, "The papyrus Ebers does not give us a Sothic-date but only a hint at a fact known to all. We are not allowed to use this entry for chronological calculations."<sup>36</sup> Furthermore, these scholars have no concept of two calendars for Egypt, with the Sothic rising dates coming from a calendar of Upper Egypt dated a month ahead of the calendar of Lower Egypt.

### **Extent and Importance of Astronomical Data**

Egyptologists seek to reconstruct the chronology for the 18th and 19th Dynasties proceeding from their dates obtained for Amenhotep I, Thutmose III, and Ramesses II.<sup>37</sup> Many seem unaware of the extent of the astronomical data that can be applied to the Egyptian chronology. For example, referring to the chronology of ancient Egypt as a whole (1st–26th Dynasties) Kitchen wrote in 2000,

<sup>33</sup> K.A. Kitchen, "Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I): The Historical Chronology of Ancient Egypt, a Current Assessment," *SCIEM II* (2000) 39-52.

<sup>34</sup> *Ibid.*, 44, 48.

<sup>35</sup> *Ibid.*, 44. The reference to von Beckerath is: "Das Kalendarium des Papyrus Ebers und die Chronologie des ägyptischen Neuen Reiches. Gegenwärtigen Stand der Frage," *Ä und L* 3 (1992) 23-27.

<sup>36</sup> Helck, "W. Helck's Paper," *High, Middle or Low?* Pt. 3, 41.

<sup>37</sup> For further discussion see W.A. Ward, "The Present Status of Egyptian Chronology," *BASOR* 288 (1992) 53-66.

Egyptian dates can sometimes then be refined in detail by use of synchronisms with other ancient Near-Eastern states, especially Mesopotamia from ca. 1400 B.C. onwards and occasionally (*only* occasionally) by use of a tiny handful of astronomical data (one definite Sothic date in the 12th Dynasty; lunar dates with this; and one lunar date each in the 18th and 19th Dynasties). Egyptian chronology overall is *not* based on these meagre astronomical data—these merely help to limit the options in fine detail.<sup>38</sup>

Instead of “a tiny handful of astronomical data,” there is a wide range of lunar and Sothic dates scattered from the 5th Dynasty to the 25th Dynasty, which *anchor* many of the regnal years of the kings. Furthermore, the Ebers calendar that some Egyptologists wished to disallow holds the key to the calendars and chronology of ancient Egypt.

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<sup>38</sup> Kitchen, “Regnal and Genealogical Data,” 39. Emphasis his.



## Chapter 27

### Reinstating the 18th Dynasty - Ahmose to Hatshepsut

The 18th Dynasty began the long period now known as the New Kingdom, which continues to the end of the 20th Dynasty. The inception of the 18th Dynasty is attributed to a native Egyptian, Ahmose (Tethmosis or Amosis as he was called by Manetho), who led a revolt against the Hyksos overlords and banished them from the Delta.

The succession of rulers of the 18th Dynasty is fairly well established, though two transitions require special attention. Firstly, that of (Queen) Hatshepsut, who ruled after the death of Thutmose II and before the accession of her nephew Thutmose III; and secondly, the identification of the successor of Akhenaten.

Scholars recognize the succession of rulers of the 18th Dynasty as shown in Table 27.1. Lunar and Sothic anchor points are listed.

**Table 27.1: 18th Dynasty succession of rulers**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ahmose			None known
Amenhotep I			Sothic heliacal. rising at Thebes: Yr 9 III <i>šmw</i> 9 1642
Thutmose I			None known
Thutmose II			None known
Hatshepsut			Yr 15 of Hatshepsut = Thut. III's 2nd year in 1589/1588: Hatshepsut's accession as co-regent fell in 1588, though Thut. III began to reign in 1590. Yr 2 Thut. III: Amun feast II <i>pri</i> 29 on 3rd day after new moon II <i>pri</i> 27 in 1588 celebrates Hatshepsut's co-regency with Thut. III
Thutmose III			Yr 2 new moon II <i>pri</i> 27; II <i>pri</i> 29 was 3rd day of Amun feast celebrating Hatshepsut's co-regency. Yr 23 new moon I <i>šmw</i> 20 (Megiddo) 1568. Yr 24 new moon II <i>pri</i> 30 "stretching of the cord" 10th day Amun feast, 1566. [Yr 33] Sothic heliacal rising at Elephantine III <i>šmw</i> 28, 1558
Amenhotep II			Yr 19 new moon III <i>šmw</i> [8] 1517; feast preparations
Thutmose IV			None known
Amenhotep III			None known
Akhenaten			Yr 5 new moon IV <i>pri</i> 13 1459 boundary stela. Probable "stretching of the cord" ceremony
Smenkhkare/Neferneferuaten			None known
Tutankhamun			None known
Ay			None known
Horemheb			New Sothic cycle commenced at Thebes on I <i>3ht</i> 1 in 1414

\* = most months approximate.

The extent of controversy on the 18th Dynasty dictates that the discussion be broken into several chapters.

### **Heliacal Risings of Sothis and Moon Phases**

The starting date of the 18th Dynasty is determined by the year of the heliacal rising of Sothis on III *šmw* 9 in Amenhotep I's ninth year. One reckons back 288 years (the distance elapsed between III *šmw* 9 and the fifth epagomenal) before 1414 BCE. This gives the date of 1642 BCE for Amenhotep I's ninth year as observed at Thebes (see Table 10.9 on page 168).

The date of 1642 BCE conforms to the dates previously discussed for the 12th Dynasty and the Sothic rising in Sesostris III's seventh year, on IV *pṛt* 17 in 1980 BCE observed at Illahun. From this starting date, the two new moon dates in the 23rd and 24th years of Thutmose III can be checked for their concurrence with Amenhotep I's Sothic date. Having gained fixed dates for Amenhotep I and Thutmose III, we proceed with the help of documented regnal years, including other lunar dates, to establish the reigns of the kings of the dynasty.

Throughout these chapters, Casperson's lunar tables are placed with each king to whom they relate. Lunar tables are not usually relevant to accession dates, which immediately follow the date of death of the previous king. But the tables often feature in later references in the narrative, especially in the controversies that have arisen around the confusion and improvisations arising from flawed dates of currently accepted Egyptian chronology. My reconstructed chronology must necessarily engage with these controversies to confirm its validity. As previously, new moon dates are verified by Casperson tables,<sup>1</sup> and Sothic dates are confirmed by the HELIAC program.<sup>2</sup> Casperson tables also display the dates of the calendar or Lower Egypt with their Julian-dated equivalents.

### **Differentiating Calendars for Upper and Lower Egypt**

Recapping earlier observations, ancient Egypt had two calendars, one in Upper Egypt and one in Lower Egypt with the concurrent months identified one month later in the north (Lower Egypt) than in the south (Upper Egypt). Thus, II *3ḥt* in the calendar of Upper Egypt is the same time period as I *3ḥt* in the calendar of Lower Egypt. Consequently, the heliacal rising of Sothis observed in Upper Egypt was recorded using the calendar of that region, which extended as far north as Illahun. The difference between the Sothic cycles observed from Thebes and Memphis amounts to 100 years and is demonstrated when the Sothic cycle dated to the calendar of Upper Egypt ended in 1414 BCE, and when the new Sothic cycle in the calendar of Lower Egypt (at Memphis) ended in 1314 BCE. This 100-year difference—the time between the end of the Sothic cycle in southern Upper Egypt and the northern Lower Egypt—straddles the 18th and 19th Dynasties.

Data for accession dates and length-of-reigns for the New Kingdom (18th–20th Dynasties) have been conveniently collected together by Erik Hornung and discussed briefly in his recent chapter, “The New Kingdom” in *Ancient Egyptian Chronology*<sup>3</sup> to which I make frequent reference. The regnal years from Ahmose to Thutmose III is the first period to consider.

<sup>1</sup> Explanation of Casperson Tables appear in chap. 5, pp. 81–83 and chap. 10, p. 166.

<sup>2</sup> J-P. Lacroix, “Heliacal rising of Sirius in Thebes,”

<http://www.ancientcartography.net/LEVERheliaqueAN.html> For more information about this program see also Maria G. Firneis and Monika Rode-Paunzen, “Progress-Report on Egyptian Astrochronology,” *Contributions to the Chronology of the Eastern Mediterranean* (eds. M. Bietak and H. Hunger; Österreichische Akademie der Wissenschaften Band 29; Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 2003) 47-85.

<sup>3</sup> E. Hornung, “The New Kingdom,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, and D.A. Warburton; Leiden and Boston: Brill, 2006) 197-217.

### Manetho and Monumental evidence

Apart from Ahmose, Manetho's names for the 18th Dynasty kings and their regnal years do not correspond well with those found on the monuments. For example, Manetho lists a Chebron as the successor of Ahmose, where inscriptions attest his successor was Amenhotep I whose residence was at Thebes, not in Lower Egypt where Ahmose resided. I will discuss Manetho's dynastic lists for the 18th and 19th Dynasties in chapter 32 after I have reconstructed the chronology for this period from other data.

### Ahmose

Ahmose was the first ruler of the 18th Dynasty. Succeeding his brother Kamose, the last ruler of the 17th Dynasty, Ahmose laid siege in his 11th year to the Hyksos foreigners living in Avaris, whose rule comprised the short 15th Dynasty (contemporary with the final years of the much longer 17th Dynasty).<sup>4</sup> The Hyksos king, Khamudy, surrendered and was banished with his subjects to Palestine.<sup>5</sup>

Ahmose's accession date is not known.<sup>6</sup> However, Ryholt notes, "The accession date of Ahmose can, incidentally, be shown to fall outside the period III Shemu 1 to I Akhet 25, since Pap. Rhind covers Ahmose's 11th regnal-year from an unspecified day in II Shemu until I Akhet 25."<sup>7</sup> Therefore, Ahmose's accession took place within the period I *3ht* 26 to II *šmw* 30.

Ahmose's highest known regnal year is his 22nd, which is found on an inscription in the Tura quarries.<sup>8</sup> According to *Manetho*, the man who expelled the foreigners from Egypt was a Tethmosis who ruled for 25 years and 4 months.<sup>9</sup> The identification of Ahmose with Tethmosis seems certain; thus, the 25 years and 4 months given to him by *Manetho* is adopted here. Ahmose's accession year can be derived from his son, Amenhotep I's accession year, in whose ninth year the "going up of Sothis" fell on III *šmw* 9 as recorded on the Ebers papyrus. Previous discussion dated the Sothic rising to the year 1642 BCE, which yields a date on or before III *šmw* 9 in 1651 BCE for Amenhotep I's accession, and which concurs with the period noted by Ryholt.

As III *šmw* 9 comes from the calendar of Upper Egypt, its equivalence in the calendar of Lower Egypt is II *šmw* 9 (running concurrently). As noted in the next section, Amenhotep I's accession seems to have occurred on III *šmw* 11, which would have been dated in the calendar of Lower Egypt (thus II *šmw* 11) by which regnal years and lunar dates were recorded.

Projecting back 25 years and 4 months from III *šmw* 11 in the calendar of Lower Egypt in 1651 BCE yields the date of 1676 and the months of II-III *prr* for Ahmose's accession depending on the length of his last four months (see Table 27.2).

<sup>4</sup> K. Ryholt attributes 32 years to the 17th Dynasty and 108-109 years for the 15th Dynasty as preserved on the Turin King-list in his *The Political Situation in Egypt During the Second Intermediate Period, c.1800-1550 B.C.* (Carsten Niebuhr Institute of Near Eastern Studies Publications 20; Copenhagen: University of Copenhagen and Museum Tusulanum Press, 1997) 189-90, 201, 203.

<sup>5</sup> H. Goedicke, "The End of the Hyksos in Egypt," *Egyptological Studies in Honor of Richard A. Parker Presented on the Occasion of his 78th birthday December 10, 1983* (ed. L.H. Lesko; Hanover, NH: Published for Brown University by University Press of New England, 1986) 37-47; Ryholt, *Political Situation*, 5-6, 186-90; Hornung, "New Kingdom," 198.

<sup>6</sup> Hornung, "New Kingdom," 198.

<sup>7</sup> Ryholt, *Political Situation*, 204.

<sup>8</sup> D.B. Redford, "On the Chronology of the Egyptian Eighteenth Dynasty," *JNES* 25 (1966) 114; idem, *History and Chronology of the Eighteenth Dynasty of Egypt* (Toronto: University of Toronto, 1967) 48-49; Hornung, "New Kingdom," 198.

<sup>9</sup> *Manetho*, 100-1, 108-9.

**Table 27.2: Ahmose's accession and the beginning of the New Kingdom in -1675 (new moon listing for -1675)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1675	3	3	-1675	2	17	1106	5	19	3	3:26	6:25	219	6:25	94	6:24	14
<b>Ahmose's accession took place about II-III prt in -1675<sup>10</sup></b>																
<b>-1675</b>	<b>4</b>	<b>1</b>	-1675	3	18	1106	<b>6</b>	<b>18</b>	4	11:40	6:04	294	6:03	134	6:03	50
-1675	4	30	-1675	4	16	1106	7	17	5	20:16	5:43	379	5:42	174	5:41	79

DoW = day of week; ToD = time of day.

Validation for this date will be considered later when discussing the length of the dynasty. On the above dates, Ahmose reigned from 1676 BCE to 1651 BCE.

### Amenhotep I

Amenhotep I was the third son of Ahmose. His mother was Queen Ahmose Nefretari.<sup>11</sup> Two older brothers, Ahmose-ankh and Ahmose Sapair predeceased him sometime between his father's 17th and 25th (final) year,<sup>12</sup> so Amenhotep may have been quite young when he became king.<sup>13</sup>

The dates for Amenhotep I's reign derive from paired dates for two festivals related to Amenhotep's accession.<sup>14</sup> The first pair of dates are on a Turin papyrus with the date III *šmw* 11 on an ostrakon in the British Museum bearing a date of III *šmw* 13. The noun used for the festival celebration is *hcy-nsw* which, Redford says, "consistently designates accession." Redford writes, "This festival clearly lasted several days, the eleventh and thirteenth being included; but whether the anniversary began or concluded the festival is unknown. All that can be said is that the accession of Amenhotep I took place toward the middle of the eleventh month."<sup>15</sup>

Another pair of dates appear on two Cairo ostraca (No. 25725) dated to I *3ht* 29 and I *3ht* 30 (No. 25726). Redford translates Cairo 25276 as "'Year 6, first month of *akhet*, last day; on this day king Amenhotpe appeared and greeted the gang (i.e. the necropolis workmen).' In other words, this is merely a festal appearance of the cult image, and has nothing to do, at least insofar as the present wording signifies, with the kings' accession day or 'Krönungsfest'."<sup>16</sup>

F.J. Schmitz connected the first pair of dates, III *šmw* 11–13, with the accession feast of Amenhotep I, proposing that on the dates of I *3ht* 29 and 30 Amenhotep I showed himself to the people for the first time about 80 days after his accession, with his coronation falling approximately on IV *šmw* 20.<sup>17</sup> Winfried Barta agreed that the earlier dates referred to Amenhotep I's accession and notes that between the dates of III *šmw* 11–13 and the end of I *3ht* there are approximately 80 days that may indicate the funeral

<sup>10</sup> Comments within Casperson's tables are mine.

<sup>11</sup> This long-held belief has been supported by DNA testing ("Secrets of the Ancient World Revealed Through DNA: A lecture presented to the ESS [Egyptian Study Society] by Dr. Scott Woodward, Professor of Microbiology, Brigham Young University, 20 April 2001," summarized by J. Greenfield in *The Ostrakon* 12 [2001] 23).

<sup>12</sup> A. Dodson and D. Hilton, *The Complete Royal Families of Ancient Egypt* (London: Thames and Hudson, 2004) 126. Cited in [http://en.wikipedia.org/wiki/Amenhotep\\_I](http://en.wikipedia.org/wiki/Amenhotep_I)

<sup>13</sup> J. Dunn, "Amenhotep I, the Second King of Egypt's 18th Dynasty," <http://www.touregypt.net/featurestories/amenhotep1.htm>

<sup>14</sup> Redford, "Chronology," 115-16.

<sup>15</sup> *Ibid.*, 116. Amenhotpe is a variant spelling of Amenhotep.

<sup>16</sup> *Ibid.*, 115-16.

<sup>17</sup> F-J. Schmitz, "Amenophis I," (HÄB 6; Hildesheim: Gerstenberg, 1978) 26-29, 33.



period for Ahmose, followed by the coronation celebrations on I *3ht* 29 and 30.<sup>18</sup> On this understanding, the dates in year six (Cairo ostrakon No. 25276) would then be anniversary celebrations of the coronation, but, as Redford notes, the text does not suggest this. At most, it appears that the first pair of dates are associated with the king's accession, the celebration of which included the dates III *šmw* 11–13. The second pair of dates coming from Amenhotep I's sixth year on I *3ht* 29 and 30 do not indicate an anniversary of the king's coronation, so probably report a notable appearance of the king to the workmen in his sixth year for an uncertain occasion of festivity.

### Amenhotep I's Ninth Year

The Ebers papyrus calendar notes a heliacal rising on III *šmw* 9 in Amenhotep I's ninth year, discussed in chapter 9. This date infers the beginning of the solar/agricultural year, and the months thereafter are dated from "day 9" in the calendar. These months correspond to the calendar of Upper Egypt shown in the first column of the Ebers papyrus starting with *wp rnpt*.

At the beginning of the Sothic cycle commencing ca. 2874–2870 BCE at Thebes, the month of *wp rnpt* began on the day of the heliacal rising of Sothis (on I *3ht* 1), but by the ninth year of Amenhotep I this had progressed through the calendar of Upper Egypt to the point where the rising of Sothis coincided with III *šmw* 9, where III *šmw* 9 began the new solar/agricultural year coincident with the first month of Inundation. Casperson's lunar table is repeated below in Table 27.3.

**Table 27.3: Amenhotep I's 9th/10th years in –1641 (new moon listing for –1641)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1641	6	13	-1641	5	30	1140	9	9	7	22:36	5:17	277	5:16	162	5:16	81
<b>The heliacal rising of Sothis occurs on III <i>šmw</i> 9 in the calendar of Upper Egypt = II <i>šmw</i> 9 in the calendar of Lower Egypt</b>																
-1641	7	13	-1641	6	29	1140	10	9	2	13:59	5:11	229	5:11	136	5:11	50
<b>Amenhotep I's 10th year begins on or before III <i>šmw</i> 11–13</b>																
-1641	8	12	-1641	7	29	1140	11	9	4	5:55	5:19	199	5:20	104	5:20	8
-1641	9	10	-1641	8	27	1140	12	8	5	21:43	5:38	267	5:38	169	5:39	68

DoW = day of week; ToD = time of day.

III *šmw* 9 in the calendar of Upper Egypt, which is used for the recording of Sothic risings, corresponds to II *šmw* 9 in the calendar of Lower Egypt as shown by the fact that II *šmw* 9 equates to 13 July in the Julian year of –1641 (1642 BCE), the time of the heliacal rising at Thebes as confirmed by the HELIAC program. The heliacal rising of Sothis on III *šmw* 9 was coincidentally also the date of a new moon, no doubt a significant occurrence for the ancient Egyptians.

The assumed proximity of Amenhotep I's accession dates including III *šmw* 11–13 and the heliacal rising of Sothis on III *šmw* 9 has led some scholars to posit that III *šmw* 9 of the Ebers calendar was actually the *anniversary* of Amenhotep I's accession.<sup>19</sup> This notion cannot be upheld since the Sothic rising dates and accession dates are taken from *different* calendars, and III *šmw* 9 in the calendar of Upper Egypt equates to II *šmw* 9 in the calendar of Lower Egypt. These months ran concurrently, so what was the beginning of the ninth year in one calendar was the same month with a month's difference *in the numbering* in the other calendar.

<sup>18</sup> W. Barta, "Thronbesteigung und Krönungsfeier als Unterschiedliche Zeugnisse Königlicher Herrschaftsübernahme," *SAK* 8 (1980) 43-45.

<sup>19</sup> Also discussed in chap. 9.

The festival dates for the accession of Amenhotep I include III *šmw* 11–13, dates that are presumed to come from the calendar of Lower Egypt. The equivalent in the calendar of Upper Egypt is IV *šmw* 11–13. Therefore, in Amenhotep I's ninth year, the date of III *šmw* 9 for the heliacal rising of Sothis comes about one month before his 10th year begins, which, in the calendar of Lower Egypt, is before or on III *šmw* 11–13. So the heliacal rising of Sothis on III *šmw* 9 was not the anniversary of Amenhotep I's accession, which fell a month later. The only thing that could alter this is if both dates were taken from the calendar of Upper Egypt but there is no precedent for recording accession dates by the calendar of Upper Egypt in the 18th Dynasty.

Table 27.4 displays the period of Amenhotep I's accession assuming the accession festival dates of III *šmw* 11–13 based on the calendar of Lower Egypt. The second pair of dates, I *3ḥt* 29 and I *3ḥt* 30 in Amenhotep's sixth year, reports a notable appearance of the king to the workmen on an occasion of festivity, but also cannot be associated with celebrating his accession.

**Table 27.4: Amenhotep I's first and second years (new moon listing from –1650 to –1649)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1650	7	22	–1650	7	8	1131	10	16	7	18:27	5:12	252	5:12	131	5:12	36
<b>Amenhotep I's accession on or before III <i>šmw</i> 11</b>																
–1650	8	21	–1650	8	7	1131	11	16	2	10:06	5:24	216	5:25	114	5:26	16
–1650	9	20	–1650	9	6	1131	12	16	4	1:12	5:45	187	5:46	85	5:47	–20
<b>Amenhotep I's second year begins</b>																
–1649	8	10	–1649	7	27	1132	11	5	6	11:27	5:18	212	5:19	112	5:19	21
–1649	9	9	–1649	8	26	1132	12	5	1	5:10	5:37	188	5:38	94	5:38	0
–1649	10	8	–1649	9	24	1132	13	4	2	22:34	5:59	264	6:00	168	6:01	70
–1649	11	7	–1649	10	24	1133	1	29	4	14:28	6:22	246	6:23	145	6:24	40
–1649	12	7	–1649	11	23	1133	2	29	6	4:23	6:41	217	6:42	110	6:42	0

DoW = day of week; ToD = time of day.

### Amenhotep I's 21st Year

Amenhotep I's highest known regnal year is inferred in a passage in the autobiography of an astronomer/magician, Amenemhet, from Theban tomb C. 2, indicating that Amenemhet served under Amenhotep I for 21 years.<sup>20</sup> He had already served under Ahmose, and it has been suggested that Amenemhet also served under Thutmose I, which would limit Amenhotep I's reign to 21 years.<sup>21</sup>

Jubilee festival decorations found on a large limestone gateway at Karnak attributed to the reign of Amenhotep I<sup>22</sup> are presumed to be anticipatory of him celebrating 30 regnal years, though Wentz and van Siclen suggest that Amenhotep I was co-regent with his father Ahmose for six years—hence a jubilee festival took place in the reign of Amenhotep I on account of his father's 30-year reign.<sup>23</sup> Co-regencies in the New Kingdom are not the norm, with Hatshepsut's co-regency with Thutmose III an exception. But even if there were a co-regency, it still leaves Amenhotep I with a sole

<sup>20</sup> Redford, "Chronology," 114. See also, F.-J. Schmitz, *Amenophis I* (HÄB 6; Hildesheim: Gerstenberg, 1978) 27-30; Hornung, "New Kingdom," 199.

<sup>21</sup> Redford, "Chronology," 115.

<sup>22</sup> Dunn, "Amenhotep I."

<sup>23</sup> Wentz and van Siclen, "A Chronology of the New Kingdom," *Studies in Honor of George R. Hughes, January 12, 1977* (SAOC 39; Chicago IL: Oriental Institute of the University of Chicago, 1976) 225. G. Vittmann also suggests a co-regency, "Was there a c-regency of Ahmose with Amenophis I?" *JEA* 60 (1974) 250-51 cited by Hornung, "New Kingdom," 199.

reign of nearly 21 years<sup>24</sup> with an accession about III *šmw* 11 in 1651 and his death on III *prr* 20 in 1630 BCE.

### Amenhotep's Final Year and Thutmose I's Accession

Thutmose I succeeded Amenhotep I on III *prr* 21 according to an inscription on a stela from Turo at Wady Halfa,<sup>25</sup> which is understood by scholars to be the day after Amenhotep I died.<sup>26</sup> With his 10th year beginning in 1642 BCE, Amenhotep's death on III *prr* 20 in his 21st year would fall in 1630 BCE, sometime after III *šmw* 11, giving him about eight to nine months in his final year. As can be seen in Casperson's table below (Table 27.5), III *šmw* 11 occurs on 11 August in -1630 and III *prr* 21 falls on 23 April in -1629.

**Table 27.5: Amenhotep I's 21st year and Thutmose I's accession in -1630/1629 (new moon listing from -1630 to -1629)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1630	7	11	-1630	6	27	1151	10	10	7	5:42	5:11	208	5:11	85	5:11	-9
<b>Amenhotep I's 21st year begins on III <i>šmw</i> 11</b>																
-1630	8	9	-1630	7	26	1151	11	9	1	19:37	5:18	271	5:19	154	5:19	55
-1630	9	8	-1630	8	25	1151	12	9	3	12:28	5:36	220	5:37	123	5:38	29
-1630	10	8	-1630	9	24	1152	1	4	5	7:17	5:59	195	6:00	101	6:01	6
-1630	11	7	-1630	10	24	1152	2	4	7	2:29	6:23	180	6:23	85	6:24	-11
-1630	12	6	-1630	11	22	1152	3	3	1	20:35	6:41	258	6:42	163	6:42	67
-1629	1	5	-1630	12	22	1152	4	3	3	12:27	6:49	236	6:49	130	6:49	32
-1629	2	4	-1629	1	21	1152	5	3	5	1:31	6:42	184	6:41	71	6:41	-23
-1629	3	5	-1629	2	19	1152	6	2	6	11:46	6:24	268	6:23	99	6:23	0
<b>Amenhotep I dies on III <i>prr</i> 20 and Thutmose I accedes on III <i>prr</i> 21</b>																
-1629	4	3	-1629	3	20	1152	7	1	7	19:48	6:03	483	6:02	134	6:01	18
-1629	5	3	-1629	4	19	1152	8	1	2	2:33	5:41	195	5:40	44	5:39	-44

DoW = day of week; ToD = time of day.

### Relevance to Thera Eruption in 1645 ± Seven Years

The SCIEM conference held in 2000 aimed to finalize the Julian dates for the chronology of the 2nd millennium BCE.<sup>27</sup> Referring to the publication of the contributors' papers, Manfred Bietak wrote in 2003, "This congress volume contains some new scientific research contributions that lend strong support to a high Aegean chronology with a pivotal date for the eruption of the volcano of Thera in ca. 1645 ± 7 BC."<sup>28</sup>

After considering the scientific evidence, Bietak says:

The consequence, in terms of relative chronology is that the archaeological material suggests from many different viewpoints, that the eruption of Thera cannot be synchronized with the period around the beginning of the Hyksos Period in Egypt or with the early MB IIB in Palestine. All the evidence strongly suggests that this event happened sometime in the early 18th Dynasty, most probably before the reign of Thutmose III.

<sup>24</sup> I do not consider *Manetho's* lists of the 18th and 19th Dynasties to be the 18th and 19th Dynasties known from the monuments; thus, the attribution of 20 years and 7 months to an Amenophis following a Chebron following Ahmose, does not refer to the reign of Amenhotep I. Coincidentally, they reigned about the same length of time. For discussion of *Manetho's* 18th and 19th Dynasties see chap. 32.

<sup>25</sup> Redford, "Chronology," 115-16.

<sup>26</sup> Wente and van Siclen, "Chronology of the New Kingdom," 225.

<sup>27</sup> U. Luft, "Priorities in Absolute Chronology," *SCIEM II* (2003) 199.

<sup>28</sup> M. Bietak, "Science versus Archaeology: Problems and Consequences of High Aegean Chronology," *SCIEM II* (2003) 23, 25.

Bietak continues:

If the  $1645 \pm 7$  BC particles from the Greenland ice core were securely and repeatedly identifiable then any attempt to harmonise the divergent chronologies cannot be a unilateral uplift of the Aegean chronology. The only alternative left must also be to raise the beginning of the New Kingdom by between 100 to 150 years. The network of Egyptian chronology and its synchronisms with Near Eastern, particularly Assyrian chronology makes this, at least for the time being somewhat difficult to accept.<sup>29</sup>

The same sentiments are expressed by Otto Cichocki et al. concerning the new date gained by scientific methods. They write:

The absolute chronological dates are gained by calculating the known length of regencies and taking the reported and recalculated Sothic dates as fixed points. The traditional one-sided picture of the Egyptian part of the link producing the absolute dates for Aegean and other neighbouring sequences seemed to change when the Santorini eruption was dated with scientific methods. Unfortunately, this new, very early date (17th century BC) seemed to make the sequences drift apart. It appears to be quite impossible to squeeze an additional 150 years out of the traditional sequence of time based on the regencies of Egyptian kings. Scholars who were used to chronological discrepancies of 20 to 30 years suddenly saw themselves confronted with a completely new, utterly irritating situation.<sup>30</sup>

Similar comments can be found elsewhere. Scholars assume that the Assyrian chronology is correct, and that synchronisms between Egypt and Assyria must rely on the Assyrian dates gained from the Assyrian King-list on the premise that it is complete for all the years it appears to cover. However, as I have repeatedly asserted, the reliability of the King-list before the solar eclipse of 763 BCE has never been corroborated.

The authors cited above identify 150 years as the critical discrepancy. Conventional chronologies date the beginning of the divided kingdom to 931 BCE; I date mine to 981 BCE, which identifies 50 years. A further 100 years has been lost from the Egyptian chronology by not recognizing that Egypt had 100 years between the two Sothic cycles dated from 1414 (Thebes) and 1314 (Memphis). This 100 years is fully covered by the last kings of the 18th Dynasty, and the first five kings of the 19th Dynasty, as we shall see. At the beginning of the (Theban) 18th dynasty, Egyptian chronology has lost 136 years, with 1676 BCE down-dated to 1540 BCE.

What has been dubbed “impossible to squeeze” is not at all impossible. The years  $1645 \pm 7$  BCE (1652–1638) given for the eruption of Thera include the last two years of the reign of Ahmose (1652 and 1651 BCE) and the remainder fall in the reign of Amenhotep I—after the Hyksos period and before Hatshepsut and Thutmose III—as scholars presently maintain. The extra “150 years” needed from the historical chronology is provided herewith.

### **Thutmose I**

Until recently, it was thought that Amenhotep I had no surviving sons at the time of his death and that Thutmose I came from a collateral branch of the royal family. Recent DNA testing has led to the conclusion, “Thutmosis shares a particular allele with Amenhotep I; conventional wisdom says they were not father and son but DNA evidence

<sup>29</sup> Ibid., 30.

<sup>30</sup> O. Cichocki et al., “The Synchronization of Civilizations in the Eastern Mediterranean in the Second Millennium BC: Natural Science Dating Attempts,” *Tools for Constructing Chronologies* (eds. C.E. Buck and A.R. Millard; London: Springer, 2004) 84.

implies they were.” Thutmose I was probably a son of Amenhotep I and his non-royal wife Senseneb.<sup>31</sup>

Thutmose I came to the throne on III *prt* 21, equated with April 23 in –1629 (see Table 27.5). A broken sandstone block found at Karnak inscribed in raised relief having the cartouche of Thutmose I records both a regnal year eight and nine,<sup>32</sup> the year nine is understood by scholars to be Thutmose I’s highest year.<sup>33</sup> Assuming that Thutmose I reigned nine years, this would put the end of his reign in 1622/1621 BCE. He was succeeded by Thutmose II, who came to the throne on II *3ht* 8, thus Thutmose I died the previous day. See Casperson’s table below (Table 27.6). With his ninth year having begun on III *prt* 21, this would give to Thutmose I a ninth year of nearly seven months. Table 27.6 shows how long Thutmose I reigned into his ninth year before Thutmose II succeeded him.

**Table 27.6: Thutmose I’s ninth year and Thutmose II’s accession in –1621 (new moon listing for –1621)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1621	3	6	-1621	2	20	1160	6	5	3	19:12	6:23	449	6:23	150	6:22	48
<b>Thutmose I’s 9th year begins on III <i>prt</i> 21</b>																
-1621	4	5	-1621	3	22	1160	7	5	5	2:52	6:01	215	6:01	90	6:00	14
-1621	5	4	-1621	4	20	1160	8	4	6	10:05	5:40	288	5:39	132	5:39	46
-1621	6	2	-1621	5	19	1160	9	3	7	17:54	5:22	348	5:21	174	5:21	75
-1621	7	2	-1621	6	18	1160	10	3	2	3:31	5:11	216	5:11	108	5:11	11
-1621	7	31	-1621	7	17	1160	11	2	3	15:55	5:14	259	5:15	151	5:15	49
-1621	8	30	-1621	8	16	1160	12	2	5	7:28	5:30	204	5:31	105	5:31	7
-1621	9	29	-1621	9	15	1160	13	2	7	1:38	5:52	173	5:53	77	5:54	-18
-1621	10	28	-1621	10	14	1161	1	26	1	20:59	6:15	250	6:16	153	6:16	56
<b>Thutmose II’s accession on II <i>3ht</i> 8</b>																
-1621	11	27	-1621	11	13	1161	2	26	3	15:54	6:36	235	6:37	128	6:37	28
-1621	12	27	-1621	12	13	1161	3	26	5	8:60	6:48	205	6:49	91	6:49	-4

DoW = day of week; ToD = time of day.

Early ideas that the mummy of Thutmose I was of a 30-year-old man who had been killed by an arrow to the chest<sup>34</sup> were dispelled by Gaston Maspero (1846–1916) in favor of an unlabeled mummy #5283, of a man about 50 years old. Maspero had noticed

<sup>31</sup> A. Bart, “Thutmosis I,”

<http://euler.slu.edu/~bart/egyptianhtml/kings%20and%20Queens/Tuthmosis-I.html>

<sup>32</sup> E. Hornung, *Untersuchungen zur Chronologie und Geschichte des Neuen Reiches* (ÄA 11; Wiesbaden: Harrassowitz, 1964) 32; Redford, “Chronology,” 116; Wente and van Siclen, “Chronology of the New Kingdom,” 225; R. Krauss, “Das Kalendarium des papyrus Ebers und seine chronologische Verwertbarkeit,” *Ä und L* 3 (1992) 86-87 photo (fig. 3); J. von Beckerath, *Chronologie des Pharaonischen Ägypten, Die Zeitbestimmung der ägyptischen Geschichte von der Vorzeit bis 332 v. Chr.* (Mainz: von Zabern, 1997) 120.

<sup>33</sup> Earlier ideas that the stela was not reliable because the block was found in a portion of the Karnak sanctuary in proximity to an inscription belonging to Thutmose III, and the cartouche appears in conjunction with an ished tree’s leaves, which are supposed to have been inscribed by the gods at the beginning of a king’s reign (Redford, “Chronology,” 116 n. 25, citing L. Borchardt, *Die Mittel zur zeitlicheen Festlegung von Punkten der ägyptischen Geschichte* [Cairo, 1935] 79; Wente and van Siclen, “Chronology of the New Kingdom,” 225-26), have long since been rebutted by W.F. Edgerton, “Critical Notes: On the Chronology of the Early 18th Dynasty (Amenhotep I to Thutmose III,” *AJSL* 53, 1937) 189 n. 4, cited by Redford, “Chronology,” 116, n. 25.

<sup>34</sup> L. Anderson, “Mummy Awakens New Era in Egypt,” *Chicago Tribune* (July 14, 2007); cited in “Thutmose I,” [http://en.wikipedia.org/wiki/Thutmose\\_I](http://en.wikipedia.org/wiki/Thutmose_I)

that the mummy had a strong familial resemblance to Thutmose II and III,<sup>35</sup> an opinion supported by subsequent examination of the embalming techniques used on the mummy, placing it after the reign of Ahmose I.<sup>36</sup> The age of the mummy gives ample time for Thutmose I's nine year reign.

### Thutmose II

Thutmose II was the son of Thutmose I and a minor wife Mutnofret. He married his half-sister Hatshepsut. He ascended the throne on II 3 $\text{ht}$  8 according to a stela found between Aswan and Philae.<sup>37</sup> Redford translates from the stela, "Lo, his majesty appeared on the dais when the living captives which this army had brought were dragged in." He assumes it refers to Thutmose II's accession on II 3 $\text{ht}$  8.<sup>38</sup>

Thutmose II's only certain date is said to be II 3 $\text{ht}$  9 of his first year.<sup>39</sup> The day eight or nine might have been his accession date. This equates to 9 or 10 November in 1622 BCE.

A regnal year 18 has been attributed to Thutmose II, once seen on a monument (now lost) by Georges Daressy, published in 1900.<sup>40</sup> The name of the king was not clear. Some scholars do not accept that Thutmose II could have reigned 18 years based on the number of years they allocate to the period between Amenhotep I and Thutmose III. This conclusion may be tied to identifying his years with Mephres 12/13 years, and Chebron 13 years (which scholars often reduce to three) of Manetho's king-list.<sup>41</sup> In 1987, L. Gabolde compared the number of scarabs found by Bertrand Jaeger: for Thutmose II (65), Thutmose I (241), and Hatshepsut (463). He concluded that Thutmose I reigned 11 years and Thutmose II for three full years, assuming that the number of scarabs produced was much the same in each year of reign. Gabolde assigns the 18 years to Amenhotep II.<sup>42</sup> Others assign the 18 years to Hatshepsut.<sup>43</sup> Neither of these proposals is accepted here.

### Thutmose II and Hatshepsut

If Thutmose II reigned about 18 years from 9 November (II 3 $\text{ht}$  8) in 1622 BCE, his death would have occurred about 1604/1603. Thutmose III, heir of Thutmose II, was still a young child when his father died. His step-sister/aunt became regent, so her years

<sup>35</sup> G. Maspero, *History of Egypt, Chaldea, Syria, Babylonia, and Assyria* (Vol. 4 of 12; Project Gutenberg EBook #17324).

<sup>36</sup> G. Elliot Smith, *The Royal Mummies* (repr. London: Duckworth, 2000) 25-28.

<sup>37</sup> Redford, "Chronology," 117.

<sup>38</sup> Ibid.

<sup>39</sup> Hornung, "New Kingdom," 200.

<sup>40</sup> G. Daressy, "La chapelle d'Uazmès," *Annales du Service des Antiquités de l'Égypte* 1 (1900) 99. It is used by A. Gardiner, *Egypt of the Pharaohs*, (Oxford: Oxford University Press, 1961) 180. See comment by R. Krauss, *Sothis- und Monddaten: Studien zur astronomische und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 119-20.

<sup>41</sup> W.F. Edgerton, *The Thutmosid Succession* (SAOC 8; Chicago: University of Chicago Press, 1933) 41-42; Redford, "Chronology," 117-19; Wente and Van Siclen, "Chronology of the New Kingdom," 226; Krauss, *Sothis- und Monddaten*, 119-21; W. Helck, "Erneut das angebliche Sothis-Datum des Pap. Ebers und die Chronologie der 18. Dynastie," *SAK* 15 (1988) 182; K.A. Kitchen, "Regnal and Genealogical Data," *SCIEM II* (2003), 44; Hornung, "New Kingdom," 200-201.

<sup>42</sup> L. Gabolde, "La Chronologie du règne de Thoutmosis II, ses conséquences sur la datation des momies royales et leurs répercussions sur l'histoire du développement de la Vallée des Rois," *SAK* 14 (1987) 61-81; cited by Hornung, "New Kingdom," 200.

<sup>43</sup> J. von Beckerath, "Nochmals zur Regierung Tuthmosis' II," *SAK* 17 (1990) 66; cf. Krauss, "Das Kalendarium des papyrus Ebers," 86 n. 3, cited by Hornung, "New Kingdom," 200; also Kitchen, "Regnal and Genealogical Data," 44.

need to be included between the end of Thutmose II's reign and the beginning of Thutmose III's.

To pre-empt the following discussion about the years of Thutmose III's reign, I conclude that he began to reign in 1590 BCE, 200 years before Ramesses II in 1390. The accession of Thutmose III is dated to I *šmw* 4, which equates to 25 May (Julian calendar). Between the death of Thutmose II in 1604/1603 and the accession of Thutmose III in 1590 are 13–14 years. These can be credited to Hatshepsut in her role as supervisor for the young Thutmose III before he became king.

Hatshepsut was the daughter of Thutmose I and Queen Ahmose, and half-sister to Thutmose II, whose mother was a minor wife, Mutnofret. Thutmose II married Hatshepsut and they had a daughter, Neferure. Thutmose II also had a son by another wife, Iset, who became the famous Thutmose III. Thutmose II predeceased Hatshepsut. Records from Hatshepsut claim that her father, Thutmose I, had designated her to be his heir,<sup>44</sup> but it was Thutmose II who succeeded Thutmose I.

Casperson's New Moon Listing (Table 27.7) shows the length of Thutmose II's reign into his 18th year.

**Table 27.7: Thutmose II's 18th year and Hatshepsut's assumption as Regent in –1603 (new moon listing from –1604 to mid –1603)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1604	10	20	–1604	10	6	1178	1	23	1	10:07	6:09	207	6:10	111	6:11	15
<b>Thutmose II's 18th year begins II 3ht 8 –1604</b>																
–1604	11	19	–1604	11	5	1178	<b>2</b>	<b>23</b>	3	3:51	6:32	188	6:32	85	6:33	–18
–1604	12	18	–1604	12	4	1178	3	22	4	19:13	6:46	285	6:47	149	6:47	37
–1603	1	17	–1603	1	3	1178	4	22	6	7:60	6:48	225	6:48	84	6:47	–15
–1603	2	15	–1603	2	1	1178	5	21	7	18:29	6:35	382	6:35	133	6:34	31
–1603	3	17	–1603	3	3	1178	6	21	2	3:07	6:15	201	6:14	74	6:13	–2
–1603	4	15	–1603	4	1	1178	7	20	3	10:31	5:53	295	5:53	121	5:52	37
–1603	5	14	–1603	4	30	1178	8	19	4	17:31	5:33	391	5:32	170	5:32	71
<b>Thutmose II dies I šmw 3. Hatshepsut accedes on I šmw 4</b>																
–1603	6	13	–1603	5	30	1178	<b>9</b>	<b>19</b>	6	1:13	5:16	216	5:16	105	5:16	12
–1603	7	12	–1603	6	28	1178	10	18	7	10:49	5:11	257	5:11	141	5:11	39

DoW = day of week; ToD = time of day.

Thus it is quite credible that Thutmose I reigned nine years followed by Thutmose II with 18 years. These 27 years *fill the period* between Amenhotep I's death on III *prt* 21 in 1630 BCE and Thutmose II's death in 1604 BCE on I *šmw* 3 as dated by Redford.<sup>45</sup>

### Hatshepsut and Thutmose III

Hatshepsut succeeded her husband, Thutmose II, and assumed the role of regent on I *šmw* 4, in the stead of the child Thutmose III<sup>46</sup>—a position she held for 14 years. Hatshepsut commemorated her 30th year *sed*-festival in the 16th year of Thutmose III, which fell in 1574: 14 years as regent following the death of Thutmose II, and 16 years as co-regent during the reign of Thutmose III.

<sup>44</sup> W.J. Murnane, *Ancient Egyptian Co-regencies* (SAOC 40; Chicago IL: Oriental Institute of the University of Chicago, 1977) 32.

<sup>45</sup> Redford, "Chronology," 119.

<sup>46</sup> *Ibid.*, 32.

The changeover from the 15th to 16th year of Thutmose III occurred sometime between the beginning of the building of Hatshepsut's two obelisks on II *prr* 1 in Thutmose III's 15th year and their completion on IV *šmw* 30 in his 16th year.<sup>47</sup> I *šmw* 3 fits within these dates. Since I *šmw* 4 is the accession date of Thutmose III, it is reasonable to suppose that it comes on the day after the *anniversary* of his father's death, the same day as Hatshepsut's—her accession having taken place 14 years earlier. Thutmose III had one year's rule before Hatshepsut was crowned co-regent in his second year, thus his 16th year and her 30th year began on the same day.

### Thutmose III's accession date

Wente discussed the age at which Thutmose III became king.<sup>48</sup> Since he ascended the throne in Hatshepsut's 15th year—and allowing for Thutmose III to be no less than two years old when his father died—Thutmose III must have been at least 17 years of age. The lunar and Sothic dates, which we discuss below, establish Thutmose III's 23rd, 24th, and 33rd years, and yield him an accession date of 1590 BCE.

Thutmose III became king on I *šmw* 4 according to an inscription on the seventh pylon at Karnak.<sup>49</sup> In Casperson's table (Table 27.8) I *šmw* 18 equates to 9 June; therefore, I *šmw* 4 being 14 days earlier equates to 26 May (Julian calendar).

**Table 27.8: Thutmose III's accession and Hatshepsut's co-regency –1589 and –1587 (new moon listing from –1589 to –1587)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1589	5	10	-1589	4	26	1192	8	18	3	19:17	5:36	224	5:35	94	5:34	22
<b>Thutmose III's accession fell on I <i>šmw</i> 4</b>																
-1589	6	9	-1589	5	26	1192	9	18	5	10:22	5:18	189	5:18	91	5:17	18
-1589	7	9	-1589	6	25	1192	10	18	7	0:37	5:11	171	5:11	81	5:11	-3
-1589	8	7	-1589	7	24	1192	11	17	1	13:43	5:17	245	5:18	146	5:18	47
-1589	9	6	-1589	8	23	1192	12	17	3	1:48	5:35	208	5:36	99	5:36	-14
-1589	10	5	-1589	9	21	1193	1	11	4	13:17	5:57	272	5:58	156	5:58	38
-1589	11	4	-1589	10	21	1193	2	11	6	0:30	6:20	215	6:21	94	6:22	-29
-1589	12	3	-1589	11	19	1193	3	10	7	11:32	6:40	273	6:40	146	6:41	22
-1588	1	1	-1589	12	18	1193	4	9	1	22:19	6:49	377	6:49	192	6:49	60
-1588	1	31	-1588	1	17	1193	5	9	3	8:57	6:43	250	6:43	84	6:43	-19
-1588	2	29	-1588	2	15	1193	6	8	4	19:51	6:27	372	6:26	112	6:25	11
-1588	3	30	-1588	3	16	1193	7	8	6	7:37	6:05	165	6:04	48	6:04	-20
-1588	4	28	-1588	4	14	1193	8	7	7	20:44	5:44	273	5:43	106	5:42	30
<b>Thutmose III's second year begins on I <i>šmw</i> 4</b>																
-1588	5	28	-1588	5	14	1193	9	7	2	11:11	5:24	193	5:23	93	5:23	24
-1588	6	27	-1588	6	13	1193	10	7	4	2:32	5:12	170	5:12	85	5:12	9
-1588	7	26	-1588	7	12	1193	11	6	5	18:09	5:13	246	5:13	152	5:14	63
-1588	8	25	-1588	8	11	1193	12	6	7	9:32	5:27	219	5:28	123	5:29	24
-1588	9	24	-1588	9	10	1194	1	1	2	0:21	5:49	188	5:50	83	5:50	-23
-1588	10	23	-1588	10	9	1194	1	30	3	14:15	6:12	258	6:12	149	6:13	38
-1588	11	22	-1588	11	8	1194	2	30	5	2:55	6:34	215	6:34	98	6:35	-21
-1588	12	21	-1588	12	7	1194	3	29	6	14:07	6:47	296	6:48	148	6:48	22
-1587	1	20	-1587	1	6	1194	4	29	1	0:02	6:47	195	6:47	51	6:46	-55
-1587	2	18	-1587	2	4	1194	5	28	2	9:09	6:33	266	6:33	76	6:32	-20
<b>Hatshepsut is crowned co-regent on II <i>prr</i> 29 in Thutmose III's second regnal year in –1587. This was held on the third day after the new moon of the Amun feast</b>																
-1587	3	19	-1587	3	5	1194	6	27	3	18:12	6:13	409	6:13	112	6:12	16
-1587	4	18	-1587	4	4	1194	7	27	5	3:58	5:51	171	5:50	60	5:50	-8

<sup>47</sup> Murnane, *Ancient Egyptian Co-regencies*, 38.

<sup>48</sup> E.F. Wente, "Age at Death of Pharaohs of the New Kingdom, Determined from Historical Sources," *An X-Ray Atlas of the Royal Mummies* (eds. J.E. Harris and E.F. Wente; Chicago and London: University of Chicago Press, 1980) 246-47.

<sup>49</sup> Redford, "Chronology," 119.



### Hatshepsut as Co-regent

Hatshepsut took on the role of a king after the death of Thutmose II while Thutmose III was growing to maturity.<sup>50</sup> The accession of Thutmose III in 1590 BCE and his 16th year equated with her *sed*-festival in 1574, and indicates that Thutmose II died in 1604 BCE at which time Hatshepsut began to count her regnal years. In his study of Amun feasts and their connection with lunar days in the middle of the civil year, Spalinger cites a Karnak inscription that synchronizes an Amun feast with the proclamation of Hatshepsut as co-regent with Thutmose III: “Regnal year two, second month of *pṛt*, day twenty-nine, third festival of Amun corresponding to (*hft*) the Litanies of Sekhmet, the second day.”<sup>51</sup>

Redford makes this event more explicit, commenting that this inscription records, “In Thutmose III’s second regnal year, on the twenty-ninth day of the sixth month, Amun confronted Hatshepsut in public, proclaimed her king of the two lands, and had her crowned.”<sup>52</sup> Hatshepsut copied the text of the crowning ritual of Amenemhet III for her own coronation, thus proclaiming her legitimacy as regent.<sup>53</sup>

### Amun Festival Dates Concur

Hatshepsut was crowned as co-regent on II *pṛt* 29 dated to the third Amun festival in Thutmose III’s second year. We have previously noted two other Amun feasts in the reign of Thutmose II, both connected to the day of a new moon. In his 24th regnal year, a new moon was observed on the 10th day of the feast on II *pṛt* 30, and a feast of Amun dated to I *3ht* 1 in his 33rd regnal year was also the day of a new moon.

We might expect then that in the Amun festival of Thutmose III’s second regnal year there was a new moon on or near to the date of II *pṛt* 29. Since Thutmose III’s accession took place on I *šmw* 4, the date of II *pṛt* 29 falls late in his second regnal year. Casperson’s table (Table 27.8) for Thutmose III’s first and second years show that the date of II *pṛt* 27 is the day of a new moon in the year –1587 (20 March 1588 BCE), which is within the second year of Thutmose III—his third year beginning a little more than one month later. Coming three days after the new moon date, the “third festival of Amun” suggests the third day of the feast.<sup>54</sup> From this we learn that Hatshepsut became co-regent to Thutmose III in his second year in 1588 BCE on II *pṛt* 27, which equates to 19 March.

The coincidence of the Karnak inscription that synchronizes the Amun feast with the proclamation of Hatshepsut as co-regent with Thutmose III, demonstrated by Casperson’s New Moon listing for 1588, adds further corroboration to the chronology herein presented.

<sup>50</sup> See for example, W.C. Hayes, “Egypt: Internal Affairs from Tuthmosis I to the Death of Amenophis III,” *CAH* 2/1 (1973) 317-18.

<sup>51</sup> A.J. Spalinger, “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; *Alter Orient und Altes Testament*; Münster: Ugarit, 2002) 395.

<sup>52</sup> Redford, *History and Chronology*, 54.

<sup>53</sup> As Ryholt points out (*Political Situation*, 212 n. 728) the use of Amenemhet III’s coronation ritual by Hatshepsut suggests that the co-regency between Sesostris III and Amenemhet III was genuine, and disproves D. Franke’s argument that Hatshepsut’s co-regency was ‘fictive’ (“Zur Chronologie des Mittleren Reiches [12-18 Dynastie] Teil 1: Die 12 Dynastie,” *Orientalia* 57 [1988] 119).

<sup>54</sup> This answers Spalinger’s question whether a lunar day was involved (“Egyptian Festival Dating,” 395). For the evidence of the co-regency, see Murnane, *Ancient Egyptian Co-regencies*, 31-44.

### Joint *Sed*-festival Concurs

A joint *sed*-festival celebrated by Hatshepsut and Thutmose III is well documented.<sup>55</sup> Hatshepsut had two immense obelisks built to commemorate her 30th regnal year in honor of her deceased father, taking about seven months from II *prt* 1 in Thutmose III's 15th year to IV *šmw* 30 in his 16th year, as stated on one of the obelisks.<sup>56</sup> From this inscription, scholars understand that Thutmose III's 16th year was Hatshepsut's 30th year. As commented on previously, this year equates to 1574 BCE. Thirty years earlier Hatshepsut's first year can be dated to 1604 BCE.

### Senmut's Memorials and Calendar

During Hatshepsut's reign, her chief steward was Sen[en]mut. He was the chief architect of Hatshepsut's building projects at Deir el-Bahri—his masterpiece being Hatshepsut's mortuary temple complex. It was on his initiative that Hatshepsut had the two huge obelisks constructed celebrating her 30th year of reign.<sup>57</sup> One of the obelisks still stands at the entrance to the Temple at Karnak. The other collapsed centuries ago.<sup>58</sup> Senmut's death is attributed to sometime before or in Thutmose III's 19th year.<sup>59</sup> Senmut had two tombs built for himself. One was begun in Hatshepsut's seventh year in the Tombs of the Nobles (TT71). The second was built at Deir el-Bahri (TT353) near to Hatshepsut's own mortuary complex.<sup>60</sup> We noted earlier that it held the earliest surviving pictorial record of the calendar of Lower Egypt (known as the civil calendar today).

### Death of Hatshepsut

Hatshepsut disappears from surviving records in Thutmose III's 22nd regnal year. The day Hatshepsut died is well understood to be recorded on the Armant stela, which gives year 22 and II *prt* 10 as its opening date.<sup>61</sup> Reckoning from Thutmose III's accession in 1590 BCE, the 22nd year would be 1568, because, as we see in chapter 28, Thutmose III's 23rd year began on I *šmw* 4 also in 1568 BCE. It appears that Hatshepsut had been ailing, and in the face of her impending death, the king of Kadesh took the opportunity to advance his army to Meggido where the army of Thutmose III effected a great defeat over the Syrians.<sup>62</sup> This is dated to I *šmw* 20 or 21 and is discussed in the following chapter.

A mummy discovered in 1903 lying on the floor of Tomb 60, in the Valley of the Kings, beside a coffin that held the mummy of Hatshepsut's wet-nurse (named on the coffin) was thought also to be a nurse. However, in 2007, a CT scan of a wooden funerary box bearing the name of Hatshepsut revealed a molar tooth that fitted exactly into the jaw socket of the mummy on the floor. DNA samples, the royal positioning of the left arm and clenched fist across the body, and other clues, led Zahi Hawass, Secretary General of the Supreme Council of Antiquities in Cairo and his colleagues to

<sup>55</sup> E.P. Uphill, "A Joint Sed-festival of Thutmose III and Queen Hatshepsut," *JNES* 20 (1961) 248-51. See also Hayes, "Egypt: Internal Affairs," 330-32; Wentz and Van Sicken, "Chronology of the New Kingdom," 220.

<sup>56</sup> Hayes, "Egypt: Internal Affairs," 331-32; Hornung, "New Kingdom," 201 citing *Urk.* IV 367, 3-5.

<sup>57</sup> Hayes, "Egypt: Internal Affairs," 330-31; "Senenmut," <http://en.wikipedia.org/wiki/Senenmut>

<sup>58</sup> "Senenmut," <http://en.wikipedia.org/wiki/Senenmut>

<sup>59</sup> Hayes, "Egypt: Internal Affairs," 318.

<sup>60</sup> "Senenmut," <http://en.wikipedia.org/wiki/Senenmut>

<sup>61</sup> D.B. Redford, *Egypt, Canaan, and Israel in Ancient Times* (Princeton, NJ: Princeton University Press, 1992) 156 and n. 135.

<sup>62</sup> Redford, *Egypt, Canaan, and Israel*, 156-58.

positively identify the mummy as that of Hatshepsut. The mummy was of an obese woman who seems to have suffered from diabetes and probably died of bone cancer.<sup>63</sup>

### Hatshepsut and the Satet Temple at Elephantine

In 1985, an article by R.A. Wells discussed the Satet Temple at Elephantine, which he examined in 1984. In the time of Hatshepsut and Thutmose III, it had been reconstructed in place of earlier temples built on the same site.<sup>64</sup> Using a conventional chronology, Wells dated the temple to about 1450 BCE. He noted that the temple “faced the rising star Sirius, the namesake of the goddess. The temple was oriented, however, to midwinter sunrise for calendrical purposes.”

Wells’ chronology doesn’t allow for the 100 years between the end of the Sothic cycle in 1414 BCE observed at Thebes and the beginning of the Sothic cycle in 1314 BCE observed at Memphis. The temple should be dated to the years of the co-regency of Hatshepsut and Thutmose III from 1588 to 1569 BCE; therefore, approximately 130 years earlier than the 1450 date. A re-calculation would provide a more accurate assessment of the orientation of the Satet Temple to both the heliacal rising of Sothis and the sun’s path at sunrise, leading to a better understanding of the temple’s purpose.

Table 27.9 shows the reigns of the 18th Dynasty that have been considered so far.

**Table 27.9: 18th Dynasty: Ahmose to Hatshepsut with regnal years and dates**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ahmose	25 yr, 4 mo	1676–1651	None known
Amenhotep I	20 yr, 9 mo	1651–1630	Sothic heliacal rising at Thebes: Yr 9 III <i>šmw</i> 9 1642
Thutmose I	8 yr, 7 mo	1630–1622	None known
Thutmose II	17 yr, 7 mo	1622–1604	None known
Hatshepsut	14 + 22 = 36 yr	1604–1590 sole reign; 1590–1568 (co-regency)	Yr 15 of Hatshepsut = Thut. III’s 2nd year in 1589/1588. Hatshepsut’s accession as co-regent fell in 1588, though Thut. III began to reign in 1590. Yr 2 Thut. III: Amun feast II <i>prr</i> 29 on 3rd day after new moon on II <i>prr</i> 27 in 1588 celebrates Hatshepsut’s co-regency with Thut. III

\* = most months approximate.

<sup>63</sup> “Tooth may have Solved Mummy Mystery,”

<http://www.nytimes.com/2007/06/27/world/middleeast/27mummy.html>

<sup>64</sup> R.A. Wells, “Sothis and the Satet Temple on Elephantine: A Direct Connection,” *SAK* 12 (1985) 255-302.



## Chapter 28

### Reinstating the 18th Dynasty - Thutmose III and Amenhotep II

Having discussed the 18th Dynasty reigns of Ahmose to Hatshepsut (the shaded portion of Table 28.1) in chapter 27, this chapter considers the reigns of two kings: Thutmose III and Amenhotep II in conjunction with the anchor points available from inscriptional evidence.

**Table 28.1: 18th Dynasty: Ahmose to Amenhotep II**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ahmose	25 yr, 4 mo	1676–1651	None known
Amenhotep I	20 yr, 9 mo	1651–1630	Sothic heliacal rising at Thebes: Yr 9 III <i>šmw</i> 9 1642
Thutmose I	8 yr, 7 mo	1630–1622	None known
Thutmose II	17 yr, 7 mo	1622–1604	None known
Hatshepsut	14 + 22 = 36 yr	1604–1590 (sole reign); 1590–1568 (co-regency)	Yr 15 of Hatshepsut = Thut. III's 2nd year in 1589/1588: Hatshepsut's accession as co-regent fell in 1588, though Thut. III began to reign in 1590. Yr 2 Thut. III: Amun feast II <i>prt</i> 29 on 3rd day after new moon II on II <i>prt</i> 27 in 1588 celebrates Hatshepsut's co-regency with Thut. III
Thutmose III			Yr 2 new moon II <i>prt</i> 27; II <i>prt</i> 29 was 3rd day of Amun feast celebrating Hatshepsut's co-regency. Yr 23 new moon I <i>šmw</i> 20 (Megiddo) 1568. Yr 24 new moon II <i>prt</i> 30 "stretching of the cord" 10th day Amun feast, 1566. [Yr 33] Sothic heliacal rising at Elephantine III <i>šmw</i> 28, 1558
Amenhotep II			Yr 19 new moon III <i>šmw</i> [8] 1517; feast preparations

\* = most months approximate.

New moon and Sothic data assist in establishing the regnal years of Thutmose III. His accession and the early part of his reign were reported in the previous chapter. The Sothic rising fixes Thutmose III's reign securely, and will be treated first. The difference between the prevailing dating assumptions of other Egyptologists for this period, and those presented in this book, must be borne in mind.

#### A Festival to Celebrate the Rising of Sothis in Thutmose III's 33rd year

A hieroglyphic inscription on a rock found on the island of Elephantine recorded that in the third month of summer, on day 28, a festival to the rising of Sothis was held.<sup>1</sup> Neither the king's name nor the regnal year is given. The date is III *šmw* 28, somewhat after the heliacal rising dated to III *šmw* 9 in Amenhotep I's ninth year observed at Thebes. The inscription at Elephantine refers to a successor.

Since Thebes at 25.7 degrees latitude is nearly 2 degrees north of Elephantine (24° lat.), the corresponding date for the rising on III *šmw* 28 at Elephantine would have

<sup>1</sup> R.D. Long, "A Re-examination of the Sothic Chronology of Egypt," *Orientalia* 43 (1974) 263, 268; A.J. Spalinger, "Sothis and 'Official' Calendar Texts," *VA* 10 (1995) 178.

been two days later; that is, on III *šmw* 30 at *Thebes*. I previously determined that the heliacal rising of Sothis at Thebes fell on III *šmw* 9 in 1642 BCE. It would take another 21 days, or 84 years in the Sothic cycle, for the heliacal rising at Thebes to occur on III *šmw* 30. Eighty-four years after 1642 places the date at 1558 BCE.

Casperson's lunar table Table 28.2 represents the calendar of Lower Egypt. (comments within Casperson tables are mine).

**Table 28.2: Thutmose III's 33rd year and the date of a Sothic rising on III *šmw* 30 at Thebes (new moon listing from -1557)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1557	6	15	-1557	6	1	1224	10	2	2	8:44	5:16	287	5:15	98	5:15	-13
<b>Sothic rising on III <i>šmw</i> 30 at Thebes (calendar of Upper Egypt) on 13 July in Thutmose III's 33rd year in -1557</b>																
-1557	7	14	-1557	6	30	1224	11	1	3	15:46	5:11	367	5:11	161	5:11	33
<b>A feast of Amun included <i>wp rnpt</i> on I <i>3ht</i> 1 in -1557 (on 13 August)</b>																
-1557	8	13	-1557	7	30	1224	12	1	5	0:13	5:20	216	5:21	87	5:21	-29
-1557	9	11	-1557	8	28	1224	12	30	6	10:55	5:39	259	5:39	139	5:40	25

DoW = day of week; ToD = time of day.

. The date of II *šmw* 30 converts to III *šmw* 30 for the calendar of Upper Egypt, by which heliacal risings at Thebes were recorded. Thus 14 July corresponds to IV *šmw* 1, and the heliacal rising of Sothis was seen the previous day on III *šmw* 30 equating to 13 July at Thebes, and III *šmw* 28, 10 or 11 July, at Elephantine. These dates are consistent with the HELIAC program, which gives dates for the 14th or 15th at Thebes using an altitude of 3 degrees for Sirius (Sothis), and the 12th or 13th at Elephantine, using an altitude of 2 degrees. Though the regnal year of Thutmose III of the heliacal rising on the Elephantine inscription is not stated, his 33rd year appears on a tablet found at el-Bersheh, which seems to allude to a heliacal rising of Sothis.

#### **Tablet at el-Bersheh Affirms Thutmose III's 33rd year**

Flinders Petrie, an esteemed Egyptologist, wrote, "A tablet at el-Bersheh (now destroyed) was dated in the 33rd year of Tahutmes III ... on the 2nd day of Mesore, which is only three days after the feast day on the 28th of Epiphi. And in this tablet the beginning of a million of Sirius cycles is wished for the king...."<sup>2</sup>

Petrie alludes to this inscription again with reference to Thutmose III's 33rd year: "Tablet at el-Bersheh, 2nd Mesore. *Sed* festival, 28th Epiphi."<sup>3</sup> Also referring to Thutmose III's reign, Petrie wrote, "At el-Bersheh a tablet was carved on the rock, dated in [the] 33rd year, on the 2nd of Mesore, wishing the king millions of the *Sed* festivals, that great feast of 30 years having taken place two or three days before the dating of the stele."<sup>4</sup> Petrie includes this date, Epiphi 28, in a list of Sothic risings, dated to the 33rd year of Thutmose III.<sup>5</sup> When Petrie refers to Epiphi he means the 11th month in the calendar of Lower Egypt (known to him as the civil calendar) and Mesore to him is the 12th month. III *šmw* and IV *šmw* are a month earlier in the calendar of Upper Egypt, aligned with II *šmw* and III *šmw*, respectively.

Petrie confused *sed*-festival dates with dates for the heliacal rising of Sothis as can be seen from the following. He wrote, "The mentions of the *Sed* festival, at the close of each of the 28 or 30 year periods, when Sirius rose a week later in the calendar (owing

<sup>2</sup> W.M.F. Petrie, *A History of Egypt during the XVIIth and XVIIIth Dynasties* (London: Methuen, 1896) Vol. 2, 31.

<sup>3</sup> Ibid., 102.

<sup>4</sup> Ibid., 128.

<sup>5</sup> Ibid., 32.

to the month names shifting earlier), show us equal intervals which are most important to regulate the chronology”<sup>6</sup> (emphasis added). Clearly, Petrie mistakes a *sed*-festival, held after 30 regnal years, with the rising of Sothis, which, after 28 years, moves a week through the civil calendar. Thus, in the passages cited concerning el-Bersheh, Petrie does not distinguish between a *sed*-festival date and a Sothic rising date. He dates the *sed*-festival to the same date as the heliacal rising of Sothis observed at Elephantine. And four days later the date of IV *šmw* 2 is referred to, wishing millions of Sirius cycles, which suggests a connection with a date of a Sothic cycle—though it may be nothing more than a wish for the king’s longevity.

The heliacal rising of Sothis was seen on III *šmw* 28 at Elephantine (lat. 24°) on July 11, and would have been seen about two days later at Thebes (lat. 25.7°) on the 30th of III *šmw* on 13 July. The rising would have been noted one or two days later at el-Bersheh (located just north of Amarna with a latitude of 27.6°), therefore about IV *šmw* 1–2 on 14–15 July. The HELIAC program confirms a Sothic rising at el-Bersheh on the 13 or 14 July using an altitude of 3 degrees for the star.

From this muddled account, and our knowledge that a Sothic rising occurred at Elephantine on III *šmw* 28, we conclude that a heliacal rising was seen at el-Bersheh on approximately IV *šmw* 2. This was recorded for Thutmose III’s 33rd year. Therefore, the prior Sothic rising at Elephantine must also have been in Thutmose III’s 33rd year. This eliminates a 30-year *sed*-festival from consideration. It seems that in this particular year, 1558, the Epiphi feast was held only four days before the heliacal rising of Sirius was seen at el-Bersheh on IV *šmw* 2.

### Lunar Dates in the Reign of Thutmose III

Two lunar dates in Thutmose III’s reign have been discussed at length by scholars. While the specific years that scholars are discussing are misplaced by over a century, the fact that lunar cycles repeat themselves every 25 years permits us to discuss their interpretation of several texts involving new moons, and then to compare the accuracy of the dates that have been fixed by reference to the Sothic cycle.

### Battle of Meggido

The first new moon date comes from Thutmose’s Campaign Annals reporting a day of battle at Megiddo between Thutmose III’s army and the Syrian army led by the king of Kadesh.<sup>7</sup> The text notes the day of the new moon as being I *šmw* 21 in the 23rd year of Thutmose III. In 1942, Faulkner emended this date to the 20th year since it appears that the preceding day was the 19th.<sup>8</sup> With a few exceptions,<sup>9</sup> most scholars agree with the emendation—which is validated by the new moon appearing on I *šmw* 20 in –1567 shown in Table 28.3 below.

<sup>6</sup> Ibid., 31.

<sup>7</sup> Text in English may be found in R.O. Faulkner, “The Battle of Megiddo,” *JEA* 28 (1942) 3-4; J.A. Wilson (tr.), “The Asiatic Campaigns of Thutmose III,” *ANET*, 234-38.

<sup>8</sup> Faulkner, “Battle of Megiddo,” 3, 4 and 11 n. *hh*.

<sup>9</sup> E.F. Wente argues that the date refers to the *order* for the stretching-of-the-cord for the new sanctuary, not the date of the new moon (“Thutmose III’s Accession and the Beginning of the New Kingdom,” *JNES* Vol. 34 No. 4 [1975] 265-67). He is followed by Helck (“Discussion” in *High, Middle or Low? Acts of an International Colloquium on Absolute Chronology Held at the University of Gothenburg 20th – 22nd August 1987* [P. Åström (ed.) Gothenburg: Part 3, 1989] 41-42). See also B.M. Bryan, *The Reign of Thutmose IV* (Baltimore and London: Johns Hopkins University Press, 1991) 14-19.

**Stretching-of-the-Cord in Thutmose III’s 24th Year**

A second new moon date fell on II *prt* 30 in the 24th year of Thutmose III’s reign according to an inscription found on a building at Karnak, which referred to a new moon at the time of the “stretching-of-the-cord” an act in founding a temple or building.

Spalinger cites the inscription for the second date. “My majesty commanded the preparation of stretching-of-the-cord while waiting for the day of the new moon (*psdntyw*) in order to stretch the cord around this monument in regnal year 24 II *prt* 30, the day of the festival, (namely) the tenth day of Amun in Karnak.”<sup>10</sup>

Spalinger points out that Thutmose III commanded the preparations for the “stretching-of-the-cord” while he was *waiting for* the day of the new moon.<sup>11</sup> The question is whether the new moon fell on II *prt* 30, or the next day, the beginning of the civil month of III *prt*.<sup>12</sup>

The new moon date for the Battle of Megiddo in Thutmose III’s 23rd year is 10 years earlier than the date of 1558 BCE, which was previously fixed by the Sothic date for his 33rd year, so the date of 1568 BCE (–1567) is proposed for his 23rd year (the new moon during the Battle of Megiddo).The year 1566 BCE is proposed for his 24th year (the new moon relating to the stretching-of-the-cord) because there are 22 months between the dates. Casperson has calculated the new moon dates for these years (Table 28.3).

**Table 28.3: Thutmose III’s 23rd and 24th years –1567 and –1565 (new moon listing from –1567 to –1565)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1567	5	7	-1567	4	23	1214	8	21	7	1:38	5:37	211	5:37	89	5:36	9
<b>Thutmose III’s 23rd year starts on I <i>šmw</i> 4; the new moon falls on I <i>šmw</i> 20</b>																
-1567	6	5	-1567	5	22	1214	9	20	1	8:26	5:20	277	5:19	133	5:19	39
-1567	7	4	-1567	6	20	1214	10	19	2	16:07	5:11	316	5:11	176	5:11	69
-1567	8	3	-1567	7	20	1214	11	19	4	1:54	5:16	214	5:16	104	5:17	-5
-1567	9	1	-1567	8	18	1214	12	18	5	14:43	5:32	256	5:33	148	5:33	42
-1567	10	1	-1567	9	17	1214	1	13	7	6:54	5:54	203	5:55	103	5:56	4
<b>An Opet feast dates to II <i>3ht</i> 15 of Thutmose III’s 23rd year, three days after new moon on the 12th</b>																
-1567	10	31	-1567	10	17	1215	2	13	2	1:40	6:18	172	6:19	75	6:19	-21
-1567	11	29	-1567	11	15	1215	3	12	3	21:26	6:38	252	6:38	147	6:39	48
-1567	12	29	-1567	12	15	1215	4	12	5	16:24	6:49	230	6:49	111	6:49	16
-1567	1	28	-1566	1	14	1215	5	12	7	9:12	6:44	183	6:44	70	6:44	-11
-1566	2	26	-1566	2	12	1215	6	11	1	23:08	6:28	331	6:28	131	6:27	42
-1566	3	28	-1566	3	14	1215	7	11	3	10:08	6:07	224	6:06	96	6:05	23
-1566	4	26	-1566	4	12	1215	8	10	4	18:40	5:45	374	5:45	157	5:44	65
<b>Thutmose III’s 24th year starts on I <i>šmw</i> 4</b>																
-1566	5	26	-1566	5	12	1215	9	10	6	1:39	5:25	223	5:25	105	5:24	16
-1566	6	24	-1566	6	10	1215	10	9	7	8:18	5:13	278	5:13	144	5:12	37
-1566	7	23	-1566	7	9	1215	11	8	1	15:48	5:12	311	5:13	180	5:13	62
-1566	8	22	-1566	8	8	1215	12	8	3	1:10	5:25	217	5:26	98	5:27	-19
-1566	9	20	-1566	9	6	1216	1	2	4	13:06	5:46	258	5:46	145	5:47	33
-1566	10	20	-1566	10	6	1216	2	2	6	3:47	6:09	200	6:10	93	6:11	-12
-1566	11	18	-1566	11	4	1216	3	1	7	20:57	6:31	266	6:31	157	6:32	53
-1566	12	18	-1566	12	4	1216	4	1	2	15:44	6:46	230	6:47	114	6:47	18
-1565	1	17	-1565	1	3	1216	5	1	4	10:49	6:48	184	6:48	78	6:47	-2
-1565	2	16	-1565	2	2	1216	6	1	6	4:35	6:35	145	6:34	59	6:34	-7

<sup>10</sup> A.J. Spalinger, “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; *Alter Orient und Altes Testament*; Münster: Ugarit, 2002) 389.

<sup>11</sup> *Ibid.*, 389.

<sup>12</sup> *Ibid.*, 389-90.



A new moon falls on II prt 30 in Thutmose III's 24th year																
-1565	3	17	-1565	3	3	1216	6	30	7	19:42	6:15	254	6:14	122	6:14	50
-1565	4	16	-1565	4	2	1216	7	30	2	7:45	5:53	204	5:52	103	5:51	34

DoW = day of week; ToD = time of day.

Table 28.3 based on a Thebes observation site shows that a new moon fell on I *šmw* 20 in -1567 (1568 BCE). The Megiddo location where the battle was held makes no difference to the day of the new moon, being only nine minutes later, as seen below in Table 28.4.

**Table 28.4: New moon date at Megiddo in Thutmose III's 23rd year -1567 (new moon listing from -1567)**

Megiddo; Lat. 32.0, Long. 35.0; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1567	5	7	-1567	4	23	1214	8	21	7	1:48	5:31	201	5:30	83	5:29	13
<b>-1567</b>	<b>6</b>	<b>5</b>	-1567	5	22	1214	<b>9</b>	<b>20</b>	1	<b>8:35</b>	5:08	282	5:07	129	5:06	<b>43</b>
-1567	7	4	-1567	6	20	1214	10	19	2	16:17	4:56	334	4:56	174	4:56	71

DoW = day of week; ToD = time of day.

The new moon dated to I *šmw* 20 and not I *šmw* 21 as given in the text, appears to vindicate the amendment proposed by Faulkner and approved by other scholars. It also vindicates the dating of the *years* of these events proposed in this chronology. Therefore, the lunar date of I *šmw* 20 in Thutmose III's 23rd year in 1568 BCE comes, as expected, 10 years before the 33rd year Sothic rising date.

The second new moon date referring to the "stretching-of-the-cord" fell on II *prt* 30 in -1565 (1566 BCE) in Thutmose III's 24th year and is in exact agreement with the Egyptian date.

### A Third New Moon Date in Thutmose III's Reign

Another lunar date also applies to Thutmose III's reign. In the "stretching-of-the-cord" text, cited above, the date of II *prt* 30 was described as a new moon day and fell on the 10th day of Amun. This infers that other Amun feasts also included the day of a new moon. In connection with the Amun feast, Spalinger notes that the same text that recorded the heliacal rising of Sothis at Elephantine on III *šmw* 28 is also "explicitly connected to I *3ht* 1 with respect to a feast of Amun."<sup>13</sup>

The regnal year of Thutmose III of the above-mentioned Amun feast on I *3ht* 1 is not stated, but coming from the same text as for the heliacal rising of Sothis on III *šmw* 28, now established as his 33rd year, suggests it was the same year. The III *šmw* 28 date was recorded by the calendar of Upper Egypt, and because the calendar of Upper Egypt began with the month of *wp rnpt*, the *wp rnpt* in the above context also refers to I *3ht* 1 in that calendar.

Looking for a new moon on I *3ht* 1 in the year 1558 BCE, I refer to Casperson's previous table (Table 28.2) for Thutmose III's 33rd year which uses the calendar of Lower Egypt. IV *šmw* 1 is I *3ht* 1 in the calendar of Upper Egypt. The new moon occurred the previous day on IV *šmw* 30. This confirms that I *3ht* 1 was connected to a feast of Amun in the 33rd year of Thutmose III. However, in the "stretching-of-the-cord

<sup>13</sup> A.J. Spalinger, "The Canopus Stela," *Three Studies on Egyptian Feasts and their Chronological Implications* (Baltimore, MD: Halgo, 1992) 46, citing *Urk.* IV 824.9. This was covered earlier when discussing the meaning of *wp rnpt* and Richard Parker's assumed equivalence of *wp rnpt* with *prt Spdt* (the "going up of Sothis"). See also, idem, "Egyptian Festival Dating," 391 n. 71 where Spalinger connects I *3ht* 1 to the "first feast of Amun" after Thutmose III's Megiddo campaign in his 23rd year. The above context, however, dates the feast to the 33rd year of Thutmose III.

feast” the new moon fell on II *3ht* 30, which is equated with the 10th day of the Amun feast.

### Opet Festivals in Thutmose III’s 23rd and 47th Years

Krauss refers to an Opet feast celebrated on II *3ht* 14 ± 1 day in the 23rd year of Thutmose III.<sup>14</sup> Spalinger notes that in the time of Thutmose III an Amun feast coincided with Opet and the latter began on day 15 of II *3ht*, but later moved to II *3ht* 19.<sup>15</sup> Krauss attributes the date of II *3ht* 19 to the 47th year of Thutmose III.<sup>16</sup> The feast apparently lasted 11 days.<sup>17</sup> Early in the reign of Ramesses II the festival of Opet had moved to II *3ht* 19 and lasted to III *3ht* 12. Both dates were associated with the moon.<sup>18</sup>

According to the earlier table (Table 28.3) of Thutmose III’s 23rd and 24th years –1567 to –1565 (inclusive), in Thutmose III’s 23rd year the new moon fell on II *3ht* 12, three days before the given date of the Opet feast, with conjunction on the 13th. According to Table 28.5, in Thutmose III’s 47th year in –1542, the new moon fell on the day of conjunction on II *3ht* 13. The given date for the Opet feast then fell six days later. Thus the Opet dates in the 23rd and 47th years of Thutmose III refer back to a date of II *3ht* 12 or 13.

**Table 28.5: Thutmose III’s 47th year in –1542 (new moon listing for –1542)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1542	9	25	-1542	9	11	1240	1	13	4	14:31	5:50	227	5:50	129	5:51	33
<b>-1542</b>	<b>10</b>	<b>25</b>	-1542	10	11	1240	<b>2</b>	<b>13</b>	6	9:27	6:13	206	6:14	108	6:15	<b>12</b>
-1542	11	24	-1542	11	10	1240	3	13	1	3:27	6:35	185	6:35	87	6:36	-11

DoW = day of week; ToD = time of day.

The two Opet feasts falling respectively on almost the same new moon date 25 years apart further confirms the chronology. The dates accord with the accession of Thutmose III in 1590 BCE.

### Dating the Death of Thutmose III: III *prt* 30 or IV *3ht* 1?

Thutmose III ascended the throne on I *šmw* 4. Spanning the years 1590–1537, depending on his date of death, Thutmose III either reigned 53 years, 10 months, and 26 days, or 53 years, 6 months, and 26 days.<sup>19</sup>

Thutmose III was succeeded by his son Amenhotep II who appears to have been about 18 years old when he became king.<sup>20</sup> A new moon date and a possible co-regency between Thutmose III and Amenhotep II is a prominent topic of discussion among scholars. The co-regency speculation involves three main points.<sup>21</sup>

<sup>14</sup> Krauss, *Sothis-und Monddaten. Studien zur astronomischen und technischen Chronologie Altägyptens* (HÅB 20; Hildesheim: Gerstenberg, 1985) 153 n. 2, citing Lepsius *Denkmaler* III 30 b.5.

<sup>15</sup> Spalinger, “Egyptian Festival Dating,” 390.

<sup>16</sup> Krauss, *Sothis-und Monddaten*, 153 n. 2.

<sup>17</sup> *Ibid.*, 152, 153 n. 2; Spalinger, “Egyptian Festival Dating,” 393 n. 85.

<sup>18</sup> Spalinger, “Egyptian Festival Dating,” 394.

<sup>19</sup> D.B. Redford, “On the Chronology of the Egyptian Eighteenth Dynasty,” *JNES* 25 (1966) 119.

<sup>20</sup> *Idem*, “The Co-regency of Tuthmosis III and Amenophis II,” *JEA* 51 (1965) 117; P. Der Manuelian, *Studies in the Reign of Amenophis II* (HÅB 26; Hildesheim: Gerstenberg, 1987) 43.

<sup>21</sup> For the co-regency discussion see Redford, “Co-regency of Tuthmosis III,” 107-22; R.A. Parker, “Once Again the Co-regency of Thutmose III and Amenhotep II,” *Studies in Honor of John A. Wilson, September 12, 1969* (SAOC 35; Chicago IL: Oriental Institute of the University of Chicago, 1969) 75-82; W. Murnane, *Ancient Egyptian Co-regencies* (SAOC 40; Chicago, Illinois IL: Oriental Institute of the University of Chicago, 1977) 44-57; P. Der Manuelian, *Studies in the Reign of Amenophis II*, 19-42.

1. The accession day of Amenhotep II has two dates.
2. References to a *first victorious campaign* occur in different years.
3. Several stelae depicting both kings together may indicate that Amenhotep II and Thutmose III were co-regents.<sup>22</sup>

### Death of Thutmose III on III *prt* 30 Questioned by Other Evidence

According to a statement on the tomb of Amenemhab, an official in the reign of Thutmose III, the king reigned into his 54th year dying on the last day of III *prt*, that is, III *prt* 30.<sup>23</sup> The tomb biography of Amenemheb, official to Thutmose III, says:

Now the king [i.e. Tuthmosis III] completed his period of many good years in valor, in [po]wer and in justification, beginning with regnal year one down to regnal year fifty-four, III Proyet, last day, under the [Majesty of] King Menkheperre, the triumphant. He went up to heaven, joining the solar disk, and the god's limbs were commingled with the one who made him. And at first light, when the morrow had come, (then) the sun was risen, the sky was bright, and King Okheprurē, the son of Rē [Amenophis II]<sup>24</sup>, given life, was established on the throne of his father. He alighted on the *serekh*, he received lordship.<sup>25</sup>

Commenting on the above text, Alan Gardiner writes, "The well-known biography of Amenemhab ... places the death of Tuthmosis III in his 54th year on the last day of the 7th month, and affirms that Amenophis II, his son and successor, was already established on the throne the next morning."<sup>26</sup> This places his accession on IV *prt* 1. However, Gardiner also cites a stela from Semnah, which starts with the words "Year 23, 4th month of the Inundation season, day 1, day of the Festival of the King's Arising."<sup>27</sup> This is a reference to Amenhotep II's 23rd regnal year *beginning on* IV 3*ht* 1 (not IV *prt* 1), which implies his accession upon Thutmose III's death on the same date. Gardiner supplies the line in hieroglyphs, so there is no doubt that the inundation season is meant.<sup>28</sup> Furthermore, the British Museum papyrus 10056 also gives the date of IV 1, that is IV 3*ht* 1, for the accession of Amenhotep II, and shows that on that date Thutmose III ceased to reign and Amenhotep II commenced his reign (verso 3, 6),<sup>29</sup> almost conclusively indicating that Amenhotep II's reign was dated from IV 3*ht* 1.

If his reign had started on IV *prt* 1, four months later, the regnal year would not have changed on IV 3*ht* 1. The suggestion was made, by Rainer Stadelmann to William Murnane, that if the writing of *prt* in the tomb of Amenemhab was a mistake for 3*ht* there would be "no room for a co-regency."<sup>30</sup>

As the inscription itself gives no suggestion that Amenhotep II had come to the throne as co-regent four months before his father's death, the idea of a scribal mistake is feasible, and leaves the date IV *prt* 1 suspect.

<sup>22</sup> Redford, "Co-regency of Tuthmosis III," 115.

<sup>23</sup> E. Hornung, "New Kingdom," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 201 citing *Urk.* IV 895, 16-17.

<sup>24</sup> Amenophis is an alternative version of Amenhotep.

<sup>25</sup> Murnane, *Ancient Egyptian Co-regencies*, 51, citing *Urk* IV 895-96.

<sup>26</sup> A H. Gardiner, "Regnal Years and Civil Calendar in Pharaonic Egypt," *JEA* 31 (1945) 27.

<sup>27</sup> *Ibid.*, 27.

<sup>28</sup> *Ibid.*

<sup>29</sup> Redford, "Co-regency of Tuthmosis III," 110, 121.

<sup>30</sup> Murnane, *Ancient Egyptian Co-regencies*, 44 n. 56. It is commonplace for errors to be made in the course of writing.

### Victorious Campaigns?

The presence or absence of these four months is noted by many scholars who now reckon on *2 years and 4 months* co-regency between Thutmose III and Amenhotep II as they try to juggle their dates into their artificially truncated chronology. Entering the discussion are references to “victorious campaigns.” A “first victorious campaign in Year three” on III *prt* 15 in the Amada and Elephantine stelae are understood to refer to the same campaign against Takhsy in northern Syria. On the other hand, on the Memphis stela a year seven campaign to central and northern Syria on I *šmw* 25, and a year nine campaign to Palestine on III *3ht* 25 are called the “first and second victorious campaigns.” These last two campaigns also appear on the Karnak stela but without dates.<sup>31</sup> If Amenhotep II had a first campaign in year three, how then could he have also had a first campaign in year seven and a second campaign in year nine?

A plausible explanation can be suggested for the two “first victorious campaigns.” If no co-regency existed, then year three, year seven, and year nine must *all* refer to Amenhotep II’s reign after the death of his father. The “first victorious campaign” of year seven on the Memphis stela may simply be indicating that this campaign preceded the second campaign of year nine that was also victorious. The year three campaign of the Amada and Elephantine stelae, also described as a “first victorious campaign” having been carried out some four years previously, was a separate event and not connected chronologically to the Memphis stela when it described the year seven as its “first victorious campaign.”

A different solution was proposed by William Murnane in 1977. He claimed that the Amada stela’s year three did not apply to the campaign, but to the improvements to Thutmose III’s Karnak temple authorized by Amenhotep II in his third year,<sup>32</sup> which were then carried out but not recorded until after the “first victorious campaign” of the seventh year to Takhsy had been expedited, claiming that “Amenhotep II’s alleged ‘first campaign’ prior to his seventh year vanishes.”<sup>33</sup>

This idea has been refuted on the grounds that there is no mention of Takhsy on the Memphis and Karnak stelae, and furthermore, there is not enough time between III *šmw* 6 when Amenhotep II was in the plain of Sharon at the end of his Syrian campaign mentioned on the Memphis Stela, and the III *šmw* 15 date of the Syrian campaign at Takhsy (thought to be near Kadesh) mentioned on the Memphis stela.<sup>34</sup> Redford writes, “It is scarcely possible that southern Palestine and the Sinai desert could have been traversed in nine days.”<sup>35</sup> If the Memphis stela was referring to the Takhsy campaign of the seventh year, it makes no mention of Thutmose III. His absence is then explained by the hypothesis that Thutmose III had died before the end of the campaign, and that the engravers then credited the entire campaign to Amenhotep II.<sup>36</sup>

### Depictions

Seeking further evidence for a co-regency between Thutmose III and Amenhotep II, Redford discusses eight possible depictions *showing the two kings together*.<sup>37</sup> He concludes:

<sup>31</sup> Redford, “Co-regency of Tuthmosis III,” 119.

<sup>32</sup> Murnane dates the campaign to III *šmw* 15, whereas Redford dates the Year 7 campaign to I *šmw* 25.

<sup>33</sup> Murnane, *Ancient Egyptian Co-regencies*, 47.

<sup>34</sup> Redford, “Co-regency of Tuthmosis III,” 121.

<sup>35</sup> *Ibid.*, 119.

<sup>36</sup> *Ibid.*, 121; Parker, *Once Again the Co-regency*, 80; A.F. Rainey, “Amenhotep II’s Campaign to Takhsi,” *JARCE* 10 (1973) 71.

<sup>37</sup> Redford, “Co-regency of Tuthmosis III,” 115-18.

The sobering fact is that no single, universal conclusion can be drawn mechanically merely from the graphic representation of two kings or their names side by side. Indeed, the very piece of evidence most relied on by proponents of the co-regency, viz. the ‘Amada gate inscription, seems to be weakest of all; for the pylon itself, which of all parts of the temple would seem to have been the one certain joint undertaking of father and son, is specifically claimed by Amenophis II as his own work.”<sup>38</sup>

But in a later work Murnane states, “Neither Amenophis II nor any of his subjects refers directly to the co-regency in the surviving monuments.”<sup>39</sup> Then he notes that there is, “a passage in the tomb biography of Amenemhab that seems not merely to omit mention of a co-regency but actually to deny that one existed.”<sup>40</sup> This is the passage cited above recording the death of Thutmose III on III *pṛt* [*sic*] 30, and that on the next day Amenhotep was established on his father’s throne. Murnane asks, “Why if there was a co-regency should the situation have been described in this way?”

### New Moon in Amenhotep II’s 19th Year

Another way to determine whether Thutmose III’s reign had a co-regency with Amenhotep II concerns the accession date and length of Amenhotep II’s reign. Amenhotep II has a new moon attributed to his 19th year, which gives a fixed point for his reign. Richard Parker attempted to look for a new moon in order to date Amenhotep II’s reign, by which he could anchor his chronology, and he consulted a papyrus known as P Leningrad (Petersburg) 1116A.<sup>41</sup>

The papyrus deals with accounts and preparation of grain, palm dates, and drink offerings for feasts. The surviving part consists of the bottom half of what was once a large papyrus; the upper half is now lost. Between each column about 14 lines on average are missing. The first date preserved is that of II *šmw* 10 in line 18 followed in line 19 by the words “from the grain of Year 18.”<sup>42</sup> Parker and other scholars understand from this that the grain was being distributed in the 19th year of the king.<sup>43</sup>

To understand the discussion we need to note where relevant lines occur in the text. Line 192 refers to: “III *šmw* 6, from [the] lower north[ern granary] of the House of the Adorer (the Queen).” Three more lines follow at which point the papyrus breaks off for about 14 lines of lacuna. *Psdntyw* is first mentioned in the second line after the lacuna where it is unfortunately numbered line 197 as if this section was continuous with the preceding (it should be line 206). Offerings for the feast are mentioned in lines 197 to 202 where *psdntyw* is specifically named in lines 197, 198, 201, and 202. The following lines are unclear due to lacuna, but there is no further mention of *psdntyw*, which suggests that in lines 203–207, which continue to refer to offerings from the storehouse, a new feast is being introduced. Line 205 has a broken date of [...*š*] *mw* 10, followed in line 206 with a reference to good bread, and in line 207 a further reference to good bread for the sixth lunar day.<sup>44</sup> It seems unlikely that III *šmw* 6 in line 192 (before the lacuna) was followed by III *šmw* 10 in line 205, which, with the lacuna is actually line 215. It seems more likely that the date was IV *šmw* 10, and that “good bread” was given out for a subsequent feast on the sixth lunar day, which is well-known to be a day of celebration. Therefore, the sixth lunar day had to fall after IV *šmw* 10, with the preceding feast

<sup>38</sup> Ibid., 117.

<sup>39</sup> Murnane, *Ancient Egyptian Co-regencies*, 50.

<sup>40</sup> Ibid., 51.

<sup>41</sup> Redford, “Co-regency of Tuthmosis III,” 107-10.

<sup>42</sup> Parker, “Once Again the Co-regency,” 76.

<sup>43</sup> Ibid., 76-77, 82.

<sup>44</sup> Ibid., 78.

encompassing *psdntyw* only a few days before. If Thutmose III died in 1537 BCE, Amenhotep II's 19th year—when the grain was distributed—would have fallen in 1517 BCE. What date does the new moon fall on in this year? See Casperson's table (Table 28.6).

**Table 28.6 New moon in Amenhotep's 19th year falls before III šmw 10 and IV šmw 10 (new moon listing from –1517 to –1516)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																	
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility						
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0		
-1517	11	18	-1517	11	4	1265	3	13		5	0:23	6:31	204	6:31	91	6:32	-25
<b>Amenhotep II's 19th year begins on IV 3<math>\dot{h}</math>t 1 or IV prt 1</b>																	
-1517	<b>12</b>	<b>17</b>	-1517	12	3	1265	<b>4</b>	<b>12</b>		6	12:11	6:46	270	6:46	148	6:47	32
-1516	1	15	-1516	1	1	1265	5	11		7	22:45	6:48	390	6:48	196	6:48	69
-1516	2	14	-1516	1	31	1265	6	11		2	8:11	6:36	260	6:35	90	6:35	-15
-1516	3	14	-1516	2	29	1265	7	10		3	16:53	6:16	390	6:16	111	6:15	4
-1516	4	13	-1516	3	30	1265	<b>8</b>	<b>10</b>		5	1:39	5:54	151	5:53	<b>30</b>	5:53	<b>-46</b>
-1516	5	12	-1516	4	28	1265	9	9		6	11:29	5:34	230	5:33	75	5:32	-6
-1516	6	10	-1516	5	27	1265	10	8		7	23:17	5:17	343	5:17	145	5:16	49
<b>New moon dates fall before III šmw 10 and IV šmw 10</b>																	
-1516	7	10	-1516	6	26	1265	<b>11</b>	<b>8</b>		2	13:26	5:11	228	5:11	119	5:11	<b>33</b>
<b>-1516</b>	<b>8</b>	<b>9</b>	-1516	7	26	1265	<b>12</b>	<b>8</b>		4	5:41	5:19	191	5:19	<b>99</b>	5:20	<b>9</b>
-1516	9	7	-1516	8	24	1266	1	2		5	23:11	5:37	260	5:37	167	5:38	73

DoW = day of week; ToD = time of day.

In –1516 a new moon fell on III šmw 8 and on IV šmw 7, thus agreeing with the inference from the above text that by IV šmw 10 *psdntyw* had passed. It seems that on IV šmw 10 (line 205) preparations for a feast on the sixth lunar day (IV šmw 13) were being made. Table 28.6 shows that new moon dates proposed by the text of papyrus Leningrad (Petersburg) 1116A in Amenhotep II's 19th year affirm the death of Thutmose III and the accession of Amenhotep II in 1536 BCE. The importance of this conclusion is that there was no two-year co-regency, as the dates are in agreement with each other. Where, then, did the idea of a two-year co-regency come from?

### Parker's Ideas of Co-regency

In 1969, when Parker wrote that he sought to date Amenhotep's 19th year to a new moon date that allowed three or four days for the brewing of beer and the making of bread<sup>45</sup> before the first lunar day (*psdntyw*) feast was held. Parker put the issuance of grain before III šmw 10, but does not say that the new moon was also before III šmw 10. Believing that Amenhotep II's reign should be dated to the 15th century, Parker constructed a list of new moon dates for II and III šmw over a 50-year period (that is two 25-year lunar cycles) from 1452 to 1428 and from 1427 to 1403.

He found that in 1420 BCE, a new moon fell on III šmw 10, thus about four days after the date of III šmw 6 (line 192). Thus he assumed that the damaged date was III šmw 10 not IV šmw 10, and that it was connected with III šmw 6, some 30 lines earlier. Assigning Thutmose III an accession date of 1490 BCE, Parker dated Amenhotep II's first year to 1439/1438 BCE.<sup>46</sup> However, this did not agree with Thutmose III's year of death, reckoned to have fallen in 1436 BCE. Thus Parker proposed that 1439/1438 BCE was Amenhotep II's first *of a co-regency of two years and four months* (the four months being the difference between IV 3 $\dot{h}$ t 1 and IV prt 1) before Thutmose III died, and 1420 was his 17th year, not 19th, after the death of his father.

<sup>45</sup> Ibid., 79.

<sup>46</sup> Ibid., 80.

Without the co-regency theory, Thutmose III's accession would date in Parker's scheme to 1493 BCE, which is inadmissible because of the new moon dates that fell in his 23rd and 24th years on precise dates in 1468 and 1466 in the 25-year lunar cycle. A subsequent suggestion by Jürgen von Beckerath that 1417 BCE might be considered as the day of the new moon on III *šmw* 8 in year 20 was rejected by Parker on the grounds that, "Grain allotments for the feast were made no earlier than III *šmw* 6 and included in these was grain for the drink-supply. I submit that this is really too little time for the total beer-making process."<sup>47</sup> Of course, the dates of Parker and his contemporaries are all widely discrepant of the actual dates being established within this chronology.

### Co-regency Refuted by Inscriptions

The first issue is whether there had been a four-month co-regency between Thutmose III and Amenhotep II. The four months' "overlap" from IV *3ht* 1 to IV *prt* 1 is refuted by at least two inscriptions noted previously: the stela from Semnah giving the date of IV *3ht* 1, and the British Museum papyrus 10056, which shows that the *regnal date changed on IV 3ht 1*. The date of III *prt* 30 in Amenemheb's description of the transition between Thutmose III and Amenhotep II is presumed to be a scribal mistake for III *3ht* 30, the date Thutmose III died. With the new moon date on IV *šmw* 7, in 1517, and Amenhotep II's accession on IV *3ht* 1, his 19th year actually started the previous year in 1518 BCE on 6 December, as shown by the equation IV *3ht* 12 = 17 December (Julian calendar) in Casperson's Table 28.6.

Reckoning back 18 years from IV *3ht* 1 in 1518 BCE on 6 December (when Amenhotep II's 19th year began) gives his accession date on 10 December in 1536 (–1535), as can be reckoned from Casperson's table here (Table 28.7).

**Table 28.7: Thutmose III's 54th year begins in –1536 and Amenhotep II's Accession in –1535 (new moon listing from –1536 to –1535)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1536	4	24	-1536	4	10	1245	8	16	5	7:53	5:46	139	5:45	39	5:45	-28
<b>Thutmose III's 54th year begins on I <i>šmw</i> 4</b>																
-1536	5	23	-1536	5	9	1245	9	15	6	22:43	5:27	267	5:26	106	5:25	21
-1536	6	22	-1536	6	8	1245	10	15	1	13:03	5:13	214	5:13	96	5:13	12
-1536	7	22	-1536	7	8	1245	11	15	3	2:40	5:12	184	5:13	82	5:13	-11
-1536	8	20	-1536	8	6	1245	12	14	4	15:20	5:25	259	5:25	152	5:26	47
-1536	9	19	-1536	9	5	1246	1	9	6	3:02	5:45	216	5:46	105	5:47	-11
-1536	10	18	-1536	10	4	1246	2	8	7	14:03	6:08	281	6:09	164	6:10	42
-1536	11	17	-1536	11	3	1246	3	8	2	0:46	6:30	222	6:31	100	6:32	-24
-1536	12	16	-1536	12	2	1246	4	7	3	11:33	6:46	276	6:46	150	6:47	31
-1535	1	14	-1536	12	31	1246	5	6	4	22:32	6:48	372	6:48	190	6:48	68
-1535	2	13	-1535	1	30	1246	6	6	6	9:47	6:36	241	6:36	91	6:35	-6
-1535	3	14	-1535	2	28	1246	7	5	7	21:26	6:17	350	6:16	117	6:15	17
<b>Amenhotep II's accession falls on IV <i>prt</i> 1</b>																
-1535	4	13	-1535	3	30	1246	8	5	2	9:52	5:54	172	5:54	49	5:53	-23
-1535	5	12	-1535	4	28	1246	9	4	3	23:28	5:34	297	5:33	108	5:32	23

DoW = day of week; ToD = time of day.

Thutmose III's reign began on IV *šmw* 1 in 1590 BCE and without a four-month co-regency with Amenhotep II, lasted until III *prt* 30 in 1536 (–1535), being 53 years, 10 months, and 27 days, as the biography of Amenemheb stated.

<sup>47</sup> Ibid., 82.

### Length of Amenhotep II's Reign

The highest known year for Amenhotep II's reign is a year 26 found on a wine jar docket in the king's mortuary temple, and accepted by scholars as the length of Amenhotep II's reign.<sup>48</sup> It is assumed that the wine was put there at the time of the king's interment as the bottles were porous and the wine would have soon leaked out.<sup>49</sup>

Amenhotep II's mummy was discovered in its original sarcophagus by Victor Loret in 1898 in the King's Valley at Thebes. He appeared to be 35–45 years old, which agrees with his age of accession if at 18, and a reign of 26 years, making him about 44 years when he died.<sup>50</sup> His age at death rebuts the suggestion made by Went and van Siclen that Amenhotep II reigned 34 years, which would make him 52 years at death. His longer reign was promoted on the idea that Amenhotep II celebrated a 30-year jubilee.<sup>51</sup> The mention of the jubilee has no year attached and most scholars have discounted that it attests to a 30-year reign.<sup>52</sup> Amenhotep II can be attributed 26 years, reigning from 1536 to 1510 BCE. See Table 28.8 which shows the part of the 18th Dynasty so far discussed.

**Table 28.8: 18th Dynasty: Ahmose to Amenhotep II with regnal years and dates**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ahmose	25 yr, 4 mo	1676–1651	None known
Amenhotep I	20 yr, 9 mo	1651–1630	Sothic heliacal rising at Thebes: Yr 9 III <i>šmw</i> 9 1642
Thutmose I	8 yr, 7 mo	1630–1622	None known
Thutmose II	17 yr, 7 mo	1622–1604	None known
Hatshepsut	14 + 22 = 36 yr	1604–1590 (sole reign); 1590–1568 (co-regency)	Yr 15 Thut. III's 2nd year: Hatshepsut's accession as co-regent in 1588, though Thut. III began to reign in 1590. Amun feast II <i>pṛt</i> 29 on 3rd day after new moon II <i>pṛt</i> 27 in 1588.
Thutmose III	53 yr, 6 mo, 26d	1590–1536	Yr 2 new moon II <i>pṛt</i> 27; II <i>pṛt</i> 29 was 3rd day of Amun feast on Hatshepsut's co-regency celebration. Yr 23 new moon I <i>šmw</i> 20 (Megiddo) 1568. Yr 24 new moon II <i>pṛt</i> 30 "stretching-of-the-cord" 10th day Amun feast, 1566. [Yr 33] Sothic heliacal rising at Elephantine III <i>šmw</i> 28, 1558
Amenhotep II	25 yr, 9 mo	1536–1510	Yr 19 new moon III <i>šmw</i> [8] 1517; feast preparations

\* = most months approximate.

<sup>48</sup> Redford, "Co-regency of Tuthmosis III," 110; idem, "Chronology," 119-20; E.F. Went and C.C. Van Siclen III, "A Chronology of the New Kingdom," *Studies in Honor of George R. Hughes* (eds. J.H. Johnson and E.F. Went; SAOC 39; Chicago: Oriental Institute of the University of Chicago, 1976) 228.

<sup>49</sup> Redford, "Chronology," 119.

<sup>50</sup> Hornung, "New Kingdom," 203 referring to *An X-ray Atlas of the Royal Mummies*. (eds. J.E. Harris and E.F. Went; Chicago and London: University of Chicago Press, 1980) 202.

<sup>51</sup> Went and van Siclen, "Chronology of the New Kingdom," 228; see also Der Manuelian, *Studies in the Reign of Amenophis II*, 42-44.

<sup>52</sup> Der Manuelian, *Studies in the Reign of Amenophis II*, 43.



## Chapter 29

### Reinstating the 18th Dynasty - Thutmose IV to Tutankhamun

This chapter deals with the 18th Dynasty rulers in the unshaded area shown in Table 29.1. The virtual absence of anchor points places more reliance on inscriptional and circumstantial evidence, which has considerable complexity.

**Table 29.1: 18th Dynasty: Ahmose to Tutankhamun**

Rulers	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ahmose	25 yr, 4 mo	1676–1651	None known
Amenhotep I	20 yr, 9 mo	1651–1630	Sothic heliacal rising at Thebes: Yr 9 III <i>šmw</i> 9 1642
Thutmose I	8 yr, 7 mo	1630–1622	None known
Thutmose II	17 yr, 7 mo	1622–1604	None known
Hatshepsut	14 + 22 = 36 yr	1604–1590 (sole reign); 1590–1568 (co-regency)	Yr 15 Thut. III's 2nd year: Hatshepsut's accession as co-regent in 1588, though Thut. III began to reign in 1590. Amun feast II <i>prt</i> 29 on 3rd day after new moon II <i>prt</i> 27 in 1588
Thutmose III	53 yr, 6 mo, 26 d	1590–1536	Yr 2 new moon II <i>prt</i> 27; II <i>prt</i> 29 was 3rd day of Amun feast on Hatshepsut's co-regency celebration. Yr 23 new moon I <i>šmw</i> 20 (Megiddo) 1568. Yr 24 new moon II <i>prt</i> 30 "stretching-of-the-cord" 10th day Amun feast, 1566. [Yr 33] Sothic heliacal rising at Elephantine III <i>šmw</i> 28, 1558
Amenhotep II	25 yr, 9 mo	1536–1510	Yr 19 new moon III <i>šmw</i> [8] 1517; feast preparations
Thutmose IV			None known
Amenhotep III			None known
Akhenaten			Yr 5 new moon IV <i>prt</i> 13 1459 boundary stela. Probable "stretching-of-the-cord" ceremony
Smenkhkare/Neferneferuaten			None known
Tutankhamun			None known

\* = most months approximate.

Amenhotep II was succeeded by Thutmose IV, his second son. The accession date is not known, but his earliest date on a sphinx stela in year one is III *3ht* 19,<sup>1</sup> so Amenhotep II must have died before that date in 1510 BCE. Egyptologist Betsy Bryan comments, "The number of year dates from the reign of Thutmose IV is small but evenly divided over eight years."<sup>2</sup> Three documents date to year one, one to year four, possibly one to year five, one to year six, two to year seven, and one to year eight.<sup>3</sup> The latter is

<sup>1</sup> E. Hornung, "New Kingdom," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 203.

<sup>2</sup> B.M. Bryan, *The Reign of Thutmose IV* (Baltimore and London: Johns Hopkins University Press, 1991)

5.

<sup>3</sup> *Ibid.*, 5.

inscribed on a Konosso rock stela recording his Nubian campaign.<sup>4</sup> Bryan comments, “Year 8 occurs at Konosso, where it commences a description of the king’s personal involvement in a military skirmish on the Eastern desert.”<sup>5</sup>

The second paragraph of Barbara Cumming’s translation starts, “Regnal year 9, month 3 of winter, day 2. Now his Majesty was in the Southern City in the area of Karnak...”<sup>6</sup> Note, however, that the regnal year nine might be a recent misprint as the writing of the date is the same as on the hand-copies of the inscription for year eight. The date cannot be checked because the Konosso inscription has been under water for decades.<sup>7</sup>

Wente and van Siclen opposed the eight to nine regnal years for Thutmose IV and instead proposed a long reign of 33 years (1419–1386 BCE) because Thutmose IV seemed to have celebrated one if not two jubilees.<sup>8</sup> Bryan investigated the length of Thutmose IV’s reign taking into account year dates, anatomical evidence, astronomical data, jubilee festivals, careers of officials serving during several reigns, and chronological indicators mentioned in inscriptions on monuments. She found that the jubilee evidence was ambiguous and could not be used as a 30-year chronological indicator,<sup>9</sup> concluding “the chronological evidence for Thutmose IV’s reign, taken as a whole, weighs in favor of a short reign.”<sup>10</sup>

### **A Gap of 35 Years Before an Obelisk for Thutmose III is Finished**

An inscription on the unfinished Lateran obelisk originally commissioned by Thutmose III notes that the obelisk was abandoned in the temple workshops for 35 years until Thutmose IV restored it.<sup>11</sup> Neither the year of Thutmose III nor Thutmose IV is stated.<sup>12</sup> The 35 years has to be reckoned from some specific point, and the death of Thutmose III seems applicable when presumably the obelisk’s construction was discontinued. That suggests 1536 BCE as the date of Thutmose III’s death. His successor was Amenhotep II, whose reign of 26 years (without a co-regency) would end in 1510 BCE. The complement (to make 35 years) would be composed of Thutmose IV’s nine year reign ending in 1501 BCE. Since Thutmose III is not known to have reigned much longer than eight years, it is possible that the 35-year period was reckoned upon his death in his ninth year, denoting a specific point in time marking the reigns of both Thutmose III and his grandson Thutmose IV.

The fact that 35 years spans the time from the death of Thutmose III in 1536 down to the ninth year of Thutmose IV in 1501 seems too remarkable to be merely a

<sup>4</sup> D.B. Redford, “On the Chronology of the Egyptian Eighteenth Dynasty,” *JNES* 25 (1966) 120. Cyril Aldred reports that Thutmose IV “ruled for little more than 9 years” in “The Second Jubilee of Amenophis II,” *ZÄS* 94 (1967) 2; B. Cumming, *Egyptian Historical Records of the Later Eighteenth Dynasty* (Warminster: Aris and Phillips, 1984) 251.

<sup>5</sup> Bryan, *Reign of Thutmose IV*, 6.

<sup>6</sup> Cumming, *Egyptian Historical Records*, 251.

<sup>7</sup> Personal communication from Betsy Bryan, 16/02/10.

<sup>8</sup> E.F. Wente and C.C. Van Siclen III, “A Chronology of the New Kingdom,” *Studies in Honor of George R. Hughes* (eds. J.H. Johnson and E.F. Wente; SAOC 39; Chicago: Oriental Institute of the University of Chicago, 1976) 218, 227-30; E.F. Wente, “Age at Death of Pharaohs of the New Kingdom, Determined from Historical Sources,” *An X-Ray Atlas of the Royal Mummies* (eds. J.E. Harris and E.F. Wente; Chicago and London: University of Chicago Press, 1980) 252-54.

<sup>9</sup> Bryan, *Reign of Thutmose IV*, 23, 25.

<sup>10</sup> *Ibid.*, 4-25; quote p. 25.

<sup>11</sup> The Lateran obelisk at 45.70 m including the base “is the tallest obelisk in Rome and the largest standing obelisk in the world, weighing over 230 tons.” See “Lateran Palace” at [http://en.wikipedia.org/wiki/Lateran\\_Palace](http://en.wikipedia.org/wiki/Lateran_Palace)

<sup>12</sup> See also, Bryan, *Reign of Thutmose IV*, 24-25.

coincidence. It speaks of a 26 year reign by Amenhotep II followed by a reign of Thutmose IV ending in his ninth year. An absence of inscriptional evidence for Thutmose IV beyond his year eight to year nine, when many of the preceding years are attested, also makes a long reign dubious—as acknowledged by scholars.

Supporting the indications that Thutmose IV had a ninth regnal year is the reign length of his successor, Amenhotep III, of 38 years, which is dated by the new moon that fell in Akhenaten's fifth year. Later discussion locates the new moon in the year 1459 BCE with Akhenaten's first year in 1463 and accession on I *pṛt* 1-8.

Amenhotep III's regnal years begin on II *šmw* 1, which means a final year of about eight months. Attributing him 38 years as assigned by scholars will date his accession to 1501 BCE, which gives Thutmose IV a ninth year. Accepting a full ninth year would give him an accession date of *no earlier than* II *šmw* 2 (otherwise he would start a tenth year). Therefore, his accession must fall between II *šmw* 2 and his earliest known date of III *3ḥt* 19. A mid-point of I *3ḥt* 1 is adopted for Table 29.2.

**Table 29.2: Amenhotep II's 26th year and Thutmose IV's accession in -1509 (new moon listing from -1509)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1510	11	29	-1510	11	15	1272	3	26	4	17:14	6:38	322	6:38	174	6:39	44
<b>Amenhotep II's 26th year begins on IV 3ḥt 1</b>																
-1510	12	29	-1510	12	15	1272	4	26	6	4:30	6:49	226	6:49	83	6:49	-25
-1509	1	27	-1509	1	13	1272	5	25	7	16:39	6:45	308	6:44	123	6:44	25
-1509	2	26	-1509	2	12	1272	6	25	2	5:46	6:28	177	6:28	73	6:27	5
-1509	3	27	-1509	3	13	1272	7	24	3	19:41	6:07	267	6:07	128	6:06	56
-1509	4	26	-1509	4	12	1272	8	24	5	10:07	5:45	199	5:44	107	5:44	43
-1509	5	26	-1509	5	12	1272	9	24	7	0:53	5:25	167	5:25	87	5:24	17
-1509	6	24	-1509	6	10	1272	10	23	1	15:46	5:13	238	5:12	139	5:12	55
-1509	7	24	-1509	7	10	1272	11	23	3	6:28	5:13	202	5:13	106	5:13	10
-1509	8	22	-1509	8	8	1272	12	22	4	20:34	5:25	270	5:26	168	5:27	64
<b>Accession date for Thutmose IV fell no earlier than II šmw 2 and before III 3ḥt 19. I 3ḥt 1 adopted provisionally here</b>																
-1509	9	21	-1509	9	7	1273	1	17	6	9:40	5:46	236	5:47	128	5:48	17
-1509	10	20	-1509	10	6	1273	2	16	7	21:41	6:09	309	6:10	194	6:11	76

DoW = day of week; ToD = time of day.

Thutmose IV's mummy, found in the cache reburied in Amenhotep II's tomb, shows signs of a man very ill before death and in the age range of 20–30 years, again indicating a short reign. He was succeeded by Amenhotep III on II *šmw* 1. Presumably Thutmose IV died the previous day on I *šmw* 30. See Casperson's table below (Table 29.3).

**Table 29.3: Thutmose IV's ninth year and Amenhotep III's accession -1500 (new moon listing from -1500)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1500	4	16	-1500	4	3	1281	8	17	7	6:10	5:52	148	5:51	45	5:50	-27
-1500	5	15	-1500	5	2	1281	9	16	1	20:39	5:31	248	5:31	96	5:30	11
<b>Thutmose IV dies on I šmw 30 and Amenhotep III accedes on II šmw 1</b>																
-1500	6	14	-1500	6	1	1281	10	16	3	11:32	5:16	191	5:15	76	5:15	-5

DoW = day of week; ToD = time of day.

Adopting an accession of I *3ḥt* 1 for Thutmose IV's accession gives him a ninth year of about six months, but it could have been two months earlier or later.

### Amenhotep III

Amenhotep III was one of many sons of Thutmose IV.<sup>13</sup> His accession day is identified by the date of his jubilees.<sup>14</sup> Charles van Siclen understood Amenhotep III's regnal year numbers to advance a year on the dates assigned to his jubilees in his 29th/30th, 33rd/34th, and 37th/38th years.<sup>15</sup> That the accession day fell on II *šmw* 1 can be deduced from van Siclen's observations.

Of 27 references to the third jubilee on jar labels from the Malkata palace, 25 date to year 37 and the remaining two to year 38, but without day-dates. However, from the chapel of Amenhotep, son of Hapu, an inscription states that the first jubilee ended in year 30 on III *šmw* 2. Other attestations for the year 30 are II *šmw* 1 (temple of Soleb), II *šmw* 7 (temple of Khonsu at Karnak), II *šmw* 27 (tomb of Kheruef: Theban tomb 192), III *šmw* with the day lost (another scene on the tomb of Kheruef). Since the *last* day for the first jubilee was III *šmw* 2, van Siclen assumes that the same day can be deduced for the third jubilee, thus the latter has to be day one or two also.

If year 30 (and by analogy year 38) includes the dates II *šmw* 1 to III *šmw* 2, the 29th and 37th years must have ended prior to these dates. Van Siclen refers back to "a relief in the temple of Soleb, which shows that the opening of a jubilee of Amenhotep III took place on VIII, 26 [IV *prt* 26], beginning with the ritual of 'illuminating the baldachin.' This rite lasted until IX, I [III *šmw* 1], and since there is no year evident between the two dates, they are in the same year."<sup>16</sup> Van Siclen relates this unspecified jubilee to the second relief from the Soleb temple, which does refer to the first jubilee in year 30 on II *šmw* 1. His assumption is that the opening of the jubilee on IV *šmw* 26 and its ending on I *šmw* 1 took place at the end of the 29th year, and that a regnal year change occurred between I *šmw* 2 and II *šmw* 1, the first of the jubilee inscriptions dated to year 30.

Within this period, van Siclen observes only one scene and it refers to the "appearance in the temple" on X, 1, [II *šmw* 1], and "this scene can only correspond to the accession day and regnal year change."<sup>17</sup> He points out that the word "to appear" (*h<sup>c</sup>y*) in the text "is strongly connected with the act of accession" and that the scene is paralleled by one in Osorkon II's festival hall at Bubastis (22nd Dynasty).<sup>18</sup> He adds, "Until the discovery of some date earlier than X, 1 in the festival, but later than IX, 2, this date must remain the accession day of Amenhotep III."<sup>19</sup>

Thus Amenhotep III's accession can be dated to II *šmw* 1 in 1501 BCE with his 38th year beginning on that date in 1464 and ending some date after III *šmw* 1 either in 1464 or 1463. This year can be refined further when Akhenaten's fifth regnal year, and thereby his accession year, has been established.

### Akhenaten (Amenhotep IV)

Amenhotep IV was the younger son of Amenhotep III and his chief Queen Tiye; his older brother Crown Prince Thutmose having predeceased him. Amenhotep IV is famous (or infamous) for rejecting the god Amun in favor of worshiping the god Aten. He changed his name to Akhenaten and moved his residence from Thebes to an area of

<sup>13</sup> *Amenhotep III: Perspectives on his Reign* (eds. D. O'Connor and E.H. Cline; Ann Arbor: University of Michigan Press, 1988) 9-10.

<sup>14</sup> C. Aldred, "The Beginning of the el-Amarna Period," *JEA* 45 (1959) 31.

<sup>15</sup> C.C. van Siclen, "The Accession Date of Amenhotep III and the Jubilee," *JNES* 32 (1973) 292-93.

<sup>16</sup> *Ibid.*, 291.

<sup>17</sup> *Ibid.*, 294.

<sup>18</sup> *Ibid.*

<sup>19</sup> *Ibid.*

the Nile approximately 2 degrees north of Thebes, which he called Akhetaten, now known as el-Amarna, a site of great archaeological interest. The “Amarna” period lasted 59 years (1463–1404 BCE) to the end of the reign of Horemheb (and the 18th Dynasty).

Akhenaten’s principal wife was Nefertiti whose beautiful bust is displayed by the Altes Museum of Berlin. Akhenaten and his children appear to have suffered from a congenital deformity particularly characterized by elongated facial features.

### Akhenaten’s Fifth Regnal Year

In his fifth regnal year, Akhenaten began the foundations of a temple to the sun-god Aten at Akhetaten/Amarna. In a 1987 article, Ronald Wells sought to date Akhenaten’s reign from the date of IV *prt* 13 given on three boundary stelae known as M, X, and K, recording the special offering to Aten by Akhenaten. Wells proposed that, “The Amarna M, X, K boundary stelae date, IV *prt* 13, Year 5, very likely coincides with the day the sun rose directly out of the Wadi Abu Hasah El-Bahri, seen as a prominent concavity in the eastern horizon from the axis of the small sun temple (*Hwt-ġtn*) at Akhet-Aten.”<sup>20</sup> Wells develops this theme in his article dating the occurrence to the 14th century BCE and to the years 1353–1350 BCE with preference for 1351, making 1355 Akhenaten’s first regnal year.<sup>21</sup>

Rolf Krauss responded to Wells in 1988 asserting that foundation ceremonies are held on the night of a new moon, and that, since the boundary stelae are recording a special offering to the Aten, a first lunar day should be sought for the date. He proposed that the temple foundation fell in the years 1357–1342 and that a first lunar day fell on IV *prt* 14 in 1348 giving Akhenaten an accession in 1353.<sup>22</sup> Casperson’s table (Table 29.4) shows that a new moon did fall on IV *prt* 14 in 1348 BCE which is –1347, but this is a day later than the recorded date, IV *prt* 13, and of course Krauss was looking in the wrong century, with his date being 101 years too late.

**Table 29.4: Krauss’s incorrect attribution of Akhenaten’s fifth year (new moon listing from –1347)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1347	2	5	–1347	1	24	1434	7	15	2	13:33	6:43	313	6:43	108	6:42	–2
–1347	3	6	–1347	2	22	1434	<b>8</b>	<b>14</b>	3	21:60	6:23	689	6:23	143	6:22	20
–1347	4	5	–1347	3	24	1434	9	14	5	5:35	5:59	207	5:58	48	5:58	–30

DoW = day of week; ToD = time of day.

Wells responded tartly to Krauss in 1989, pointing out that errors attributed to him were the result of Krauss’ misunderstanding, and his errors of computation. Wells rejected the idea that the IV *prt* 13 date referred to a new moon.<sup>23</sup> He writes, “A clear distinction must be made between the ‘Stretching-of-the-Cord’ ceremony given for the founding of individual temples and the offerings made by Akhenaten on IV *prt* 13, Years 5 and 6, described in the First and Second proclamations.”<sup>24</sup>

Thus Wells separates the laying of the temple foundations from the offerings made to the Aten, the latter on the stated date. He goes on:

<sup>20</sup> R.A. Wells, “The Amarna M, X, K Boundary Stelae Date: A Modern Calendar Equivalent,” *SAK* 4 (1987) 313.

<sup>21</sup> *Ibid.*, 332-33.

<sup>22</sup> R. Krauss, “Drei Korrekturen und eine Ergänzung zu Ronald A. Wells ‘Amarna Calendar Equivalent’” *GM* 103 (1988) 44.

<sup>23</sup> R.A. Wells, “On Chronology in Egyptology,” *GM* 108 (1989) 87-96.

<sup>24</sup> *Ibid.*, 87.

The former involved the goddess Seshat and a king stretching a cord between them with the king’s gaze directed toward some astronomical event near the horizon in a ceremony with possible lunar or at least nocturnal overtones. Egyptological consensus may now hold that this ‘Stretching-of-the-Cord’ ceremony took place on *psdntw*-night but that has little relation either to what the Amarna boundary stelae texts relate or to the known history of the Amarna Period.<sup>25</sup>

He continues,

The Second Proclamation begins on the anniversary of the first: ‘Year 6, IV prt 13 ... On that day one was in Akhet-Aten ... making a great offering ... on the day of laying out Akhet-Aten for the living Aten...’<sup>26</sup>

And he goes on to say,

In neither proclamation is there any reference whatsoever to a ‘Stretching-of-the-Cord’ ceremony at night on the first day of the lunar month following the great offering to the Aten on IV prt 13.<sup>27</sup>

On the other hand, he notes,

The boundary stelae texts indisputably link the morning offering of Akhenaten with IV prt 13 ... on this morning the sun rose out of the Wadi Abu Hasah El Bahri towards which the original altar in the *Hwt-itn* is directed.<sup>28</sup>

Following Wells’ response to Krauss’ critique, Wells admitted some errors and amended his original date of IV prt 13 1351 BCE,<sup>29</sup> to IV prt 13 1355 BCE.<sup>30</sup> But, as Casperson’s charts show (Table 29.5), the new moon fell nowhere near the proposed dates. Neither option applies to a new moon date.

**Table 29.5: New moons in IV prt 1351 and 1355 BCE were not on IV prt 13 (new moon listings from –1350 and –1354)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1350	2	8	-1350	1	27	1431	7	17	1	9:19	6:42	217	6:41	92	6:41	4
<b>-1350</b>	<b>3</b>	<b>9</b>	-1350	2	25	1431	<b>8</b>	<b>16</b>	2	23:36	6:21	313	6:20	123	6:20	<b>30</b>
-1350	4	8	-1350	3	27	1431	9	16	4	14:19	5:57	184	5:56	61	5:55	-11
-1354	2	23	-1354	2	11	1427	8	1	4	4:17	6:32	200	6:31	99	6:30	19
<b>-1354</b>	<b>3</b>	<b>24</b>	-1354	3	12	1427	<b>8</b>	<b>30</b>	5	14:37	6:09	294	6:08	133	6:08	<b>42</b>
-1354	4	22	-1354	4	10	1427	9	29	6	22:56	5:46	491	5:45	177	5:44	59

DoW = day of week; ToD = time of day.

**Examining the Fifth Year of Akhenaten around 1459 BCE**

Previous dates for Amenhotep III’s reign of 37–38 years were tentatively set at 1501–1464/1463 BCE, leading me to look about five years later during the reign of his son Akhenaten, approximately 1460/1459 BCE, to see if a new moon fell on or near to IV prt 13.

In Casperson’s table for 1459 BCE (–1458) (Table 29.6) a new moon fell exactly

<sup>25</sup> Ibid., 87.

<sup>26</sup> Ibid.

<sup>27</sup> Ibid., 87; similarly on p. 88.

<sup>28</sup> Ibid.

<sup>29</sup> Idem, “Amarna M, X, K Boundary Stelae,” 330.

<sup>30</sup> Idem, “On Chronology in Egyptology,” 90.

on IV *prt* 13 (conjunction 8 14) thus agreeing with the boundary stela date. (Other dates are highlighted for later reference). Its application to the “Stretching-of-the-Cord” ceremony known to be held on the day of a new moon, when foundations of temples were laid, is obvious—even if the actual wording is not used in the text from Amarna.

**Table 29.6: New moon in Akhenaten’s fifth year in 1459 BCE (new moon listing from –1458).**

Amarna; Lat. 27.6, Long. 30.9; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1458	1	4	-1459	12	22	1323	5	15	6	2:20	6:53	159	6:53	57	6:53	-32
-1458	2	2	-1458	1	20	1323	6	14	7	20:23	6:46	239	6:45	99	6:44	12
-1458	<b>3</b>	<b>4</b>	-1458	2	19	1323	<b>7</b>	<b>14</b>	2	13:28	6:26	164	6:25	<b>53</b>	6:24	<b>-15</b>
-1458	<b>4</b>	<b>3</b>	-1458	3	21	1323	<b>8</b>	<b>14</b>	4	4:50	6:02	115	6:01	<b>31</b>	6:00	<b>-27</b>
-1458	5	2	-1458	4	19	1323	9	13	5	18:06	5:39	240	5:38	95	5:37	23
-1458	6	1	-1458	5	19	1323	10	13	7	5:19	5:18	188	5:18	83	5:17	8
-1458	<b>6</b>	<b>30</b>	-1458	6	17	1323	<b>11</b>	<b>12</b>	1	14:50	5:07	288	5:07	151	5:07	54
-1458	<b>7</b>	<b>29</b>	-1458	7	16	1323	<b>12</b>	<b>11</b>	2	23:25	5:10	346	5:11	212	5:11	100
-1458	8	28	-1458	8	15	1324	1	6	4	7:59	5:27	262	5:28	143	5:28	20

DoW = day of week; ToD = time of day.

### Akhenaten’s Accession Date

Having established that Akhenaten’s fifth year fell in 1459 BCE, we can now determine his first regnal year and accession date, and ascertain the length of his father’s (Amenhotep III) final year, apparently his 38th. Redford proposed that a renewing of an oath on the frontier stela of Akhenaten in year eight on I *prt* 8, may have coincided with the anniversary of his accession.<sup>31</sup>

In 1976, William Murnane concluded that a sequence of dates on the boundary stela of Akhenaten puts his accession between I *prt* 1 and I *prt* 8,<sup>32</sup> in agreement with Redford. Some five years before 1459 BCE brings Akhenaten’s accession to 1463 BCE (–1462), and according to Casperson’s table below (Table 29.7), IV *3ht* 29 equates to 20 December. I *prt* 1 will equate to 22 December in –1463 (1464 BCE).

**Table 29.7: Amenhotep III’s 38th year begins in 1464 BCE and Akhenaten’s accession is in 1463 BCE (new moon listings –1463 to –1462)**

Amarna; Lat. 27.6, Long. 30.9; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1463	5	26	-1463	5	13	1318	10	6	2	12:48	5:22	231	5:21	77	5:20	-9
<b>Amenhotep III’s 38th year begins on II <i>šmw</i> 1</b>																
-1463	<b>6</b>	<b>25</b>	-1463	6	12	1318	<b>11</b>	<b>6</b>	4	1:33	5:08	152	5:08	47	5:08	-33
-1463	7	24	-1463	7	11	1318	12	5	5	16:42	5:09	243	5:09	125	5:09	33
-1463	8	23	-1463	8	10	1318	13	5	7	9:54	5:24	205	5:24	109	5:25	17
-1463	9	22	-1463	9	9	1319	1	30	2	3:56	5:47	183	5:48	90	5:48	-6
-1463	10	21	-1463	10	8	1319	2	29	3	21:18	6:12	261	6:12	165	6:13	67
-1463	11	20	-1463	11	7	1319	3	29	5	12:59	6:35	242	6:36	141	6:37	38
-1463	<b>12</b>	<b>20</b>	-1463	12	7	1319	<b>4</b>	<b>29</b>	7	2:35	6:51	208	6:52	101	6:52	-5
<b>Akhenaten’s accession falls on I <i>prt</i> 8</b>																
-1462	<b>1</b>	<b>18</b>	-1462	1	5	1319	<b>5</b>	<b>28</b>	1	14:09	6:52	289	6:51	147	6:51	40
-1462	2	16	-1462	2	3	1319	6	27	2	23:53	6:37	495	6:37	190	6:36	63

DoW = day of week; ToD = time of day.

<sup>31</sup> Ibid., 121-22.

<sup>32</sup> W. Murnane, “On the Accession Date of Akhenaten,” *Studies in Honor of George R. Hughes. January 12, 1977* (eds. J.H. Johnson and E.F. Wente; SAOC 39; Chicago IL: Oriental Institute of the University of Chicago, 1976) 163-7; Hornung, “New Kingdom,” 206.

Amenhotep III's 38th year extends from II *šmw* 1 to I *pṛt* 8 in 1464 BCE, approximately seven months. Projecting back 38 years sets his first year in 1501 BCE.

### Was Akhenaten Co-regent with Amenhotep III?

In 1959, Cyril Aldred proposed that Akhenaten had a co-regency for about 11 years with his father, Amenhotep III, on the basis of allusions to three *sed*-festivals held in his reign, with “coronation tribute” being given to him in his 12th year.<sup>33</sup> This is now discounted by scholars, including Aldred himself, who comments, “No inscription referring to a *Sed*-festival during the reign of Akhenaten gives a specific date for any of those events.”<sup>34</sup>

### An End-date for the 18th Dynasty

An inscription written during the reign of Ramesses II validates the 59th year of Horemheb's life<sup>35</sup> and encompasses the time from the beginning of the reign of Akhenaten to the end of the reign of Horemheb some 59 years later, concluding the 18th Dynasty in 1405/1404 BCE as we shall see.<sup>36</sup> This supports the beginning of Akhenaten's reign in 1464/1463 BCE without recourse to a co-regency. As will be seen below, the reign of Akhenaten of nearly 18 years fits squarely in this time period, whereas a co-regency with his father of up to 12 years would affect the 59 years to the end of the dynasty. Akhenaten's reign of 17 years plus months can be dated to 1464/1463–1447 BCE, leaving approximately 42 years for the remainder of the period.

### Akhenaten's Mummy Identified

In 2010, it was announced that DNA testing of a mummy in tomb KV 55 clearly identified it as Akhenaten.<sup>37</sup> Previous CT scans had incorrectly put the mummy's age around 25 years old, ruling out Akhenaten—thought to be 35 years old at death. New study of the bones showed the mummy to be a man in the age-range of 35–40 years. Previous belief that the mummy was Smenkhare, Akhenaten's son-in-law, was mistaken.

### Akhenaten's Length of Reign

The highest regnal year for Akhenaten is his 17th, coming from two wine jar labels, one of which was found in his burial complex at Amarna. James Allen notes that the jar was originally labeled “Regnal Year 17: honey [ ... ]” but this was erased and the label “Regnal Year 1: w[in]e [ ... ]” added under it.<sup>38</sup> The sealing of the jars was dated to II *3ḥt* 17, thus he died sometime after this date and before his 18th year began on I *pṛt* 8.<sup>39</sup>

### Successor to Akhenaten

The only known regnal date applicable to the period immediately after Akhenaten's reign is a year three on III *3ḥt* 10, belonging to a certain Ankhkheprure Neferneferuatn. No specific event is attached to this year in the text, but it cannot be too far removed from his accession day since it falls between the above dates for the death of

<sup>33</sup> C. Aldred, “The Beginning of the el-<sup>c</sup>Amārna Period,” *JEA* 45 (1959) 24-33. See also, E.F. Campbell, “The Amarna Letters and the Amarna Period,” *Biblical Archaeologist* 23 (1960) 6-10.

<sup>34</sup> Aldred, “Beginning,” 28.

<sup>35</sup> “Horemheb,” <http://en.wikipedia.org/wiki/Horemheb>

<sup>36</sup> See further in chap. 30, pp. 415417.

<sup>37</sup> “Akhenaten,” <http://en.wikipedia.org/wiki/Akhenaten>

<sup>38</sup> J.P. Allen alludes to this as docket 279 from Amarna in “Nefertiti and Smenkh-ka-re,” *GM* 141 (1994) 13; idem, “The Amarna Succession,” *Causing His Name to Live: Studies in Egyptian Epigraphy and History in Memory of William J. Murnane*, (University of Memphis, 2007).

<sup>39</sup> Hornung, “New Kingdom,” 206.



Akhenaten. By accepting this date, a reign of 16 years and 11 months can be assigned to Akhenaten. Casperson's table below (Table 29.8) demonstrates this.

**Table 29.8: Akhenaten's 17th year in -1447/1446 (new moon listing from -1447 to -1446)**

Amarna; Lat. 27.6, Long. 30.9; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1447	11	23	-1447	11	10	1335	4	6	7	8:24	6:38	252	6:38	134	6:39	17
<b>Akhenaten's 17th year begins on I prt 1-8</b>																
-1447	12	22	-1447	12	9	1335	5	5	1	18:58	6:52	329	6:52	189	6:52	75
-1446	1	21	-1446	1	8	1335	6	5	3	4:60	6:51	242	6:50	118	6:50	18
-1446	2	19	-1446	2	6	1335	7	4	4	15:01	6:35	318	6:34	147	6:34	50
-1446	3	21	-1446	3	8	1335	8	4	6	1:34	6:12	179	6:11	69	6:11	-11
-1446	4	19	-1446	4	6	1335	9	3	7	13:04	5:49	233	5:48	91	5:47	8
-1446	5	19	-1446	5	6	1335	10	3	2	1:46	5:26	137	5:26	37	5:25	-37
-1446	6	17	-1446	6	4	1335	11	2	3	15:48	5:11	228	5:10	95	5:10	7
-1446	7	17	-1446	7	4	1335	12	2	5	7:10	5:07	185	5:07	77	5:08	-11
-1446	8	15	-1446	8	2	1335	13	1	6	23:33	5:19	276	5:19	162	5:20	64
-1446	9	14	-1446	9	1	1336	1	26	1	16:10	5:40	241	5:41	140	5:42	42
<b>Akhenaten died sometime between II 3ht 17 and I prt 1-8. Neferneferuaten may have begun to reign in III 3ht</b>																
-1446	10	14	-1446	10	1	1336	2	26	3	7:58	6:05	215	6:06	113	6:07	9
-1446	11	12	-1446	10	30	1336	3	25	4	22:06	6:29	291	6:30	185	6:31	78
-1446	12	12	-1446	11	29	1336	4	25	6	10:21	6:48	255	6:49	142	6:49	33

DoW = day of week; ToD = time of day.

However, the period following Akhenaten is confused, giving rise to a range of speculation. I proceed on the assumption that Ankhkheprure Neferneferuaten was Akhenaten's successor—an assumption shared by many scholars—and reserve the discussion of other speculation to a discourse at the end of the chapter.

### Evidence for the Reign of Akhenaten's Successor

As noted above, the sealing of the wine jars in Akhenaten's tomb were dated to II 3ht 17, and he died before the 18th anniversary of his accession which, as noted earlier, was probably on I prt 1 but no later than I prt 8.<sup>40</sup> The accession of Akhenaten's successor is between these dates in the year 1447 BCE. The evidence suggests that Smenkhkare, also known as Neferneferuaten, reigned for two full years and part of a third year as shown in Table 29.9.

**Table 29.9: 18th Dynasty: Regnal Years of Thutmose IV to Smenkhkare**

Rulers	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Thutmose IV	8 yr, 7 mo	1510-1501	None known
Amenhotep III	37 yr, 8 mo	1501-1464/1463	None known
Akhenaten	16 yr, 11 mo	1464/1463-1447	Yr 5 new moon IV prt 13 1459 boundary stela. Probable "stretching-of-the-cord" ceremony
Smenkhkare/Neferneferuaten	2 yr, 4 mo	1447-1444	None known
Tutankhamun			None known

\* = most months approximate.

### Smenkhkare

It has been traditionally understood that Akhenaten's successor was named Ankhkheprure Smenkhkare Djoserkheperu; Smenkhkare for short. He is depicted on a relief from the tomb of a certain Meryre II showing a roughly painted scene of a king

<sup>40</sup> Hornung, "New Kingdom," 206.

and queen. The text reads, “King of Upper and Lower Egypt, Ankhkheprure, Son of Re, Smenkhkare, Holy-of-Manifestations [=Djeserkheperu] given life forever continually.”<sup>41</sup>

This is accompanied by the words “Chief King’s Wife Meritaten.”<sup>42</sup> Thus the king depicted is Smenkhkare and the queen is Meritaten,<sup>43</sup> the eldest daughter of Akhenaten and Nefertiti, and the text implies that Smenkhkare and Meritaten are husband and wife. Smenkhkare and Meritaten are also said to be linked by two blocks from Memphis, their supposed figures preserved now only in drawings.<sup>44</sup> But the identity of the couple is disputed.<sup>45</sup>

The cartouches of Smenkhkare follow those of Akhenaten’s on a calcite jar found in the tomb of Tutankhamun, both partially erased.<sup>46</sup> A wine jar label and six royal seals bear the name of Ankhkheprure Smenkhkare Djeserkheperu.<sup>47</sup> The wine jar label mentions a year one from “the house of Smenkhkare.”<sup>48</sup> Smenkhkare is reputed to have celebrated his coronation by adding a huge brick hall to the Great Palace at Amarna with no less than 544 square columns in its main room.<sup>49</sup> Smenkhkare’s lineage is not known, but as Meritaten’s husband he must have had an acceptable pedigree as required for a man who was to become king of Egypt. One theory suggests that Smenkhkare was the son of Akhenaten by his lesser wife, Kiye.<sup>50</sup>

Marc Gabolde cites Hittite archives (known as *The Deeds of Suppiluliuma*) found at Boghaz Koy in Turkey, stating that a widow of a King of Egypt asked King Suppiluliuma for a son to become her husband. Gabolde proposes that Meritaten was the widow of Akhenaten, and the Hittite prince was Zannanza who was eventually sent to Egypt, but according to Hittite correspondence was murdered by the Egyptians after arrival.

Gabolde presumes that Zannanza/Smenkhkare had time for a coronation as he points out, “Smenkhkare is not presented under a coronation name and a birth name in his two cartouches, but under two coronation names. The explanation for this curious fact seems to me clear: both royal names were composed on the occasion of his coronation. He therefore must have had another name beforehand.”<sup>51</sup>

Gabolde’s observation reinforces the status of Smenkhkare as crowned king of Egypt, but not his identification as the foreign Hittite prince who was then murdered, because Smenkhkare is associated with both Akhenaten and Meritaten. The Hittite

<sup>41</sup> M. Lorenz, “Smenkhkare Djeserkheperu Ankhkheprure” <http://www.heptune.com/smenkhka.html>, citing W.J. Murnane, *Texts from the Amarna Period in Egypt* (Georgia: Society of Biblical Literature, 1995).

<sup>42</sup> Allen, “Nefertiti and Smenkh-ka-re,” 8.

<sup>43</sup> Idem, “Amarna Succession,” 2.

<sup>44</sup> Ibid., 5, n. 14.

<sup>45</sup> Jaromir Malek, “The ‘co-regency relief’ of Akhenaten and Smenkhkare from Memphis,” *Studies in Honor of William Kelly Simpson* (Vol. 2; ed. Peter Der Manuelian; Boston: Museum of Fine Arts, 1996) 553-59.

<sup>46</sup> Allen, “Amarna Succession,” 2, and see n. 4. Fig. 1 shows, “Inscription on Jar 405 from the Tomb of Tutankhamun.”

<sup>47</sup> “Smenkhkare,” <http://en.wikipedia.org/wiki/Smenkhkare>

<sup>48</sup> Ibid.

<sup>49</sup> J. Dunn, “Smenkhkare, an Obscure Pharaoh of the 18th Dynasty,”

<http://www.touregypt.net/featurestories/smenkhkare.htm>

<sup>50</sup> Ibid.

<sup>51</sup> M. Gabolde, “The End of the Amarna Period,”

[http://www.bbc.co.uk/history/ancient/egyptians/amarna\\_01.shtml](http://www.bbc.co.uk/history/ancient/egyptians/amarna_01.shtml), based on Marc Gabolde, *From Akhenaten to Tutankhamun* (D’Akhenaton à Toutânkhamon collection of the Institute of Archaeology and History of Antiquity, Université Lumière Lyon II, Boccard, 1998).

prince theory has also been associated with Ankhesenpaaten, third daughter of Akhenaten and Nefertiti, who supposedly sought another husband after Tutankhamun died,<sup>52</sup> but she married Ay, her husband's former commander.<sup>53</sup> Now that the mummy of tomb KV55 has been identified as Akhenaten and not Smenkhkare as formerly thought, Smenkhkare lacks a known burial site and mummy.

### **Ankhkheprure Neferneferuaten?**

A second king from the same time period as Smenkhkare is known from several inscriptions. A text on the Theban tomb TT 139, belonging to a certain Paury (various spellings), mentions a King Ankhkheprure Neferneferuaten.<sup>54</sup> The first section of the text reads:

Regnal year 3, third month of Inundation, day 10. The King of Upper and Lower Egypt, Lord of the Two Lands Ankhkheprure Beloved of Aten, the son of Re Neferneferuaten Beloved of Waenre [i.e. Akhenaten]. Giving worship to Amun, kissing the ground to Wenennefer by the lay priest, scribe of divine offerings of Amun in the mansion of Ankhkheprure in Thebes, Pawah, born to Yotefseneb.<sup>55</sup>

No coronation texts are attributed to this king, but reference to his regnal year three, and the date III 3<sup>ht</sup> 10, confirms his reign. Year three is his highest known date. Akhenaten's 17th year started on I *prt* 1 and he died after II 3<sup>ht</sup> 17, and before his 18th year; indicating that Akhenaten's 17th year exceeded nine months. As previously noted, III 3<sup>ht</sup> 10 comes within these dates. Ankhkheprure Neferneferuaten's third regnal year started either before or on III 3<sup>ht</sup> 10. The reference might indicate the third anniversary of his accession date. At least it cannot be far removed from it, since the accession had to start sometime between II 3<sup>ht</sup> 17 and I *prt* 1. Adopting III 3<sup>ht</sup> 10 as an approximate date for Ankhkheprure Neferneferuaten's accession, he would have begun to reign in early September (Julian calendar) in 1447 BCE. See Casperson's previous lunar table (Table 29.8).

Supporting Ankhkheprure as Akhenaten's successor are jar labels of successive wine vintages. Hornung writes:

Up to year 13 of Akhenaten the chief vintners held the title *hrj k3mw*. The title *hrj b3h* is attested from year 13 through 17 and its use continued in year 1 and 2 of King Ankhkheprure. The last vintage that is documented at Amarna dates to a regnal year 1; in that year the vintner's title *hrj k3mw* was reintroduced and continued to be used as wine jar labels in the tomb of Tutankhamun.<sup>56</sup>

And,

A regnal year 3 is also attested at Amarna in the labels on vessels for various commodities. Year 3 continues year 1 and 2 of King Ankhkheprure as labels of year 2 and 3 belonging to a single delivery of olive oil prove."<sup>57</sup>

<sup>52</sup> See D.B. Redford, "New Light on the Asiatic Campaigning of Horemheb," *BASOR* 211 (1973) 48-49; W. Helck, "Zur Chronologiediskussion über das Neue Reich," *Ä und L* 3 (1992) 66-67.

<sup>53</sup> "Smenkhkare," <http://en.wikipedia.org/wiki/Smenkhkare>," citing W. McMurray, "Towards an Absolute Chronology for Ancient Egypt," [www.egyptologyforum.org/EMP/ACAE1.pdf](http://www.egyptologyforum.org/EMP/ACAE1.pdf)

<sup>54</sup> Neferneferuaten has been translated "Perfect One of the Aten's Perfection" (<http://en.wikipedia.org/wiki/Neferneferuaten>) or "The Aten is radiant of radiance" (N. Reeves, *The Complete Tutankhamun: The King, The Tomb, the Royal Treasure* [London: Thames and Hudson; 1990] 22).

<sup>55</sup> N. Reeves, *Akhenaten: Egypt's Heretic King*, (London: Thames & Hudson, 2005) 163.

<sup>56</sup> Hornung, "New Kingdom," 207.

<sup>57</sup> *Ibid.*, 208.

Thus there is a continuous sequence from Ankhkheprure Neferneferuaten's year one through to year three. A fourth year is not attested. Concerning the length of this third year, Hornung records that the wine jar labels of years one to two indicate an average vintage of 50–60 bottles but only three labels come from year three, before they are dated to a year one.<sup>58</sup> This suggests that regnal year three was brief, and the accession of the next king may have occurred soon after year three began—but sometime after III 3 $\dot{h}t$  10, probably late in 1445 BCE (–1444).

Another reference to King Ankhkheprure Neferneferuaten—this time in association with Meritaten—was found on two boxes from the tomb of Tutankhamun.<sup>59</sup> One of the inscriptions reads, “King of Upper and Lower Egypt, Lord of the Two Lands, Ankhkheprure Beloved of Neferkheperure, [= Akhenaten] Son of Re, Lord of Crowns, Neferneferuaten Beloved of Waenre.”

The names of Akhenaten are given alongside the text and the words, “King's Chief Wife Meritaten, may she live forever.”<sup>60</sup>

### Meritaten Mystery

In the tomb of Meryre II, noted earlier, Meritaten appears as the queen and wife of Smenkhkare, whereas in the above text she is associated both with Akhenaten and Ankhkheprure Neferneferuaten. It is also understood by most scholars that Meritaten was married to Akhenaten after her mother, Nefertiti, died, and thus became Akhenaten's wife and queen, and that she married Smenkhkare later. The implication in the above text seems to be that Meritaten is the wife of Ankhkheprure Neferneferuaten the incumbent king.

There is no room in the chronology demonstrated by the jar labels for Smenkhkare to have preceded Neferneferuaten. Neferneferuaten's accession sometime before III 3 $\dot{h}t$  10 fits in with the time that Akhenaten died, a month or two before completing his 17th year of reign. Yet Smenkhkare was crowned king. It compels the conclusion that Smenkhkare changed his name to Ankhkheprure Neferneferuaten after he became king. Unfortunately, the jar labels only refer to the king as Ankhkheprure, which is the prenomen for both Smenkhkare and Neferneferuaten. But the text of TT 139 gives him a year three, his full name, Ankhkheprure Neferneferuaten, and a regnal year number.

So it is not clear in which year he changed his name. Ken Kitchen wrote in 1985: The one certainty about Smenkhkare's use of royal style is that his nomen was Smenkhkare (often with the added epithet Djoser-khepru) in his Year 1, but had been changed to (or had the alternative) Neferneferuaten, with the epithets “beloved of Neferkheprure,” “beloved of Wanre” or just “ruler” (*h $\dot{k}$ 3*), in year 3, as is very clearly set out on the evidence by Krauss, pp. 92–94.<sup>61</sup>

Allen notes that “The new king [Smenkhkare] took both Nefer-neferu-aton's throne name (without its reference to Akhenaton) and Merit-aton as Chief Queen.”<sup>62</sup> The acceptance of a name change for Smenkhkare to Ankhkheprure Neferneferuaten enables

<sup>58</sup> Ibid.

<sup>59</sup> Allen, “Nefertiti and Smenkh-ka-re,” 11.

<sup>60</sup> Lorenz “Smenkhkare Djoserkheperu Ankhkheprure,” citing Murnane, *Texts from the Amarna Period*; Allen, “Amarna Succession,” 2 and fig. 2 inscription from Box 1k on p. 4.

<sup>61</sup> K.A. Kitchen, “Review of R. Krauss, *Das Ende der Amarnazeit—Beiträge zur Geschichte und Chronologie des Neuen Reiches* (HÄB 7; Hildesheim: Gerstenberg, 1978, repr. 1981)” *JEA* 71 (1985) 44.

<sup>62</sup> Allen, “Nefertiti and Smenkh-ka-re,” 13.

them to be seen as the same person. Apparently, not a single fragment of a [u]shabti figure has been found bearing the name of Smenkhkare.<sup>63</sup>

### Vintage Evidence

The most compelling argument that there was no king between Akhenaten and Smenkhkare/Ankhkheprure, or between Smenkhkare/Ankhkheprure and Tutankhamun, comes from the combined evidence of the jar labels from the reigns of Akhenaten, Ankhkheprure, and Tutankhamun. Hornung says,

Wine jar labels from Amarna attest sixteen successive wine vintages during the occupation of the site, 13 corresponding to years 5 through 17 of Akhenaten, whereas 3 vintages correspond to regnal years of his successors. The vintage of Akhenaten's year 4 occurred in the year before the foundation of the city; wine of year 4 was consumed at the site before the vintage of year 5 became available. Thus altogether seventeen successive vintages are attested at Amarna. Up to year 13 of Akhenaten the chief vinters held the title *hrj k3mw*. The title *hrj b3h* is attested from year 13 through 17 and its use continued in year 1 and 2 of King Ankhkheprure. The last vintage that is documented at Amarna dates to regnal year 1; in that year the vinter's title *hrj k3mw* is reintroduced and continued to be used as wine jar labels in the tomb of Tutankhamun show.<sup>64</sup>

There is no interruption to the numbering of the succession recognized by the other evidence. The jar labels concur with the text of TT 139 giving a year three to Ankhkheprure Neferneferuaten, otherwise Smenkhkare. This is his highest year as shown by the jar labels. Ankhkheprure Neferneferuaten is herewith attributed two years plus months into his third year, with his reign beginning at the earliest on II *3ht* 17 and before I *prt* 1–8 (when Akhenaten's 18th year would have begun had he lived).

As noted above the date of III *3ht* 10 is adopted as a possible accession date for Ankhkheprure Neferneferuaten, which equates to 28 October in 1447 BCE. He died sometime after the date of III *3ht* 10 in his third year (which corresponds to 27 October according to Casperson's table [Table 29.10]).

Because the accession date of Tutankhamun is not known, Neferneferuaten's third year can only be surmised as being short due to the scarcity of wine jar labels attributed to that year. Therefore, approximate dates for the reign of Smenkhkare/Ankhkheprure Neferneferuaten are assumed.

**Table 29.10: Death of Akhenaten and accession of Smenkhkare/Neferneferuaten in –1446; death of Smenkhkare/Neferneferuaten and accession of Tutankhamun in –1443 (new moon listing from –1446 to –1445 and –1444 to –1443)**

Amarna; Lat. 27.6, Long. 30.9; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1446	10	14	-1446	10	1	1336	2	26	3	7:58	6:05	215	6:06	113	6:07	9
<b>Death of Akhenaten. Accession of Smenkhkare/Neferneferuaten on or before III <i>3ht</i> 10</b>																
-1446	11	12	-1446	10	30	1336	3	25	4	22:06	6:29	291	6:30	185	6:31	78
-1446	12	12	-1446	11	29	1336	4	25	6	10:21	6:48	255	6:49	142	6:49	33
<b>Second year –1445/–1444</b>																
-1444	10	21	-1444	9	8	1338	2	4	4	11:16	5:46	214	5:47	118	5:48	24
<b>Smenkhkare/Neferneferuaten's 3rd year starts on or before III <i>3ht</i> 10</b>																
-1444	10	21	-1444	10	8	1338	3	4	6	6:23	6:12	192	6:13	99	6:14	4
-1444	11	20	-1444	11	7	1338	4	4	1	1:35	6:36	177	6:36	84	6:37	-11
-1444	12	19	-1444	12	6	1338	5	3	2	19:24	6:51	256	6:51	156	6:52	62
<b>Attributing a short 3rd year to Smenkhkare/Neferneferuaten locates Tutankhamun's accession in II <i>prt</i></b>																
-1443	1	18	-1443	1	5	1338	6	3	4	10:46	6:51	226	6:51	114	6:51	20

<sup>63</sup> P. Clayton, *Chronicle of the Pharaohs: The Reign by Reign Record of the Rulers and Dynasties of Ancient Egypt* (London: Thames and Hudson, 1994, 2006) 127.

<sup>64</sup> Hornung, "New Kingdom," 207. See also Allen, "Amarna Succession," 5 and n. 14.

-1443	2	16	-1443	2	3	1338	7	2	5	23:09	6:37	370	6:36	159	6:36	50
-1443	3	18	-1443	3	5	1338	8	2	7	8:45	6:14	232	6:14	72	6:13	-18

DoW = day of week; ToD = time of day.

The above dates have been compiled in conjunction with the regnal years for the remaining kings of the 18th Dynasty (Table 29.11) discussed in the next chapter.

**Table 29.11: 18th Dynasty: Regnal Years of Thutmose IV to Horemheb with regnal years and dates**

Rulers	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Thutmose IV	8 yr, 7 mo	1510–1501	None known
Amenhotep III	37 yr, 8mo	1501–1464/1463	None known
Akhenaten	16 yr, 11 mo	1464/1463–1447	Yr 5 new moon IV <i>prt</i> 13 1459 boundary stela. Probable “stretching-of-the-cord” ceremony.
Smenkhkare/Neferneferuaten	2 yr, 4 mo	1447–1444	None known
Tutankhamun	8 yr, 11 mo	1444–1435	None known
Ay	4 yr, 4 mo	1435–1431	None known
Horemheb	27 yr	1431–1404	New Sothic cycle commenced at Thebes on I <i>3ht</i> 1 in 1414
<b>Total</b>	<b>271 yr, 3 mo, 26 d</b>	<b>1676 – 1404 = 272 yrs</b>	

\* = most months approximate.

## Discourse: Akhenaten’s Successor

### Queen Ankhetkheprure Neferneferuaten?

The TT 139 text, and the funerary boxes, have “desired/loved/chosen” written as *mr*.<sup>65</sup> But it was noticed that the prenomen could be written in the feminine; that is, Ankhetkheprure spelt with a “t,” and the following epithet “beloved” also spelt with a “t”; that is, *mrt*, and the wording of the second epithet changed.

Aidan Dodson and Dyan Hilton reported James Allen’s comments at the April 2004 meeting of the American Research Center in Egypt, “Examination[s] of palimpsest inscriptions of Neferneferuaten on objects reused in Tutankhamun’s tomb (on a pectoral and on the canopic coffinettes) have shown conclusively that one [*sic*] the former used the epithet *3h-n-h.s*, ‘effective for her husband’.”<sup>66</sup>

Nicholas Reeves points out that, “The form without the feminine *t* (if, indeed, this *t* is a strictly grammatical ending) is non-specific as to gender rather than purely masculine.”<sup>67</sup> So, according to Reeves, either form of the name and epithets could be used for a woman. Referring to the name Ankhkheprure, Kitchen noted, “It is surely a clumsy calque on an original Ankh-khepru-re—not the other way around! ... syntactically, the *t* is uncalled-for, except to feminise clumsily a pre-existing prenomen.”<sup>68</sup>

Another indication of a female Ankhkheprure Neferneferuaten comes from the fragmentary so-called “Co-regency Stela” found at Amarna. Allen, writing in 1994,

<sup>65</sup> Allen, “Amarna Succession,” 1. According to Allen’s analysis of the usage of various cartouched names of Akhenaten’s successors, there are only two groups into which the feminine version falls. There is a single instance on a seal of *mrt nfr hprw-r<sup>c</sup>* (“Beloved of Neferkheperre” i.e. Akhenaten). Of the other version *nht- hprw-r<sup>c</sup> mrt w<sup>c</sup>-n-r<sup>c</sup>* (“Ankhetkheprure Beloved of Waenre”—also Akhenaten) he notes, “The feminine form (B) appears only by itself, in a number of seal-impressions” (Allen, “Nefertiti and Smenkh-ka-re,” 9, 10, quote p. 10).

<sup>66</sup> A. Dodson & D. Hilton, *The Complete Royal Families of Ancient Egypt: A Genealogical Sourcebook of the Pharaohs* (London: Thames & Hudson, 2004) 285.

<sup>67</sup> N. Reeves, “Review of R. Krauss, *Das Ende der Amarnazeit* (HÄB, 1978, repr. 1981),” *Orientalistische Literaturzeitung*, vol. 78, no. 6 (1983), cols. 546-48.

<sup>68</sup> Kitchen, “Review of R. Krauss, *Das Ende der Amarnazeit*,” 43-44.

noted that the stela preserves a large figure followed by a smaller (half-size or smaller) figure, and the cartouches of Akhenaten followed by those of “Ankhkheprure Chosen of Waenre” and “Neferneferuaten Chosen of Akhenaten.” Allen goes on to note that a second set of cartouches incised on top of a two-columned inscription identifies “the woman” as “King’s bodily daughter, his chosen, Ankhesenpaaten.”<sup>69</sup>

More recently, the stela is described as having three central figures, proposed as those of Akhenaten, Nefertiti, and Meritaten. At some stage, Nefertiti’s single cartouche was chiseled out and replaced by Ankhkheprure Neferneferuaten’s dual cartouche, and Meritaten’s name replaced by her sister, Ankhesenpaaten.

The female figure of Nefertiti, replaced by Ankhkheprure Neferneferuaten (though apparently without the feminine *t*), gives further weight to the proposal that Ankhkheprure Neferneferuaten was female.

Obviously, if Ankhkheprure Neferneferuaten was female, then she could not be Smenkhkare! This led scholars to wonder if all the references to Ankhkheprure Neferneferuaten were applicable to a female king. For example, Aidan Dodson retracted his previous view that Smenkhkare and Ankhkheprure Neferneferuaten were one and the same on learning that the name referred to a female.<sup>70</sup> Some scholars have applied the regnal year three on TT 139 to a *female* Ankhkheprure Neferneferuaten, thus separating Smenkhkare from Ankhkheprure Neferneferuaten.

However, Hornung wrote in 2006, “It is now certain that not only a man Ankhkheprure, but also a woman Ankhkheprure ruled between Akhenaten and Tutankhamun.” He identifies the male as Smenkhkare, but the identity of the female “remains problematic.”<sup>71</sup>

If Hornung is correct, then another king has to be inserted into the chronology. This is why he suggests that the year one on the wine jar label (noted above) might refer to Queen Ankhkheprure or to Tutankhamun<sup>72</sup> and that the regnal year three on the TT 139 graffito date “seems to belong to the king, but the queen is not excluded.”<sup>73</sup>

Assuming that there *was* a female Ankhkhe(t)prure Neferneferuaten, who might she have been? Did she ever attain the status of co-regent or “King” having regnal years credited to her? Candidates for this person are: Nefertiti, Kiya, Neferneferuaten Tasherit, and Meritaten. Each possibility is briefly considered.

### Nefertiti?

Nefertiti has Neferneferuaten as her prenomen, thus named Neferneferuaten-Nefertiti, and could conceivably have been known as Ankhkheprure Neferneferuaten. While it has been proposed that Nefertiti might have been co-regent with Akhenaten for up to year three of the TT 139 text, or that she outlived Akhenaten and reigned as king for several years, suggested by a depiction of her as an aged woman, it now seems that Nefertiti predeceased Akhenaten.

The two are depicted in the tomb of Meryre with their six daughters in the second month of Akhenaten’s 12th year, after which Nefertiti is not heard of again.<sup>74</sup> She may have died in Akhenaten’s year 14 when dockets for delivery of wine from her estate cease.<sup>75</sup>

<sup>69</sup> Allen, “Nefertiti and Smenkh-ka-re,” 9.

<sup>70</sup> Dodson and Hilton, *Complete Royal Families*, 285; Hornung, “New Kingdom,” 207.

<sup>71</sup> Hornung, “New Kingdom,” 207.

<sup>72</sup> *Ibid.*, 207.

<sup>73</sup> *Ibid.*

<sup>74</sup> Allen, “Amarna Succession,” 1, 13.

<sup>75</sup> J. Dunn, “Queen Nefertiti,” <http://www.touregypt.net/featurestories/nefertiti.htm>

If Nefertiti predeceased Akhenaten she cannot have been credited with regnal years as king. The *shabti* figures associated with Nefertiti's death refer to her only as Akhenaten's "Chief wife," etc., indicating that she never attained the status of pharaoh.<sup>76</sup>

On the "Co-regency stela" her name was excised and replaced with that of Ankhkheprure Neferneferuaten, and Meritaten's name replaced with Ankhesenpaaten. Since Meritaten is not the same person as Ankhesenpaaten, analogy suggests that Nefertiti was not Ankhkheprure Neferneferuaten but someone who replaced her.

### **Kiya?**

Kiya was a lesser, though important, wife of Akhenaten, whose lineage is unknown. It is plausible that she had a family connection to Akhenaten, but it has also been suggested that she may have been a Mitannian princess, Tadukhepa, daughter of Tushratta,<sup>77</sup> though it is unproven. Kiya's last dateable event is a wine docket bearing her name from the vintage of Akhenaten's regnal year 11, but some scholars credit her with further years before Akhenaten died. Akhenaten's gilded wooden coffin found in Tomb KV55, was said to have belonged to Kiya,<sup>78</sup> but Allen now proposes that it was intended for Akhenaten after he had been moved from his original burial in the Royal Tomb at Amarna.<sup>79</sup> Having "disappeared" in Akhenaten's reign, Kiya can be eliminated as Ankhkheprure Neferneferuaten.

### **Neferneferuaten Tasherit?**

Neferneferuaten Tasherit ("Junior"), fourth daughter of Akhenaten and Nefertiti, has been proposed by Allen. He notes that, "Insofar as can be determined, the primary element in the nomen of a pharaoh always corresponds to the name he (or she) bore before coming to the throne ... the evidence for this tradition argues that the co-regent bore the name Neferneferuaten before her coronation ... she must have been ... Neferneferuaten Jr."<sup>80</sup>

However, in order to be promoted to pharaoh she would have to pre-empt her two older sisters, Meritaten and Ankhesenpaaten (Meketaten, second daughter of Akhenaten and Nefertiti, having already died at about 13–14 years old, possibly while giving birth). Allen writes that Akhenaten's motive for this "can only be the subject of speculation."<sup>81</sup> Kitchen notes that, "During these later years [of Akhenaten] Neferneferuaten Junior appears once with the title royal wife, but the implications of this must remain uncertain."<sup>82</sup> It is not known whether she predeceased Akhenaten, but this is quite possible. Akhenaten and Nefertiti both died young, possibly victims of a plague, and since little is known about Neferneferuaten Tasherit, she may have died young too. Apart from her name there is nothing to connect her with Ankhkhe(t)prure Neferneferuaten.

### **Meritaten?**

The only other candidate for Ankhkhe(t)prure Neferneferuaten is Meritaten, eldest daughter of Akhenaten and Nefertiti. It is presumed by many scholars that after Nefertiti died, Meritaten became Akhenaten's wife and took on her mother's role as

<sup>76</sup> Allen, "Amarna Succession," 14 and n. 59.

<sup>77</sup> W.J. Murnane, *Texts from the Amarna Period in Egypt* (Society of Biblical Literature Writings from the Ancient World 5; Atlanta: Scholars Press, 1995) 9, 90-93, 210-11. Cited from "Kiya," <http://en.wikipedia.org/wiki/Kiya>; Gabolde, "End of the Amarna Period."

<sup>78</sup> Gabolde, "End of the Amarna Period."

<sup>79</sup> Allen, "Amarna Succession," 6.

<sup>80</sup> Allen, "Amarna Succession," 15.

<sup>81</sup> *Ibid.*, 15.

<sup>82</sup> Reeves, "Review of *Das Ende der Amarnazeit*," 44.



“King’s Chief wife.” Allen notes that, “Egyptian women usually married at thirteen.”<sup>83</sup> He writes, “In the most likely sequence of events, Meritaten Jr. was born in [Akhenaten’s] Regnal Year 13 or 14, Meketaten died in childbirth in Regnal Year 15, and Ankhesenpaaten Jr. was born in Regnal Year 15 or 16.”<sup>84</sup>

It is possible that Meritaten Jr. was born to Akhenaten after the demise of Nefertiti (regnal years 12–14), when Meritaten may have been 13 or 14 years of age or somewhat older. However, Allen proposes that a scene on Wall A of Room *gamma* of the Royal Tomb at Amarna depicts Akhenaten and Nefertiti mourning the body of Meketaten after childbirth; the father of the baby is assumed to be Akhenaten,<sup>85</sup> in which case Akhenaten was having children by his own daughters *before* Nefertiti died. But there is a question whether the baby was Meketaten’s or Nefertiti’s, and whether Meketaten died in childbirth.<sup>86</sup>

If Nefertiti was still alive when Meritaten, Meketaten, and Ankhesenpaaten gave birth to daughters sired by Akhenaten, then it was some time after this that Nefertiti died and Meritaten became “Chief Wife” to Akhenaten. Presumably, after he died she married Smenkhkare. Allen notes, “He [Smenkhkare] and Meritaten are not attested as husband and wife before he became king.”<sup>87</sup> Smenkhkare’s marriage to Meritaten would have secured for him his succession to the throne, and by these names they are recorded on the tomb of Meryre II.

It is speculated that after becoming king, Smenkhkare changed his name to Ankhkheprure Neferneferuaten, and Meritaten changed her name to Ankhkhetprure Neferneferuaten.

The chiseling out of Nefertiti’s name and replacement with that of Ankhkheprure Neferneferuaten on the “Co-regency Stela” indicates Meritaten’s name change—assuming she was Ankhkhetprure Neferneferuaten—after Smenkhkare’s accession. Her name Meritaten on her original figure was then replaced with that of her sister Ankhesenpaaten.<sup>88</sup> Ankhesenpaaten later became the “Chief wife” of Tutankhamun, and after his death, the wife of his successor, Ay.

There is no indication that Meritaten ever attained the status of co-regent or sole-ruler with regnal years of her own, and assuming that she is identical with Ankhkhetprure Neferneferuaten, the reused objects in Tutankhamun’s tomb with the name Neferneferuaten and epithet “effective for her husband” must be hers, and do not indicate that she held the position of a pharaoh.<sup>89</sup>

When the throne became vacant—assuming the demise or disappearance of both Smenkhkare and Meritaten—it was not Ankhesenpaaten who became pharaoh, but Tutankhamun, her much younger half-brother, even though he was only about 9–10 years old. Obviously, male members of the family took precedence over females in the line of succession, and there is no reason to believe that Ankhkhetprure Neferneferuaten (Meritaten) became the ruler after Ankhkheprure Neferneferuaten (Smenkhkare) died—assuming she had survived him—and before Tutankhamun became king.

<sup>83</sup> Allen, “Amarna Succession,” 13.

<sup>84</sup> *Ibid.*, 14.

<sup>85</sup> *Ibid.*, 11.

<sup>86</sup> Gabolde, “End of the Amarna Period.”

<sup>87</sup> Allen, “Amarna Succession,” 11.

<sup>88</sup> *Ibid.*, 15. Neferneferuaten is also associated with Ankhesenpaaten on a block from Hermopolis where the latter is described as “King’s Daughter” (Allen, “Nefertiti and Smenkh-ka-re,” 11).

<sup>89</sup> Dodson and Hilton, *Complete Royal Families*, 285.



## Chapter 30

### Reinstating the 18th Dynasty - Tutankhamun to Horemheb

DNA tests confirmed in February 2010 that Tutankhamun was the son of Akhenaten and Akhenaten's full-sister, the "Younger Lady," whose mummy was found in tomb KV35YL. The lady is yet to be identified, though some have argued that she is Nefertiti,<sup>1</sup> while others dispute this.<sup>2</sup> Kiya is still in contention.<sup>3</sup> Some suggest that Tutankhamun's mother was Nebetah or Beketaten—Akhenaten's sisters—both of whom were daughters of Amenhotep III and Tiye.<sup>4</sup> Marc Gabolde has proposed that the baby normally associated with the death of Meketaten in childbirth mentioned earlier was actually born to Nefertiti and presumably her son, Tutankhamun.<sup>5</sup> Until it can be ascertained who is the mummy of KV35YL, the identity of Tutankhamun's mother remains unresolved.

Tutankhamun was about six years old when Akhenaten died, and he became king at the age of about nine years. He was known as Tutankhaten until his third regnal year when he changed his name to Tutankhamun demonstrating a desire to return to the traditional gods worshipped by his predecessors at Thebes. He abandoned the city of Akhetaten, moved the capital back to Thebes, and reinstated the priesthood.

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<sup>1</sup> Joann Fletcher, *The Search for Nefertiti: The True Story of an Amazing Discovery* (London: Hodder and Stoughton, 2004).

<sup>2</sup> For example, M. Ross, "Where's Nefertiti?" <http://www.archaeology.org/online/reviews/nefertiti>; Z. Hawass, cited by J. Dunn in "Queen Nefertiti," <http://www.touregypt.net/featurestories/nefertiti.htm>; K. Weeks and P. Locavara, cited in "Nefertiti," <http://en.wikipedia.org/wiki/Nefertiti>

<sup>3</sup> "Nefertiti," <http://en.wikipedia.org/wiki/Nefertiti>

<sup>4</sup> Tiye is known as the Elder Lady, mother of the Younger Lady, both found in tomb KV35 (Hawass, "Ancestry and Pathology," 638-47); "The Younger Lady (mummy)," [http://en.wikipedia.org/wiki/The\\_Younger\\_Lady\\_%28mummy%29](http://en.wikipedia.org/wiki/The_Younger_Lady_%28mummy%29)

<sup>5</sup> M. Gabolde writes, "In one chamber of the Royal Tomb, just outside the room devoted to the funeral vigil for Akhenaten's second daughter, Meketaten, a small child is depicted in the arms of a wet-nurse ... It has long been believed that Meketaten died in childbirth and that this infant was hers. However, she was only about nine years old at the time of her death and her sarcophagus proves that she was scarcely taller than one metre. What remains of the inscription referring to the child reads: '(1) [...] born of (2) Neferneferua[ten] Nefertiti, who lives now and forever more'. ((1) and (2) indicate two columns; [...] indicates missing text.)" Gabolde suggests that the child is a son of Nefertiti, presumably Tutankhamun. (Gabolde, "End of the Amarna Period," [http://www.bbc.co.uk/history/ancient/egyptians/amarna\\_01.shtml](http://www.bbc.co.uk/history/ancient/egyptians/amarna_01.shtml), based on Marc Gabolde, *From Akhenaten to Tutankhamun* [D'Akhenaton à Toutânkhamon collection of the Institute of Archaeology and History of Antiquity, Université Lumière Lyon II, Bocard, 1998]). But J.P. Allen points out that the supposed coffin could have been Meketaten's canopic chest, in which case she could have been taller than one metre ("The Amarna Succession," *Causing His Name to Live: Studies in Egyptian Epigraphy and History in Memory of William J. Murnane*, [University of Memphis, 2007], 11 and n. 43, and Fig. 6 on p. 12). Furthermore, Meketaten would have been older than nine years when she could first have had a baby, probably after she was 13 in about Akhenaten's regnal year 12 (Allen, "Amarna Succession," 13). Moreover, the wording of the surviving text does not include the name of the person born to Nefertiti, and there is said to be only room for the titulary of a child not grandchild (Allen, "Amarna Succession," 11). Perhaps it was Meketaten.

The length of his reign is indicated by the years 4, 5, 9, and 10 found on wine jar docketts from his tomb.<sup>6</sup> It is said that the year 10 label could belong to Akhenaten.<sup>7</sup> Year nine attests that he reigned at least into his ninth year.<sup>8</sup> Assuming a reign of two years plus several months for Ankhkheprure Neferneferuaten beginning in the latter part of 1447, Tutankhamun's accession can be dated to early 1444 BCE and after 9 or 10 years his death is set in 1435/1434 BCE.

Examination of Tutankhamun's mummy suggests that he was about 18 years old when he died.<sup>9</sup> Krauss reports that botanical remains indicate that Tutankhamun was buried in the months of March/April, so 70 days earlier his death would have taken place in January.<sup>10</sup> Casperson's table (Table 30.1) shows that in -1434 (1435 BCE) January fell in I *prt* to II *prt*. This gives Tutankhamun nearly nine full regnal years. A possible tenth year, which could have been his or Akhenaten's, is to be assigned to Akhenaten because of the chronology associated with the reigns of the following two kings: Ay and Horemheb. So Tutankhamun's death at the end of his ninth year in -1434 is probably not far from the actual.

**Table 30.1: Tutankhamun's ninth year and Ay's accession in -1434 (new moon listing from -1435 to -1434**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1435	12	10	-1435	11	27	1347	4	26	4	14:60	6:44	231	6:44	119	6:45	20
<b>Tutankhamun appears to have died in January. Ay succeeded him in I or II <i>prt</i></b>																
-1434	1	9	-1435	12	27	1347	5	26	6	7:40	6:49	193	6:49	80	6:49	-8
-1434	2	7	-1434	1	25	1347	6	25	7	21:29	6:39	325	6:39	142	6:38	49
-1434	3	9	-1434	2	24	1347	7	25	2	8:18	6:20	227	6:19	101	6:19	25

DoW = day of week; ToD = time of day.

Tutankhamun is, of course, the famous boy-king whose magnificent mummy with its gold-headed mask was discovered in tomb KV62 by Howard Carter in 1922. The cause of Tutankhamun's death has been widely speculated over the years, but in 2005, a CT scan showed he had a badly broken leg; in 2010, DNA samples showed the presence of malaria; and in 2012, Dr Hutan Ashrafian asserted that temporal lobe epilepsy caused the fatal fall that broke Tutankhamun's leg.<sup>11</sup> His wife was his older sister, Ankhesenpaaten, who was probably the mother of two fetuses found in his tomb.<sup>12</sup> Tutankhamun had no surviving offspring, thus the lineage of Akhenaten came to an end. The throne passed to Ay, who had served as Grand Vizier to Tutankhamun.

<sup>6</sup> E. Hornung, "New Kingdom," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 208.

<sup>7</sup> *Ibid.*, 208.

<sup>8</sup> D.B. Redford, "On the Chronology of the Egyptian Eighteenth Dynasty," *JNES* 25 (1966) 122; P. Clayton, *Chronicle of the Pharaohs: The Reign by Reign Record of the Rulers and Dynasties of Ancient Egypt* (London: Thames and Hudson, 1994, 2006) 131.

<sup>9</sup> F. Filce Leek, *The Human Remains from the Tomb of Tutankhamun* (Oxford, Griffith Institute, 1972) cited by Hornung, "New Kingdom," 208.

<sup>10</sup> R. Krauss, "Nochmals die Bestattungszeit Tutanchamuns," *SAK* 23 (1996) 227-54 cited by Hornung, "New Kingdom," 208.

<sup>11</sup> "Tutankhamun," <http://en.wikipedia.org/wiki/Tutankhamun>

<sup>12</sup> DNA analysis, published in February 2010, confirmed they were the biological children of Tutankhamun, and their mother—possibly a badly preserved female mummy ("KV21A") discovered in tomb KV21 (Z. Hawass et al., "Ancestry and Pathology in King Tutankhamun's Family," *JAMA* 303, [638-647] cited in "Tutankhamun," <http://en.wikipedia.org/wiki/Tutankhamun>), which might be Ankhesenpaaten or with a name change, Ankhesenamun ("KV 63," <http://en.wikipedia.org/wiki/KV63>). See also, N. Reeves, *The Complete Tutankhamun* (London: Thames and Hudson, 1990) 123-24.

## Ay and Horemheb

Ay may have had some familial links to the royal family. Some scholars propose that Ay's father was Yuya, a senior military officer during the reign of Amenhotep III, and that he may have been the father of Tiye, Amenhotep III's chief queen.<sup>13</sup> Another notion is that "He [Ay] and his wife Tey were the parents of Akhenaten's chief wife, Nefertiti, and that another of their daughters, Mutnedjmet, was the wife and queen of Horemheb, Ay's successor."<sup>14</sup>

After Tutankhamun died, Ay married Ankhesenpaaten, probably his granddaughter, giving him a greater claim to the throne than his rival, commander-in-chief, Horemheb, who was known as "Deputy of the Two Lands," and apparently designated as the heir-apparent by Tutankhamun. Ay consolidated his right to the throne by burying Tutankhamun.<sup>15</sup>

Ay's accession after the death of Tutankhamun would have occurred sometime in the period of I *prt* to II *prt* in 1435 (-1434) as proposed above, based on botanical remains in his tomb. Ay's highest known regnal year is his year four, dated to IV *3ht* 1, found on a stela of Nakhtmin (Berlin 2074).<sup>16</sup>

In reference to Tutankhamun's accession and displayed in Table 29.10 (pp. 409-10), January of 1444 BCE equates to I-II *prt*, and nine years later IV *3ht* 1 in 1436 equates to 14 November coming at the end of Ay's fourth year. As discussed below, his successor, Horemheb, appears to have had a change of regnal years between IV *prt* 28 and I *šmw* 13 (15 days) indicating that in this time period Ay died, giving him a reign of four years and five months, as shown below. These dates for Ay exclude Tutankhamun having a 10th regnal year because Horemheb's accession has to date from 1431 BCE (-1430) (see Table 30.2), which I explain further below.

**Table 30.2: Ay's fifth year and Horemheb's accession in -1429 (new moon listing from -1430 to -1429)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1431	10	27	-1431	10	14	1351	3	13	7	12:00	6:15	282	6:16	152	6:17	28
-1431	11	25	-1431	11	12	1351	4	12	1	23:39	6:36	344	6:36	202	6:37	81
<b>Ay's 5th year starts in January in I or II <i>prt</i></b>																
-1431	12	25	-1431	12	12	1351	5	12	3	12:29	6:48	260	6:48	135	6:49	34
-1430	1	24	-1430	1	11	1351	6	12	5	2:16	6:45	188	6:45	91	6:45	10
-1430	2	22	-1430	2	9	1351	7	11	6	16:51	6:30	257	6:30	139	6:29	62
<b>Horemheb's accession dates from IV <i>prt</i> 28 to I <i>šmw</i> 13 in April</b>																
-1430	3	24	-1430	3	11	1351	8	11	1	8:06	6:09	193	6:08	102	6:07	33
-1430	4	22	-1430	4	9	1351	9	10	2	23:40	5:47	279	5:47	146	5:46	65
-1430	5	22	-1430	5	9	1351	10	10	4	14:53	5:27	218	5:26	108	5:26	26

DoW = day of week; ToD = time of day.

Ay's reign can be dated from 1435 to 1431 BCE.

## Horemheb

Ay's own choice of a successor was a military officer, Nakhtmin, but it was Horemheb who succeeded Ay. After Horemheb became king, he sought to destroy the memory of Ay by desecrating his monuments with their cartouches, including his sarcophagus. But Ay is known because a lid belonging to his sarcophagus was found

<sup>13</sup> "Ay," <http://en.wikipedia.org/wiki/Ay>

<sup>14</sup> Ibid.

<sup>15</sup> Clayton, *Chronicle of the Pharaohs*, 136-37.

<sup>16</sup> Redford, "Chronology," 122; Hornung, "New Kingdom," 207 citing *Urk.* IV 2110,13; "Ay" <http://en.wikipedia.org/wiki/Ay>

under debris in tomb KV63 in 1972 by Otto Schaden, a US Egyptologist, and bore the cartouche of Ay. Traces of Ay's cartouche in plaster have also been found on the lintel of the tomb of Ameniah, Horemheb's first wife.<sup>17</sup> Horemheb's second wife, Mutnedjmet, probably the sister of Nefertiti, appears to have died in childbirth in Horemheb's regnal year 13 judging by the date on the wine jar docket found in her burial chamber, and the skeleton found mixed with the skeleton of a newborn child.<sup>18</sup>

Year 13 and year 14 on wine jar labels from Horemheb's estate are his highest clearly-attested year dates.<sup>19</sup> However, a year 27 has been attributed to him by most scholars. On the shoulder of a now fragmented statue from Horemheb's mortuary temple at Karnak was found an anonymous hieratic graffito. It reads "Regnal Year 27, first month of *shomu* day 9; the day on which Horemheb l.p.h., who loves Amun and hates his enemies entered."<sup>20</sup> The graffito mentions either "the appearance of the king himself or a royal cult statue representing the king, for a religious feast."<sup>21</sup> Views differ as to whether the text refers to a living or dead Horemheb, or whether the date might refer to Ramesses III who reigned 32 years.

Another inscription, from Ostraca IFAO 1254, published by Jac Janssen in 1984,<sup>22</sup> records that an unknown workman at Deir el-Medinah was absent from work from a year 26 III *pṛt* 11 to year 27 II 3*ḥt* 12, before the text breaks off. The ostraca shows that there was a regnal year change between IV *pṛt* 28 and I *šmw* 13 (15 days) from year 26 to year 27. Though the king's name is not given, the year 27 coincides with the year 27 on the mortuary temple; thus, it is likely that the ostraca refers to the reign of Horemheb.

Scholarly opinion now sets the accession of Horemheb in the time frame of IV *pṛt* 28 to I *šmw* 13, and these dates indicate that Ay reigned four years and about three months. The date of year 27 and I *šmw* 9 on the graffito of Horemheb's mortuary temple is understood by some scholars to refer to Horemheb's burial date rather than the date of his death,<sup>23</sup> but as Went and van Siclen point out, a burial date coming 70 days after death would be dated to the successor of the deceased king,<sup>24</sup> and on this basis the date of the 27th year must refer either to Horemheb's day of death, a visit of the living Horemheb, or an appearance of his cult statue to the temple in his 27th year.

### The Mes Inscription and 59 Years

The inscription of Mes from Sakkara refers to a court decision in year 59 of Horemheb. Kitchen points out that the year number cannot be a mistake because of the large number of court trials and legal setbacks documented before the Mes family won

<sup>17</sup> W.R. Johnson, *JNES* 56 (1997) 116, review of G.T. Martin, *The Hidden Tombs of Memphis: New Discoveries from the Time of Tutankhamun and Ramesses the Great* (London: Thames and Hudson, 1991) 93.

<sup>18</sup> *Ibid.*, 116. J. Tyldesley writes that Horemheb is not known to have had any children by Ameniah (*Chronicle of the Queens of Egypt* [Thames and Hudson, 2006] 140); "Horemheb," <http://en.wikipedia.org/wiki/Horemheb>

<sup>19</sup> Johnson, Review of *Hidden Tombs*, 116.

<sup>20</sup> Redford, "Chronology," 123. (He attributes the statue to the mortuary temple of Ay, now attributed to Horemheb). E. Went and C. van Siclen, "A Chronology of the New Kingdom," *Studies in Honor of George R. Hughes* (SAOC 39; Chicago IL: Oriental Institute of the University of Chicago, 1967) 231-32.

<sup>21</sup> "Horemheb," <http://en.wikipedia.org/wiki/Horemheb>

<sup>22</sup> J. Janssen, "A Curious Error," *BIFAO* 84 (1984) 303-06.

<sup>23</sup> Hornung, "New Kingdom," 209.

<sup>24</sup> Went and van Siclen, "Chronology of the New Kingdom," 232.



back its land.<sup>25</sup> Since Horemheb himself cannot be credited with 59 years, scholars understand that the years refer to the time from the accession of Akhenaten through the reigns of his successors down to Horemheb's death and the end of the dynasty.<sup>26</sup> Akhenaten's accession took place at the *end* of December in 1464 BCE. If Horemheb acceded in 1431, his 27th year would fall in 1405–1404. If he was *buried* on I *šmw* 9 his death would have occurred some 70 days earlier, around the end of II *prt* or early February in 1404 BCE. If he *died* on I *šmw* 9, this would equate to mid-April in 1404. Scholars are not decided on this issue.<sup>27</sup> Either date covers a period of 59 years, from the end of December in 1464 to February/April 1404, which concurs with the Mes inscription. The latter date is selected here to represent Horemheb's death in 1404 BCE on I *šmw* 9 with a reign of nearly 27 full years. His 28th year would have begun a few days later on I *šmw* 13 (Table 30.3).<sup>28</sup>

**Table 30.3 The 27th year of Horemheb and the 1st year of Ramesses I in –1403 (new moon listing from –1404 to –1403)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008															
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility				
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0		
-1404	12	26	-1404	12	13	1378	5	20	3	18:57	6:49	314	6:49	169	6:49 50
<b>Horemheb died at end of II <i>prt</i> or I <i>šmw</i> 9 and was succeeded by Ramesses I</b>															
-1403	1	25	-1403	1	12	1378	6	20	5	7:34	6:45	216	6:45	80	6:44 -18
-1403	2	23	-1403	2	10	1378	7	19	6	20:49	6:29	311	6:29	110	6:28 13
-1403	3	25	-1403	3	12	1378	8	19	1	10:50	6:08	166	6:07	49	6:06 -20

DoW = day of week; ToD = time of day.

The death of Horemheb brings to an end the 18th Dynasty. He was buried in an unfinished tomb known as KV 57 at Thebes. Since he had no offspring, he had appointed one of his high officials, Paramesse, to succeed him. He would become known as Ramesses I, grandfather of the famed Ramesses II.

### End of Sothic Cycle at Thebes 1414 BCE

Significant to the reign of Horemheb is the end/beginning of a Sothic cycle viewed from Thebes in 1414, which fell in Horemheb's 18th year. I have previously discussed the Sothic cycles—how Sothis rose heliacally on I *3ht* 1 at the beginning of a new cycle as viewed from the latitude where the observer was located. A heliacal rising observed at Thebes on I *3ht* 1 will be seen at Memphis about five days later, on I *3ht* 5 (Thebes) in that same year. Since the heliacal rising of Sothis stays on the same date for four consecutive years, the heliacal rising of Sothis will not be seen at Thebes on I *3ht* 5 for another 20 years.

However, because Memphis was using the calendar of Lower Egypt, with month-*names* running concurrently, but numbered one month behind the calendar of Upper Egypt, Memphis would have been 120 years behind the Sothic cycle seen from Thebes,

<sup>25</sup> K.A. Kitchen, "The Basis of Egyptian Chronology in relation to the Bronze Age," Vol. 1, *High, Middle or Low?: Acts of an International Colloquium on absolute chronology held at the University of Gothenburg 20–22 August 1987*, (ed. P. Aström, 1987) 37-55; "Horemheb," <http://en.wikipedia.org/wiki/Horemheb>

<sup>26</sup> Redford, "Chronology," 124; J.R. Harris, "How Long Was the Reign of Horemheb?" *JEA* 54 (1968) 95-99.

<sup>27</sup> Hornung, "New Kingdom," 209.

<sup>28</sup> Dockets with a year 28 and 30 found at el-Amarna without the name of the king have also been attributed to Horemheb by Redford ("Chronology," 124) but these have been contested by Harris ("Reign of Horemheb," 95-96). They do not fit into the 59 years of the Mes inscription judging by the above chronology.

except for the fact that for every latitude going north the heliacal rising occurred one day later, thus further through the calendar.

The difference between the start of the cycle at Thebes and Memphis was 100 years. The cycle at Thebes began, as we noted earlier, on I 3 $\dot{h}t$  1 in 2874 BCE and after 1460 years ended in 1414 BCE when a new Sothic cycle would have commenced as seen from Thebes.

Casperson's table (Table 30.4) can again be used to demonstrate that a Sothic cycle ended on the day after the last epagomenal day (coincidentally a new moon day), represented as 12 6 in the calendar of *Lower Egypt*, which has to be converted to the calendar of Upper Egypt, a month earlier, on 13 6 (that is, one month further through the calendar). Since there is no 13 6 (a sixth epagomenal day) the sixth day will be I 3 $\dot{h}t$  1 on 13 July, the date for the commencement of the *new* Sothic cycle seen from Thebes.

**Table 30.4: End of the Sothic cycle at Thebes in 1414 BCE or -1413 (new moon listing from -1413)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1413	6	13	-1413	5	31	1368	11	6	5	17:16	5:16	262	5:16	139	5:15	45
<b>-1413</b>	<b>7</b>	<b>13</b>	-1413	6	30	1368	<b>12</b>	<b>6</b>	7	4:34	5:11	208	5:11	93	5:11	-12
-1413	8	11	-1413	7	29	1368	13	5	1	14:45	5:20	279	5:20	155	5:21	37

DoW = day of week; ToD = time of day.

Another 100 years later, the Sothic cycle at Memphis will recommence in 1314, when the Era of Memphis begins with the new observation site at Memphis using its later-running calendar of Lower Egypt. This date and calendar can be demonstrated also by Casperson's table (Table 30.5).

**Table 30.5: Beginning of new Sothic cycle at Memphis in 1314 BCE or -1313 (new moon listing from -1313)**

Memphis; Lat. 29.9, Long. 31.2; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1313	6	17	-1313	6	5	1468	12	5	1	9:47	5:05	186	5:05	70	5:05	-6
<b>-1313</b>	<b>7</b>	<b>17</b>	-1313	7	5	1468	<b>13</b>	<b>5</b>	3	1:11	5:02	156	5:02	63	5:02	-18
-1313	8	15	-1313	8	3	1468	1	29	4	18:01	5:15	240	5:16	140	5:16	51

DoW = day of week; ToD = time of day.

This table already represents the calendar of Lower Egypt and since Memphis used the calendar of Lower Egypt there is no need for conversion. The last epagomenal day represented by 13 5 fell on 17 July, so the following day, 18 July equates to I 3 $\dot{h}t$  1 and the beginning of the new Sothic cycle observed from Memphis. The HELIAC program supplies the dates of 16, 17, or 18 July in the Julian calendar for the heliacal rising of Sothis in 1314 BCE.<sup>29</sup> This is demonstrated from the HELIAC program data (morning) shown in Figure 30.1.

<sup>29</sup> See <http://www.ancientcartography.net/heliacJAVA.html>.



<b>MORNING (heliacal) RISING</b> Julian cal.: 18/7/1314 BC GREGORIAN cal.: 6/7/1314 BC UT= 2 h 18 min Julian day: 1241682.596 Azimuth = 112 deg.22 min. Altitude of the sun= -6 deg.49 min.	<b>EVENING RISING</b> Julian cal.: 29/12/1314 BC GREGORIAN cal.: 17/12/1314 BC UT= 15 h 29 min Julian day: 1241847.145 Azimuth = 112 deg.22 min. Altitude of the sun= -5 deg.44 min.
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Figure 30.1: HELIAC program data from the Julian calendar.

As indicated, this Sothic cycle starts in Lower Egypt 100 years after the Sothic cycle seen from Thebes. Since the calendar of Upper Egypt was becoming obsolete—used primarily for the recording of the rising of Sothis over Upper Egypt—and with the civil influence of Lower Egypt increasing throughout the land, the end and beginning of the Sothic cycle in Lower Egypt superseded the Upper Egyptian recording of the passage of Sothis through the heavens. Theon, the Alexandrian mathematician writing in 380 CE, identified the changeover in his use of the phrase “the Era of Menophres (Memphis),” apparently in common usage, to note a change in the recording of long periods of time.

Based on the foregoing discussion the reigns of 18th Dynasty rulers are reinstated as shown in Table 30.6.

**Table 30.6: 18th Dynasty: Ahmose to Horemheb with regnal years and dates**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ahmose	25 yr, 4 mo	1676–1651	None known
Amenhotep I	20 yr, 9 mo	1651–1630	Sothic heliacal rising at Thebes: Yr 9 III <i>šmw</i> 9 1642
Thutmose I	8 yr, 7 mo	1630–1622	None known
Thutmose II	17 yr, 7 mo	1622–1604	None known
Hatshepsut	14 + 22 = 36 yr	1604–1590 (sole reign); 1590–1568 (co-regency)	Yr 15 Thut. III’s 2nd year: Hatshept’s accession as co-regent in 1588, though Thut. III began to reign in 1590. Amun feast II <i>prt</i> 29 on 3rd day after new moon II <i>prt</i> 27 in 1588
Thutmose III	53 yr, 6 mo, 26 d	1590–1536	Yr 2 new moon II <i>prt</i> 27; II <i>prt</i> 29 was 3rd day of Amun feast on Hatshepsut’s co-regency celebration. Yr 23 new moon I <i>šmw</i> 20 (Megiddo) 1568. Yr 24 new moon II <i>prt</i> 30 “stretching-of-the-cord” 10th day Amun feast, 1566. [Yr 33] Sothic heliacal rising at Elephantine III <i>šmw</i> 28, 1558
Amenhotep II	25 yr, 9 mo	1536–1510	Yr 19 new moon III <i>šmw</i> [8] 1517; feast preparations
Thutmose IV	8 yr, 7 mo	1510–1501	None known
Amenhotep III	37 yr, 8 mo	1501–1464/1463	None known
Akhenaten	16 yr, 11 mo	1464/1463–1447	Yr 5 new moon IV <i>prt</i> 13 1459 boundary stela. Probable “stretching-of-the-cord” ceremony
Smenkhkare/Neferneferuaten	2 yr, 4 mo	1447–1444	None known
Tutankhamun	8 yr, 11 mo	1444–1435 (Jan.)	None known
Ay	4 yr, 4 mo	1435–1431	None known
Horemheb	27 yr	1431–1404	New Sothic cycle commenced at Thebes on I <i>3ht</i> 1 in 1414
<b>Total</b>	<b>271 yr, 3 mo, 26 d</b>	<b>1676–1404 = 272 yr</b>	

\* = most months approximate; Jan. = January.

Latter dates with less corroborating data than for the earlier reigns can be

checked from years assigned to the Lateran obelisk and the Mes inscription. An inscription on the Lateran obelisk noted that it was abandoned for 35 years from the reign of Thutmose III until it was restored in the reign of Thutmose IV (with the reign of Amenhotep II intervening). This period appears to be taken from the year, possibly day, of Thutmose III's death in 1536 BCE on III *3ht* 30 (6 December). Thirty-five years later, the date fell in 1502. The last year of Thutmose IV ends on I *šmw* 30 (29 May) in 1501 BCE, so the 35 years is complete before Thutmose IV died about five months later. Twenty-five years and nine months allocated to Amenhotep II, followed by the eight years and seven months of Thutmose IV, concur with the 35 years of the Lateran obelisk.

The 59 years of the Mes inscription, understood to refer to the "Amarna" period from the reign of Akhenaten to the end of the reign of Horemheb, dates from 1463 to 1404 BCE.

## Chapter 31

### Redating the 19th Dynasty

The 18th Dynasty came to an end with Horemheb's death in his 27th regnal year, which was dated at the end of II *prt* or after I *šmw* 9 in 1404 BCE. The kings of the 19th Dynasty with the known lunar or Sothic anchor points are shown in Table 31.1.

**Table 31.1: 19th Dynasty kings**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ramesses I			None known
Seti I			None known
Ramesses II			Yr 34 Feast of Ptah full moon on IV <i>šmw</i> 25 in 1356; Yr 41 Heliacal rising of Sothis I <i>3ht</i> 22 in 1349; Yr 52 new moon II <i>prt</i> 27 in ship's log, 1338
Merenptah			Yr [4] Heliacal rising of Sothis on I <i>3ht</i> 29 at Thebes in 1321 (calendar of Upper Egypt)
Amenmesses			1314 New Sothic cycle commences at Memphis on I <i>3ht</i> 1
Seti II			Yr 2 Epiphi feast days on IV <i>šmw</i> 1–2 with new moon on IV <i>šmw</i> 2 in 1311; Yr 6 Beautiful Feast of the Valley, river crossing on II <i>šmw</i> 25 with new moon on II <i>šmw</i> 20
Siptah			Yr 6 DB feast, full moon on III <i>šmw</i> 8 in 1299
Twosre			"Yr 7" DB feast, full moon on II <i>šmw</i> 28 in 1298

\* = most months approximate; DB = Deir el-Bahari.

Horemheb died childless and appointed Paramesse (or Paramessu) his vizier. He was an aged man of high military standing, who had both a son and a grandson, to succeed him. Paramesse came from the region of Avaris, east of the Nile Delta, the area occupied by the Hyksos before their expulsion by Ahmose at the beginning of the 18th Dynasty. Paramesse is now known as Ramesses I, the grandfather of the famous Ramesses II.<sup>1</sup> While there are no lunar or Sothic dates preserved that allow the specific dating of Ramesses I and his son Seti I, the accession of Ramesses II can be dated by a new moon that was observed on II *prt* 27 of Ramesses II's 52nd year.

#### Time-frame for the Reigns of Ramesses I and Seti I

As noted earlier, and repeated below, Caspersen's tables provide the exact date for the new moon on II *prt* 27 of Ramesses II's 52nd year in 1338 equivalent to 17 January, giving an accession in 1390 BCE. Therefore, from the beginning of Ramesses I's reign in 1404 to the accession of Ramesses II in 1390, there are just 14 years to distribute between Ramesses I and Seti I.

Ramesses I would have become king in 1404 BCE when Horemheb died. Ramesses I's only certain date is II *prt* 20 in his second year found on stela Louvre C 57 from Buhen (Wadi Halfa) where he gives orders from Memphis for the provision of

<sup>1</sup> P. Tyson, "The Mummy who would be King: Who was Ramesses I?"  
<http://www.pbs.org/wgbh/nova/mummy/ramesses.html>

endowments for the temple of Ptah within the fortress at Buhen.<sup>2</sup> On the other hand, Seti I has numerous attestations for years 1–11, with only year 10 unaccounted for, and no year 12.<sup>3</sup> The remaining three years can then be applied to Ramesses I.

### Seti I's Accession indicates the end of Ramesses I's Reign

Of several suggestions for the accession date of Seti I, Wolfgang Helck proposed III *šmw* 24 based on the date of a water-borne processional festival celebrated by Seti I (from O. Gardiner 11), which appears to refer to activities celebrating the anniversary of an accession.<sup>4</sup> Murnane analyzed palace accounts at Memphis and identified a period of III *šmw* 18 to IV *šmw* 17 when the accession might have occurred, favoring the festival date of IV *šmw* 2.<sup>5</sup> Redford used pRollin 1889 to suggest IV *šmw* 23 as the accession date or between II *šmw* 30 and I *3ḥt* 2.<sup>6</sup> Scholars now cite III *šmw* 24 as the accession date, though this is not certain.<sup>7</sup> This date, or one near it, gains support from the accession date of Ramesses II, which is understood to be III *šmw* 27<sup>8</sup> and equates to 28 June in 1390 BCE. If Seti I's accession date was III *šmw* 24, and he died on III *šmw* 26, this would take him two days into his 12th year,<sup>9</sup> and would credit him with a reign of 11 full years. Alternatively, an accession on IV *šmw* 2 ends his reign just five days before the full 11 years.

The highest attested date for the reign of Seti I is IV *šmw* 12 or 13 of year 11 found on a fragmentary stela from Gebel Barkal.<sup>10</sup> This date has to precede III *šmw* 27 when Ramesses II began to reign. Therefore, Seti I's 11th year started on or before IV *šmw* 12/13, which gives us another indication of the date for his accession—sometime in III or IV *šmw*.

On this evidence, Ramesses I had a third and final year of about three months. The situation can be demonstrated by Casperson's table (Table 31.2).

<sup>2</sup> R.O. Faulkner, "Egypt: From the Inception of the Nineteenth Dynasty to the Death of Ramesses III," *CAH* 2/2 (1975) 217; K. A. Kitchen, *Pharaoh Triumphant: The Life and Times of Ramesses II, King of Egypt* (Warminster: Aris and Phillips, 1982) 19; P.J. Brand, *The Monuments of Seti I: Epigraphic Art Historical and Historical Analysis* (Ph.D. diss., University of Toronto, 1998) 338, viewed at [http://www.collectionscanada.ca/obj/s4/f2/dsk2/tape17/PQDD\\_0009/NQ35116.pdf](http://www.collectionscanada.ca/obj/s4/f2/dsk2/tape17/PQDD_0009/NQ35116.pdf); "Ramesses I." [http://en.wikipedia.org/wiki/Ramesses\\_I](http://en.wikipedia.org/wiki/Ramesses_I); E. Hornung, "The New Kingdom," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 210.

<sup>3</sup> Hornung, "New Kingdom," 211.

<sup>4</sup> *KRI* VI 249, 7; W. Helck, "Chronologische Kleinigkeiten," *CdÉ* 41 (1966) 233-34; see Brand, "Monuments of Seti I," 339-340; Hornung, "New Kingdom," 210.

<sup>5</sup> W.J. Murnane, "The Accession Date of Sethos I," *Serapis* 3 (1975-76) 23 cited by Hornung, "New Kingdom," 210; Brand, "Monuments of Seti I," 339.

<sup>6</sup> D.B. Redford, *Pharaonic King-Lists, Annals and Day-Books* (SSEA Publication 4; Ontario, Canada: Benben, 1986) 113 n. 46; Hornung, "New Kingdom," 210.

<sup>7</sup> J. von Beckerath, *Chronologie des Ägyptischen Pharaonischen* (Mainz: von Zabern, 1997) 190; Brand, "Monuments of Seti I," 339-340; Hornung, "New Kingdom," 210.

<sup>8</sup> W. Helck, "Erneut das Angebliche Sothis-Datum des pap. Ebers und die Chronologie der 18. Dynastie," *SAK* 18 (1988) 150 and n. 1; Hornung, "New Kingdom," 210-11.

<sup>9</sup> Noted in "Seti I," [http://en.wikipedia.org/wiki/Seti\\_I](http://en.wikipedia.org/wiki/Seti_I)

<sup>10</sup> Hornung, "New Kingdom," 211.

**Table 31.2: Ramesses I's final year (his third) and Seti I's accession in -1401 (new moon listing for -1401)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1401	5	31	-1401	5	18	1380	10	26	7	12:13	5:22	237	5:21	116	5:21	38
<b>If Ramesses I's accession took place in II prt or in I šmw of -1403, his third year comprised at least 3-4 months because the accession of Seti I started on or before IV šmw 13, possibly III šmw 24 or IV šmw 2 in -1401</b>																
-1401	6	30	-1401	6	17	1380	<b>11</b>	<b>26</b>	2	1:15	5:11	180	5:11	90	5:11	8
-1401	7	29	-1401	7	16	1380	12	25	3	16:19	5:14	241	5:15	147	5:15	56

DoW = day of week; ToD = time of day.

Therefore, from the death of Horemheb and the accession of Ramesses I in II prt or I šmw of 1404 BCE to Seti I's accession, I speculate that Ramesses I had a reign of perhaps two years and three months in the period 1404–1401 BCE. The difficulty of dealing with partial years without precise data must be acknowledged.

The mummy of Ramesses I was transported up the Nile to Thebes and was placed in an unfinished coffin in tomb KV 16. When the tomb was discovered in 1817 by Giovanni Belzoni, the mummy was missing. Its whereabouts was unknown until a mummy, on display in Canada in the Niagara Falls Museum from about 1860, was sold to Emory University in Atlanta, Georgia, in 1999. Various computed tomography scans and x-rays, and the family resemblance, led to its probable identification as the mummy of Ramesses I. It was returned to the Cairo Museum on 24 October 2003.<sup>11</sup>

The 11 years that have been attributed to Seti I on the basis of his regnal year attestations, are supported by other evidence from his reign. Ramesses II “was able to complete the two obelisks and four seated colossi from Luxor within the first years of his reign.”<sup>12</sup> Then the Aswan quarries were opened in his ninth year, and he ordered the production of many obelisks and colossi. Yet, when he died, most of these were not complete, suggesting that he did not reign long past his 10th year.

The changeover from Seti I's reign to Ramesses II's accession in 1390 BCE can be demonstrated from Casperson's table (Table 31.3) in which III šmw 27 falls 11 days after the new moon on 11 16, thus the accession date equates to 28 June in -1389 (1390 BCE).

**Table 31.3: Seti I's 11th year in -1390 and Ramesses II's accession -1389 (new moon listing from -1390 to -1389)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1390	6	28	-1390	6	16	1391	11	27	7	5:01	5:12	242	5:12	85	5:11	-24
<b>Seti I's 11th year started on or before IV šmw 13, possibly III šmw 24 or IV šmw 2</b>																
-1390	<b>7</b>	<b>27</b>	-1390	7	15	1391	<b>12</b>	<b>26</b>	1	14:04	5:14	298	5:14	144	5:14	27
-1390	8	26	-1390	8	14	1392	1	21	3	1:58	5:29	200	5:29	88	5:30	-18
-1390	9	24	-1390	9	12	1392	2	20	4	17:11	5:50	252	5:50	148	5:51	47
-1390	10	24	-1390	10	12	1392	3	20	6	11:16	6:13	214	6:14	117	6:15	22
-1390	11	23	-1390	11	11	1392	4	20	1	6:51	6:35	193	6:35	101	6:36	9
-1390	12	23	-1390	12	11	1392	5	20	3	2:12	6:48	177	6:48	89	6:48	1
-1389	1	21	-1389	1	9	1392	6	19	4	19:48	6:46	258	6:46	151	6:46	64
-1389	2	20	-1389	2	8	1392	7	19	6	10:42	6:32	218	6:31	106	6:30	21
-1389	3	21	-1389	3	9	1392	8	18	7	22:33	6:11	355	6:10	149	6:10	46

<sup>11</sup> “Ramesses I,” [http://en.wikipedia.org/wiki/Ramesses\\_I](http://en.wikipedia.org/wiki/Ramesses_I); “The Once & Future Pharaoh,” *Odyssey, Adventures in Archaeology*, 2004, <http://www.odysseyadventures.ca/articles/ramesses/ramesses-text.htm>; “U.S. Museum to Return Ramses I Mummy to Egypt,” [http://news.nationalgeographic.com/news/2003/04/0430\\_030430\\_royalmummy.html](http://news.nationalgeographic.com/news/2003/04/0430_030430_royalmummy.html)

<sup>12</sup> P.J. Brand, “The ‘Lost’ Obelisks and Colossi of Seti I,” *JARCE* 34 (1997) 101-14, idem, Brand, “Monuments of Seti I,” 347.

-1389	4	20	-1389	4	8	1392	9	18	2	7:43	5:49	221	5:48	73	5:47	-18
-1389	5	19	-1389	5	7	1392	10	17	3	15:01	5:29	359	5:28	116	5:28	5
<b>The accession of Ramesses II dates to III šmw 27 in -1389</b>																
-1389	<b>6</b>	<b>17</b>	-1389	6	5	1392	<b>11</b>	<b>16</b>	4	21:39	5:14	541	5:14	184	5:14	45
-1389	7	17	-1389	7	5	1392	12	16	6	4:49	5:11	253	5:12	101	5:12	-14

DoW = day of week; ToD = time of day.

## Ramesses II

Seti I was succeeded by his son Ramesses II, a man presumed to be about 25 years old. He was to become the most famous and long-lived pharaoh of all time, known as “Ramesses the Great.” Once enthroned, he transferred his residence from Thebes to the Delta region of Egypt—the home of his grandfather, Ramesses I, where he built the grand city of Pi-Ramesses, now identified by archaeologists as the city of Ramses mentioned in the Bible, built by Israelite slaves (Exod 1:11). Its foundations now lie under several feet of farmland. Ramesses’ building works extended from the Delta in the north to Nubia in the far south on a scale no other king had ever wrought. His monuments, statues, and buildings are found all over Egypt.<sup>13</sup>

His favorite queen was Nefertari, and another, Istnofret. He had at least eight wives—his seventh and eighth being Hittite princesses.<sup>14</sup> He is thought to have sired over 110 children; 48–55 sons and 40–53 daughters.<sup>15</sup> In his 30th year, he celebrated his first *sed*-festival at Pi-Ramesses, and thereafter every three to four years until his death.<sup>16</sup> Finally, he died aged about 90 years old, and was buried in tomb KV7 in the Valley of the Kings.

In the 15th year of Smendes (first king of the 21st Dynasty), Ramesses II’s mummy was moved to the tomb of his father Seti I, according to a docket found on his coffin in 1881 where it had subsequently been deposited in the great cache of royal mummies at Deir el-Bahari. In 1976 his mummy was flown to Paris for a great exhibition and to be treated for deterioration.<sup>17</sup> It now resides in Cairo’s Egyptian Museum. A huge complex of over 150 underground corridors and chambers was built in the Valley of the Kings to entomb the mummies of some of Ramesses’ many sons, which was rediscovered in 1988 by Kent Weeks, head of the Theban Mapping Project. It was announced in 1995 and found to be the largest tomb in the Valley.<sup>18</sup>

A specific text giving Ramesses II’s date of accession is not known, but the date has been discussed by various scholars and the consensus is that he became king on III šmw 27.<sup>19</sup>

There are several dates synchronized to new moons in Ramesses II’s reign. I start with the most famous, which will set the Julian dates for the lesser-known Egyptian lunar dates.

<sup>13</sup> P.A. Clayton, *Chronicle of the Pharaohs: The Reign-by-Reign Record of the Rulers and Dynasties of Ancient Egypt* (London: Thames and Hudson, 1994, 2006) 153-55. For a short history of Ramesses II, see e.g. “Ramesses II,” [http://en.wikipedia.org/wiki/Ramesses\\_II](http://en.wikipedia.org/wiki/Ramesses_II)

<sup>14</sup> *Ibid.*, 148-49.

<sup>15</sup> A. Dodson and D. Hilton, *The Complete Royal Families of Ancient Egypt* (London: Thames and Hudson, 2004) 166. See J. Dunn, “The Sons (and Daughters) of Ramesses II,” <http://www.touregypt.net/featurestories/ramesses2ssons.htm>

<sup>16</sup> Kitchen, *Pharaoh Triumphant*, 178-82.

<sup>17</sup> Clayton, *Chronicle of the Pharaohs*, 155.

<sup>18</sup> M.D. Lemonick, “Secrets of the Lost Tomb,” *Time* 21 (May 29, 1995) 44-50.

<sup>19</sup> S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies; Liverpool University Press, 2000) 84. Also: D.B. Redford, “The Earliest Years of Ramesses II, and the Building of the Ramesside Court at Luxor,” *JEA* 57 (1971) 110 and n. 2; Kitchen, *Pharaoh Triumphant*, 43-44; Hornung, “New Kingdom,” 211.

### New Moon Date in Ramesses II's 52nd Year

Possibly the most well-known new moon date in Egyptian history is that from the reign of Ramesses II, dated on a ship's log at Pi-Ramesses occurring on II *prt* 27 of his 52nd year.<sup>20</sup> Casperson's article, published in 1988,<sup>21</sup> demonstrated the facts shown in Table 31.4.

**Table 31.4: Ramesses II dates tested by Casperson**

Accession year (BCE)	His 52nd year	New Moon date on his 52nd year
1304	-1252 (1253 BCE)	II <i>prt</i> 28
1301	-1249 (1250 BCE)	II <i>prt</i> 25
1290	-1238 (1239 BCE)	II <i>prt</i> 26
1276	-1224 (1225 BCE)	II <i>prt</i> 26

None of these dates fall on II *prt* 27. The current consensus (Table 31.5) places Ramesses II's accession in 1279 based on a date of II *prt* 28 in -1227 (1228 BCE), but the date of the new moon is incorrect by a day, with a table supplied by Casperson (Table 31.6).

**Table 31.5: Ramesses II current consensus**

Accession year (BCE)	His 52nd year	New Moon date on his 52nd year
1279	-1227 (1228 BCE)	II <i>prt</i> 28

**Table 31.6: Scholars' new Moon date on II *prt* 28 in Ramesses II's 52nd year in -1227 (new moon listing from -1227 to -1226)**

Heliopolis; Lat. 30.1, Long. 31.3; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1227	11	20	-1227	11	9	1555	5	28	6	19:00	6:41	336	6:41	181	6:42	56
<b>The new moon falls on II <i>prt</i> 28 not II <i>prt</i> 27</b>																
-1227	12	20	-1227	12	9	1555	6	28	1	6:40	6:57	237	6:58	107	6:58	5
-1226	1	18	-1226	1	7	1555	7	27	2	19:00	6:57	325	6:56	155	6:56	62

DoW = day of week; ToD = time of day.

To reconcile the dates, scholars assume that a marginally visible crescent was missed the previous day by the Egyptian observer, thus giving the new moon date one day too early.<sup>22</sup> On the other hand, Casperson supplied me with a table for an accession in 1390. As shown in Table 31.7, it gives the *exact* new moon date of II *prt* 27 for the year -1337 (1338 BCE).

**Table 31.7: Tetley's reconstructed chronology for Ramesses II**

Accession year (BCE)	His 52nd year	New Moon date on his 52nd year
1390 BCE	-1337 (1338 BCE)	II <i>prt</i> 27

The new moon fell the day before conjunction on II *prt* 28. No mistakes need to be assumed to match the new moon date to this year (Table 31.8).

<sup>20</sup> The text is found on the verso of Papyrus Leiden I 350; J.D. Schmidt, *Ramesses II: A Chronological Structure of His Reign* (Baltimore and London: Johns Hopkins University Press, 1973), 2; R.A. Parker, "The Lunar Dates of Thutmose III and Ramesses II," *JNES* 16 (1957) 42-43; R. Krauss, "Lunar Dates," *AEC* (2006) 414.

<sup>21</sup> L.W. Casperson, "The Lunar Date of Ramesses II," *JNES* 47 (1988) 183.

<sup>22</sup> Casperson, "Lunar Dates," 184; see e.g., L.E. Doggett and B.E. Schaefer, "Lunar Crescent Visibility," *Icarus* 107 (1994) 388-403.



**Table 31.8: Ramesses II's 52nd year; new moon on II prt 27 in -1337 (new moon listing from -1338 to -1337)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1338	12	18	-1338	12	6	1444	5	28	7	10:48	6:59	212	6:59	110	6:59	23
<b>The new moon falls on II prt 27 as given on the ship's log</b>																
-1337	1	17	-1337	1	5	1444	6	28	2	1:41	6:59	179	6:59	86	6:59	7
-1337	2	15	-1337	2	3	1444	7	27	3	13:24	6:43	274	6:42	136	6:42	55

DoW = day of week; ToD = time of day.

Scholars currently propose the date of 1279 BCE as Ramesses II's most likely accession year. And, because they reckon (correctly) on 200 years between the accession of Thutmose III and Ramesses II, they give Thutmose III an (incorrect) accession in 1479. However, further dates can be attributed to the reign of Ramesses II with an accession date of 1390 BCE.

### Medinet Habu Calendar Dates

A number of festival dates are attributed to the reign of Ramesses III (not II) in the surviving portion of the Medinet Habu calendar, but unfortunately the regnal years are not given.<sup>23</sup> After the heading and festival date, each list gives an annotation of all the offerings. List 19 is headed, "Coronation Festival of the King," which applies to Ramesses III and his accession dated to I šmw 26, which appears to fall on a feast of Amun.<sup>24</sup> However, not all lists belong to the reign of Ramesses III.

### Lists 59–67: Feasts in the Reign of Ramesses II, Not Ramesses III

I focus attention on Lists 59–67 in order to discuss List 63, which has a feast dated to a new moon—the name and date of the festival being in doubt.<sup>25</sup>

List 59 is the "Festival of the Navigation of Anubis" and is dated to II prt 1. List 60 is attributed to a "Feast of Lifting up the Sky." These are held in the second month of winter, II prt. The first day on II prt 29, the second on II prt 30, and the third on III prt 1. These days are paralleled by List 61, the "Feast of Entering the Sky," but held in the third month of winter. The first day was held on III prt 29, the second on III prt 30, and the third on IV prt 1. List 62 is the "Feast of Chewing Onions for Bast" held on IV prt 4.

In List 63, a festival has an unclear name but has been assigned [So]k[ar] and attributed to IV prt 1.<sup>26</sup> The record of the feast says, "It is the new moon which brings it; offerings for Amon-Re with his ennead in this day of festival."<sup>27</sup> The day of the new moon is uncertain because the sequential order should give a date *after* IV prt 4, not on IV prt 1. Spalinger notes, "There is no evidence, however, for any Sokar feast at this time in the civil year. I suspect that the original day is inaccurate. Day one in IV prt does not fit the order of the calendar."<sup>28</sup>

The feast of List 63 must then date from some day *after* IV prt 4 and *before* the next listed feast, on List 64, which refers to "The Festival of Renenutet" held on I šmw 1. The correct numerical order is maintained by List 65, which refers to "The Feast of

<sup>23</sup> Hornung, "New Kingdom," 215.

<sup>24</sup> El-Sabban, *Temple Festival Calendars*, 84.

<sup>25</sup> *Ibid.*, 125.

<sup>26</sup> *Ibid.*; A.J. Spalinger, "Egyptian Festival Dating and the Moon," *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; *Alter Orient und Altes Testament* 297; Münster: Ugarit, 2002) 392-93.

<sup>27</sup> El-Sabban, *Temple Festival Calendars*, 123-25.

<sup>28</sup> Spalinger, "Egyptian Festival Dating," 393 n. 81.



Clothing Anubis,” held on I *šmw* 10.<sup>29</sup> List 63 is applied to the fourth month of winter, which, in the calendar of Upper Egypt, is known as *rkh nds* and translated as “little burning.” The “k” noted in the feast name can thus stand for *rkh* of *rkh nds*. The day date is faulty but needs to come after the fourth day of IV *pwt* in List 62. The partial number includes the number 1, so the date may be 11 onwards, depending on how many digits have been lost. We can solve the year of the new moon in List 63 by dating a new moon in List 66.

List 66 applies to “The Processional Festival of Min” dated to I *šmw* 11. It reads, “The day of Min’s procession to the terrace when the new moon is in the morning; offerings for Amon and the portable image of *Wosermatre Meriamon*, in this day.”<sup>30</sup>

This is followed by List 67 called “The Processional Feast of Amon.” It reads, “First month of summer, the new moon’s festival of Amon-Re, in his first festival of the 1st month of summer, when this god goes out on the 4th occasion of the new moon’s festival; offerings for Amon-Re, lord of the thrones of both lands, chief of Karnak temple with his Ennead [nine deities] in this day of festival.”<sup>31</sup>

If the Min procession was on I *šmw* 11, then the first day of the lunar month fell on the 12th (List 66), and the fourth lunar day on the 15th (List 67).

According to Casperson’s tables there is no new moon date on I *šmw* 11 or 12 in the reign of Ramesses III. The closest date is in his 23rd year when conjunction fell on I *šmw* 11, indicating a new moon the previous day on the 10th, whereas the new moon following the feast of Min ought to have fallen on the 12th. On the other hand, Ramesses II has dates for a new moon on I *šmw* 12 in his sixth year in 1384 BCE, I *šmw* 13 in his 31st year in 1358, and I *šmw* 12 in his 56th year in 1334.<sup>32</sup>

Parker points out that, “It is well known that Ramses III’s calendar is a copy of Ramses II’s.”<sup>33</sup> Spalinger supports Parker’s observation. Referring to the feast of Min, which occurred on the day before *psdntyw* at the end of the ninth month of the civil year, Spalinger writes: “In the reign of Ramesses II it must have been on day 11 of I *šmw*, and also very early in the king’s reign that the days before *psdntyw* occurred.”<sup>34</sup> In this case, the early date for the sixth year of Ramesses II in 1384 BCE would be the probable date assuming that Ramesses III had his name substituted for that of Ramesses II when the copying was done from the original text.

See Casperson’s table showing the 12th day of I *šmw*, remembering the feast was held one day before the new moon (Table 31.9).

**Table 31.9: Feast of Min on I *šmw* 11 in Ramesses II’s sixth year in –1383 (new moon listing for –1383)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1383	2	13	-1383	2	1	1398	7	14	7	5:50	6:36	233	6:35	64	6:34	-34
<b>-1383</b>	<b>3</b>	<b>14</b>	-1383	3	2	1398	<b>8</b>	<b>13</b>	1	14:13	6:16	355	6:15	<b>94</b>	6:14	<b>-2</b>
<b>-1383</b>	<b>4</b>	<b>12</b>	-1383	3	31	1398	<b>9</b>	<b>12</b>	2	22:42	5:54	606	5:54	143	5:53	<b>36</b>
-1383	5	12	-1383	4	30	1398	10	12	4	8:05	5:33	217	5:32	87	5:32	11

DoW = day of week; ToD = time of day.

<sup>29</sup> El-Sabban, *Temple Festival Calendars*, 126-27.

<sup>30</sup> Ibid., 127-28; R.A. Parker, *The Calendars of Ancient Egypt* (SAOC 26; Chicago IL: Chicago: Oriental Institute of the University of Chicago, 1950) 40 §204; Spalinger, “Egyptian Festival Dating,” 385.

<sup>31</sup> El-Sabban, *Temple Festival Calendars*, 128-29; Spalinger, “Egyptian Festival Dating,” 292.

<sup>32</sup> As seen in Casperson’s tables for these dates; the latter is not supplied here.

<sup>33</sup> Parker, *Calendars*, 40 §204.

<sup>34</sup> Spalinger, “Egyptian Festival Dating,” 386.

If the feast of Min (List 66) can be dated to Ramesses II's sixth year, then the prior Lists 63–65 may also refer to Ramesses II's reign. List 64 refers to the "Festival of Renenutet" held on I *šmw* 1, and List 65 refers to the "Feast of Clothing Anubis" held on I *šmw* 10. These also appear to be referring to the same year as that of the feast of Min referring to day 11 for the day prior to the new moon. It infers that List 63 also refers to the same year, the sixth year of Ramesses II. If so, we should find a date in IV *pṛt* that has a new moon with a number 1 in it. In Table 31.9, we see that a new moon fell on IV *pṛt* 12, from which we may assume that the original figure had one 10-sign and two digits.

From this analysis, we can attribute List 63 to the feast of *rkh nds*, held in the fourth month of *pṛt* on day 12 when it "is the new moon which brings it in" and assign it to the sixth year of Ramesses II, the same year for the feast of Min in List 66.

List 67, the last feast listed, is called the "Processional Feast of Amun." It was held in I *šmw*, in the new moon's festival" when the god goes out on the fourth occasion of the new moon's festival." This is assumed to be a reference to the fourth day after the new moon on I *šmw* 12 following the feast of Min (List 66), therefore, on the 16th day of the month, also in Ramesses II's sixth year.

### Further Feast Days

Ramesses II has two holiday dates ascribed to his reign. A visitor's graffito on a pyramid at Saqqara is dated to the 34th year of Ramesses II on IV *šmw* 24 with the words "day of the feast of Ptah-south-of-his-wall."<sup>35</sup> This is presumed to refer to a feast day on a public holiday.<sup>36</sup> L. Borchardt earlier suggested this might be the day of a full moon.<sup>37</sup> Taking up his suggestion, we apply Casperson's full moon table (Table 31.10) to the date of Ramesses II's 34th year in 1356 BCE (–1355).

**Table 31.10: Feast of Ptah on IV *šmw* 24 in Ramesses II's 34th year in –1355 (full moon listing for –1355)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–1355	6	16	–1355	6	4	1426	11	24	4	21:04	5:14	18:14
<b>–1355</b>	<b>7</b>	<b>16</b>	–1355	7	4	1426	<b>12</b>	<b>24</b>	6	9:24	5:12	18:12
–1355	8	14	–1355	8	2	1426	1	18	7	20:37	5:23	18:23

DoW = day of week.

A full moon fell on IV *šmw* 24 in –1355 (1356 BCE), which upholds Borchardt's suggestion and concurs with my proposed dates for Ramesses II's reign.

A second visitor's graffito, also found at Saqqara, records two officials from Memphis, a treasury-scribe and a vizier's scribe, enjoying a stroll on II *pṛt* 25 in the 47th year of Ramesses II. A holiday date is suggested because these officials are not at work. Some think it might also be a full moon date, as was the previous date.<sup>38</sup> Casperson's table (Table 31.11) gives the date for Ramesses 47th year in –1341 (1342 BCE).

<sup>35</sup> Schmidt, *Ramesses II*, 45.

<sup>36</sup> R. Krauss, "Lunar Days, Lunar Months, and the Question of the 'Civil-Based' Lunar Calendar," *AEC* (2006), 418, citing G. Jéquier, *Deux pyramides du Moyen Empire. Fouilles à Saqqarah* (Cairo, 1933) 13-15; A.J. Peden, *The Graffiti of Pharaonic Egypt: Scope and Roles of Informal Writings (c. 3100-332 B.C.)*(PÄ 17; Leiden: Brill, 2001) 98-99.

<sup>37</sup> Krauss, "Lunar Dates," 418 n. 83, citing L. Borchardt, *ZÄS* 70 (1934) 97-98, 100 n. 9.

<sup>38</sup> Krauss, "Lunar Dates," 418.

**Table 31.11: Ramesses II's 47th year in -1341 (full moon listing from -1342 to -1341)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-1342	12	17	-1342	12	5	1440	5	26	1	14:31	6:47	17:47
<b>-1341</b>	<b>1</b>	<b>16</b>	-1341	1	4	1440	<b>6</b>	<b>26</b>	3	6:56	6:47	17:47
-1341	2	14	-1341	2	2	1440	7	25	4	20:24	6:34	17:34

DoW = day of week.

The full moon day on the graffito is a day later than indicated by the table. No claim is made that the graffito writer thought it *was* a full moon, or whether the stroll of the Memphite officials merely coincided with the day before the full moon. So the full moon date is immaterial to elucidate the reference. From these somewhat speculative lunar dates, we come to a Sothic date.

### Sothic Date in Ramesses II's 41st Year

Petrie refers to a heliacal rising of Sothis on the 22nd day of Thoth in the 41st year of Ramesses II. He references his source to a stela in the temple of Amenhotep III at El Kab.<sup>39</sup> The temple is located about 80 km south of Thebes on the eastern bank of the Nile. By "Thoth" Petrie means the first month in the civil calendar, assuming a single calendar for both Upper and Lower Egypt. Thoth was the first month in the calendar of Lower Egypt and the second month in the calendar of Upper Egypt. He understood Thoth to be the first month of inundation, the date being I *3ht* 22. Probably the month name was not given, but originally designated as "1st month of inundation" or *3ht* (as we find in other contexts).

Ramesses II's 41st year is 1349 BCE in my chronology. According to Casperson's table (Table 31.12) the date of 12 23, that is, IV *šmw* 23, converts to I *3ht* 23 in the calendar of Upper Egypt by which Sothic cycles from Thebes were dated. I *3ht* 22, being the day before I *3ht* 23, equates to 12 July. This agrees with the HELIAC program, which gives the Sothic rising on 11 or 12 July in 1349 BCE at Thebes.

**Table 31.12: Ramesses II's 41st year; heliacal rising of Sothis at Thebes on I 3ht 22 in -1348 (new moon listing for -1348)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1348	6	13	-1348	6	1	1433	11	23	3	13:58	5:16	236	5:15	108	5:15	25
<b>-1348</b>	<b>7</b>	<b>13</b>	-1348	7	1	1433	<b>12</b>	<b>23</b>	5	4:32	5:11	184	5:11	<b>90</b>	5:11	<b>6</b>
-1348	8	11	-1348	7	30	1434	1	17	6	20:53	5:20	252	5:21	158	5:21	67

DoW = day of week; ToD = time of day.

Petrie was able to state the date of a heliacal rising in Ramesses II's 41st year (which he incorrectly gave as 1234!) inferring that he had seen an attestation to that effect.

### The Year of Ramesses II's Death

Ramesses II is credited with a reign of 66 years and 2 months as recorded by Josephus passed down from Manetho.<sup>40</sup> A tax docket found at Gurob gives Ramesses II's highest known date of I *3ht* 18 in his 67th year, followed closely by a year one dated

<sup>39</sup> W.M.F. Petrie, *A History of Egypt during the XVIIth and XVIIIth Dynasties* (London: Methuen, 1896) Vol. 2, 32.

<sup>40</sup> F. Josephus, *Contra Apionem*, Fragment. 50, i, 97 in *Manetho* 101, 102.

to either II 3 $h$ t 19 or, because it is badly damaged, I 3 $h$ t 19.<sup>41</sup> However, the reign of Merenptah, Ramesses' son and successor, is proposed to have begun between I 3 $h$ t 19 and II 3 $h$ t 13 seen in Cairo ostrakon CG 25504,<sup>42</sup> which rules out the damaged date of II 3 $h$ t 19.

Ramesses II's accession set on 28 June 1390 BCE, and his death 66 years and 2 months later, brings his death to the year 1323 BCE (–1322), between the dates of I 3 $h$ t 19 and II 3 $h$ t 3–13, approximately early August to beginning of September (Table 31.13).

**Table 31.13: Death of Ramesses II and accession of Merenptah in –1323 (new moon listing for –1323)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1323	7	7	–1323	6	25	1458	12	23	2	13:25	5:11	227	5:11	131	5:11	43
<b>Ramesses II died and Merenptah succeeded him between I 3<math>h</math>t 19 and II 3<math>h</math>t 13</b>																
–1323	8	6	–1323	7	25	1459	1	18	4	4:24	5:18	194	5:18	96	5:19	–3
–1323	9	4	–1323	8	23	1459	2	17	5	18:39	5:35	263	5:36	160	5:37	56
–1323	10	4	–1323	9	22	1459	3	17	7	7:48	5:58	230	5:59	120	6:00	7

DoW = day of week; ToD = time of day.

### Ramesses II and the Hittite Kings

In his early years, Ramesses II fought with the king of Hatti, Mutawallis, and later Hattusilis III, over the Hittite-held city of Kadesh on the Orontes in Northern Syria. The Hittites, on the other hand, sought to drive further south into Egyptian-held territory. With the growing menace of Assyria, in Ramesses II's 21st year, he and Hattusilis III concluded a peace treaty promising non-aggression and support.<sup>43</sup> According to my chronology, the treaty dates to 1369 BCE not the conventional 1259. The Assyrian and Hittite chronologies have to be adjusted and updated to bring them into alignment with Egypt and Israel.<sup>44</sup>

### Estimated Period of Ramesses II's Death and Merenptah's Accession

Scholars understand that Ramesses II's first 12 sons predeceased him because his successor was his 13th son, Merenptah or Merneptah, son of Ramesses' wife Istnofret. Merenptah was probably aged in his 60s when his long-lived father died.

The Cairo ostrakon CG 25504 gives Merenptah's accession as sometime from I 3 $h$ t 19 to II 3 $h$ t 13. On the basis of a Theban graffito giving the date of II 3 $h$ t 2 year one of Merenptah, the date has been narrowed down by Peden to II 3 $h$ t 3–13, on the assumption that the transmission of the news took several days to reach Thebes.<sup>45</sup> According to Kitchen, based on two inscriptions from Medinet Habu and Deir el-Bahari, the regnal years changed between I 3 $h$ t 29 and III 3 $h$ t 1,<sup>46</sup> within which the previous dates fall.

Ramesses II's 67th year began on III  $\check{s}mw$  27 = 11 June in 1324 BCE (–1323), which, if his death and Merenptah's accession fell around II 3 $h$ t 3–13, allows him another two months as his length of reign indicates. Any of the dates proposed above

<sup>41</sup> From Gurob Fragment L in A.H. Gardiner, *Ramesside Administrative Documents* (London: Oxford University Press, 1948) 12-14; Schmidt, *Ramesses II*, 64, 95 nn. 419-420; Hornung, "New Kingdom," 211.

<sup>42</sup> Hornung, "New Kingdom," 212.

<sup>43</sup> Clayton, *Chronicle of the Pharaohs*, 150-53.

<sup>44</sup> Hattusilis III was also contemporary with Kadashman-Turgu, King of Karduniash (Babylon).

<sup>45</sup> A.J. Peden, "A Note on the Accession Date of Merenptah," *GM* 140 (1994) 69.

<sup>46</sup> *KRI* IV 26 (9 A, B) cited by J. von Beckerath, "Nochmals das Thronbesteigungsdatum Merenptahs," *GM* 191 (2002) 5.

coming after I *3ht* 29 and before II *3ht* 7 qualify for Merenptah's accession, and it seems probable that the interval of II *3ht* 3–13 proposed above by scholars would include the actual date. Consequently, the accession of Merenptah implies that Ramesses II did not die until sometime in II *3ht* 3–13 of his 67th regnal year giving him a reign of 66 years and 2 months, the years 1390–1324 BCE.

Kitchen notes a West-Theban graffito No. 862, which dates a great inundation of the Nile to III *3ht* 3 in Merenptah's first regnal year.<sup>47</sup> In Casperson's table above (Table 31.13), Merenptah's first year begins approximately mid-August in –1323. The date of the inundation corresponds to 20 September, approximately two months after the heliacal rising of Sothis on 18 July, and in the middle of the season of *3ht*, thus appropriately dated in the chronology.

### Heliacal Rising of Sothis in 2nd Year of Merenptah?

Petrie refers to a date for a heliacal rising of Sothis on Thoth 29 (I *3ht* 29) in the second year of Merenptah, which he references to Medinet Habu.<sup>48</sup>

Ramesses II's 41st year with the heliacal rising on I *3ht* 22 concurs with Ramesses II's 52nd year dating a new moon on II *pri* 27 to 1338 BCE. However, there is a discrepancy in the date of the heliacal rising of Sothis in 1349 and I *3ht* 29 in the *second* year of Merenptah in 1323, there being 26 years between them when from I *3ht* 22 to I *3ht* 29 there are actually 28 years through which Sothis has to move. On the above dates, Merenptah's second year fell in 1323, whereas I *3ht* 29 dates to 1321. It seems that the date of I *3ht* 29 applies to Merenptah's fourth year not his second, and the reason for the apparently correct dates in the reign of Ramesses II and the apparently incorrect year referenced by Petrie is unresolved.

The accession of Merenptah upon the death of Ramesses II was 1324 BCE. It is reported that the highest *attested* date for Merenptah is IV *šmw* 9 of his ninth year.<sup>49</sup> Two dates from a year 10 found on Theban graffiti dated to II *3ht* 7 and 13 announcing the inundation are usually assigned to Merenptah.<sup>50</sup> These years indicate his death was either in 1316 or 1315. The date of IV *šmw* 9 must come toward the end of a regnal year if Merenptah ascended early in II *3ht*. Considering the following chronology—in which Seti II has a lunar date in his second year in –1310 (1311 BCE) giving him an accession in 1312, and the need to fit in another king between Merenptah and Seti II, namely Amenmesses, who is known to have reigned into his third year—the indications are that Merenptah reigned into his 10th year provided that Amenmesses' third year consisted of only a few months. The two inundation dates from year 10 would follow soon after the beginning of his 10th year, and would correctly fall in July after the heliacal rising of Sothis. Otherwise, Merenptah's highest date is presumed to be IV *3ht* 7 in year 10 mentioned on pSallier I, 3, 4.<sup>51</sup> News of Merenptah's death reached Deir el-Medina on the 16th day of a month of *pri*, the number not being legible.<sup>52</sup>

The date for Merenptah's death can probably be narrowed down to III *pri* 16 because Amenmesse's accession has been set between I *šmw* 27 and III *šmw* 18.<sup>53</sup> Since I *šmw* 27 comes 70 days after III *pri* 16 (and 70 days is the normal period of embalming)

<sup>47</sup> Kitchen, *TIP*, xlv.

<sup>48</sup> Petrie, *History of Egypt* Vol. 2, 32.

<sup>49</sup> From O. Gardiner 197 in *KRI* IV 159, 5 cited by Hornung, "New Kingdom," 212.

<sup>50</sup> Hornung, "New Kingdom," 212.

<sup>51</sup> R.A. Caminos, *Late-Egyptian Miscellanies* (London: Oxford University Press, 1954) 79 cited by Hornung, "New Kingdom," 212.

<sup>52</sup> Hornung, "New Kingdom," 212.

<sup>53</sup> *Ibid.*, 213, citing O. Cairo *CG* 25783 and 25784: *KRI* 227, 6.

it appears to refer to the burial day of Merenptah. The day of his death, III *prt* 16, equates to 29 January 1314 BCE.

### Sothic Cycle Begins in 1314 BCE

Chapter 11 discussed the date of a Sothic cycle beginning at Memphis in 1314 BCE on I *3ht*, which equates to 18 July. This now appears to have fallen in the first year of Amenmesses, understood here to be the successor of Merenptah. In conventional chronologies, Merenptah was followed by Amenmesses, though scholars are now considering whether his reign of about three to four years was subsumed under that of Seti II.

### Israel Stela

Merenptah's reign is famous for the mention of "Israel" in the so-called Israel Stela (also known as the Merneptah Stela) recording the exploits of Merenptah (variant spelling) and his army in the Levant in his fifth year, dated to III *šmw* 3. This date falls on 15 June 1319 BCE. This is said to be the only mention of Israel in Egyptian records. The reference to "Israel" in the stela will receive comment in the next chapter.

### Merenptah Not the Pharaoh of the Exodus

Many past scholars have proposed that Merenptah was the biblical "Pharaoh of the Exodus" who drowned in the Red Sea when pursuing the escaping Israelites. After Merenptah's mummy was found in the tomb of Amenhotep II (KV 35) along with 15 other mummies in 1898, this identification lapsed.<sup>54</sup> For the "Pharaoh of the Exodus" see the next chapter.

### Amenmesse(s)

In the traditional view, Amenmesses is a son of Merenptah and a lesser queen, Takhat.<sup>55</sup> Scholars who hold/held this view propose that at the time of Merenptah's death the intended heir, Seti-Merenptah, was absent and Amenmesses seized the opportunity to become king, and reigned for four years. Amenmesses was then succeeded by the rightful heir, Seti-Merenptah, now known as Seti II. The reasons for thinking that Amenmesses succeeded Merenptah are given by Wenté and van Siclen who agree with Helk, against Černý, that Cairo ostrakon 25516 reflects a transition from Seti II to Siptah,<sup>56</sup> and not Amenmesses to Siptah, indicating that Amenmesses preceded Seti II. They point out from recto lines 3–4 that there is an "absence of dates for the consumption of lamps after I *prt* 18 and before I *prt* 23."

These dates coincide with the time during which workmen at Deir el-Medina did no work beginning with the announcement of Seti II's death on I *prt* 19 (Cairo ostrakon 25515, verso, cols. ii–iii).<sup>57</sup> Noted on the ostrakon are the two chief workmen, Hay and Paneb, from the left and right gangs, respectively, who, Wenté and van Siclen say, only filled this position during the reign of Seti II and not of Amenmesse.<sup>58</sup> Therefore, the order of transition is Merenptah, Amenmesses, Seti II, Siptah.<sup>59</sup>

A second view proposed more recently by some scholars (notably Krauss and Dodson), is that after the death of Merenptah, Seti II and Amenmesses fought for the

<sup>54</sup> Clayton, *Chronicle of the Pharaohs*, 158.

<sup>55</sup> V.G. Callender, "Queen Tausret and the End of Dynasty 19," *SAK* 32 (2004) 83.

<sup>56</sup> E.F. Wenté and C.C. Van Siclen, "A Chronology of the New Kingdom," *Studies in Honor of George R. Hughes* (SAOC 39; Chicago IL: Oriental Institute of the University of Chicago, 1976) 236.

<sup>57</sup> *Ibid.*

<sup>58</sup> *Ibid.*

<sup>59</sup> This is the order given by Hornung, "New Kingdom," 212-13.

crown of Egypt. This is inferred from monumental evidence that in years two to four of his reign Seti was in control of Upper Egypt and Nubia.<sup>60</sup> But years three to four of Seti's reign are not documented, while in these years Amenmesse is attested in Upper Egypt on several ostraca. Seti is thought to be absent,<sup>61</sup> giving the impression that Amenmesse was reigning as king.

It is also suggested that during this time Amenmesse vandalized Seti II's tomb in the Valley of the Kings. According to Papyrus Salt 124, in Amenmesse's reign, he, or one of his officials, "Msy," killed a chief workman Neferhotep. Yet, according to Ostraca MMA 14.6.217, Neferhotep is still listed as *being in office* in the work register, which also records *the accession of Seti II* to the throne—a work register that was later used to record the absence of workers in Seti II's reign.<sup>62</sup>

According to Hornung, citing Černý, "the foreman Neferhotep was absent from work after the accession of Seti II."<sup>63</sup> The theory is that Amenmesse or his agent killed Neferhotep in the reign of Seti II and therefore the reigns of the two rival kings overlapped.<sup>64</sup> Some scholars suggest that the rivals were situated in different areas—Seti II in Lower Egypt and Amenmesse in Upper Egypt.<sup>65</sup>

According to theory, during his fourth year, Amenmesse was defeated by Seti II, the legitimate heir, who then set up a campaign to destroy any memory of Amenmesse, by erasing scenes and texts from his tomb KV 10,<sup>66</sup> and also those of Khaemter, a former Viceroy of Kush who was Amenmesse's Vizier.<sup>67</sup> This pattern of destruction is said to best explain the rival kingships of Amenmesse and Seti II.<sup>68</sup>

### Amenmesse's Third Year Recorded on Ostraca

Various ostraca from a single year are attributed by some scholars to the reign of Amenmesse.<sup>69</sup>

IV *prt* 10–19 have been omitted in an ostrakon, possibly due to a work-free period;<sup>70</sup>

I *šmw* 8 when most of the gang were working;<sup>71</sup>

I *šmw* 18 when most "royal artisans" were working;<sup>72</sup>

<sup>60</sup> Krauss, "Untersuchungen zu König Amenmesse (1. Teil)" SAK 4 (1976) 161-99; idem, "Untersuchungen zu König Amenmesse (2. Teil)" SAK 5 (1977) 131-74; idem, "Untersuchungen zu König Amenmesse: Nachtrage" SAK 24 (1997) 161-84; A. Dodson, "Messuy, Amada and Amenmesse," JARCE 34 (1997) 41-48.

<sup>61</sup> Wente and van Siclen, "Chronology of the New Kingdom," 252.

<sup>62</sup> Jac J. Janssen, "Amenmesse and After: The Chronology of the Late Nineteenth Dynasty Ostraca," *Village Varia. Ten Studies on the History and Administration of Deir el-Medina* (Egyptologische Utigaven 11; Leiden: NINO, 1997) 104, cited in "Seti II," [http://en.wikipedia.org/wiki/Seti\\_II](http://en.wikipedia.org/wiki/Seti_II)

<sup>63</sup> J. Černý and A.H. Gardiner, *Hieratic Ostraca* (Oxford, 1957) 64,1,1; Hornung, "New Kingdom," 212.

<sup>64</sup> "Seti II," [http://en.wikipedia.org/wiki/Seti\\_II](http://en.wikipedia.org/wiki/Seti_II)

<sup>65</sup> Callender, "Queen Tausret," 82; Hornung, "New Kingdom," 213.

<sup>66</sup> A. Dodson, "The Tomb of King Amenmesse: Some Observations," DE 2 (1985) 7-11; idem, "Death after Death in the Valley of the Kings," *Death and Taxes in the Ancient Near East* (ed. S.E. Orel; Lewiston, NY: Mellen, 1992) 53-59; O. Schaden, "Amenmesse Project Report," NARCE 163 (1993) 1-9.

<sup>67</sup> Janssen, "Amenmesse and After," 99-109, cited in "Seti II," [http://en.wikipedia.org/wiki/Seti\\_II](http://en.wikipedia.org/wiki/Seti_II)

<sup>68</sup> "Amenmesse," <http://en.wikipedia.org/wiki/Amenmesse>

<sup>69</sup> KRI IV (1982) 220-221; W. Helck, *Die datierten und datierbaren Ostraka, Papyri und Graffiti von Deir el-Medineh* (Bearbeitet von Adelheid Schlott; ÄA 63; Weisbaden, 2002) 116-17, cited by H. Jauhainen, "Do not Celebrate Your Feast Without Your Neighbours": A study of References to Feasts and Festival in Non-Literary Documents from Ramesside Period Deir el-Medina (Publications of the Institute for Asian and African Studies 10; Helsinki: Helsinki University Print, 2009) 211 n. 6.

<sup>70</sup> O. Cairo CG 25780, 3; Jauhainen, "Do not Celebrate," 211 and n. 5.

<sup>71</sup> O. Dem 389; Jauhainen, "Do not Celebrate," 216 and n. 6.

III *šmw* 1 when men were absent from their work;<sup>73</sup>  
 III *šmw* 16 when most men were working.<sup>74</sup>

If correctly attributed to Amenmesses, these notations indicate that his year three began before IV *pṛt* 10 and ended after III *šmw* 16. Since Merenptah's day of death is thought to be III *pṛt* 16, the dates above occurred early on in Amenmesses' year three. Amenmesses' death soon after III *šmw* 16 would allow Seti II's accession in III or IV *šmw*, and his second year to include the Epiphi feast date of IV *šmw* 1–2.

However, a conflict occurs in starting Seti II's reign after the middle of II *šmw* because a Beautiful Feast of the Valley dated to II *šmw* 25 is attributed to his sixth year. It can only come in his sixth year if he begins to reign before II *šmw* 25. If not, the Valley Feast date has to be attributed to his year five. Since the date for his sixth year seems to have more to commend it, as I show below, it seems probable that the dates in III *šmw* attributed to Amenmesses should rather be assigned to Seti II. On this proviso, Amenmesses can be attributed two years and about four months before Seti II became king; thus the first three of the ostraca references listed above apply to Amenmesses, while those in III *šmw* apply to Seti II.

## Seti II

The next lunar anchor date after Merenptah's death on III *pṛt* 16 in his 10th year in 1315 BCE comes in the reign of Seti II who has an Epiphi feast dated to IV *šmw* 1–2 in his second year, as I noted earlier.<sup>75</sup> Epiphi feasts started in the latter half of III *šmw*—inscriptions often citing III *šmw* 28 or 29—and extended into IV *šmw*.<sup>76</sup> The date of IV *šmw* 2 applies to 1311 BCE (–1310) (Table 31.14).

**Table 31.14: Seti II's second year in –1310 (new moon listing for –1310)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–1310	5	15	–1310	5	3	1471	11	3	7	21:06	5:31	599	5:30	161	5:30	44
<b>–1310</b>	<b>6</b>	<b>14</b>	–1310	6	2	1471	<b>12</b>	<b>3</b>	2	4:02	5:15	237	5:15	<b>96</b>	5:15	<b>1</b>
–1310	7	13	–1310	7	1	1471	13	2	3	11:49	5:11	287	5:11	149	5:11	41

DoW = day of week; ToD = time of day.

The lunar date for Seti II indicates that three years came between him and Merenptah, and resolves the identity of Merenptah's successor: Amenmesses not Seti II.<sup>77</sup> According to Wenté and van Siclen, the highest date for Amenmesses is year four, III *šmw* 29,<sup>78</sup> but more recently this date has been attributed to the unnamed “rival king,” this being his last and only known date for that year.<sup>79</sup>

The question that remains is whether Amenmesses died before Seti II came to the throne or whether he was the “rival king” who sought to overthrow Seti II even after the latter became king. Seti II also has a year six during the Beautiful Feast of the Valley. Referring to the Valley Feast, Jauhiainen writes, “Amon crossed the river back to the

<sup>72</sup> O. Cairo CG 25782 verso 6-8; Jauhiainen, “Do not Celebrate,” 213 and nn. 11-13.

<sup>73</sup> O. Cairo CG 25783 recto 27-29; Jauhiainen, “Do not Celebrate,” 217 and nn. 5 and 6.

<sup>74</sup> O. Cairo CG 25883, verso 23-27; Jauhiainen, “Do not Celebrate,” 219 and n. 4.

<sup>75</sup> R. Krauss, *Sothis- und Monddaten, Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 151.

<sup>76</sup> Jauhiainen, “Do not Celebrate,” 155-57.

<sup>77</sup> Contrary to Hornung, “New Kingdom,” 212-13.

<sup>78</sup> Wenté and van Siclen, “Chronology of the New Kingdom,” 236.

<sup>79</sup> O. Cairo CG 25784, 15; Hornung, “New Kingdom,” 213.



east side on II *šmw* 25, as stated in O. Cairo CG 25538.”<sup>80</sup> The feast is known to be associated with the new moon.<sup>81</sup> Year two of Seti II’s reign fell in the year 1311 BCE (–1310), so his sixth year would have been in 1307 BCE (–1306). In that year the date of the new moon fell on II *šmw* 20 as seen in Caspersen’s table below (Table 31.15). The crossing of the river took place five days after the first day of the lunar month.

**Table 31.15: Seti II’s sixth year in –1306 (new moon listing for –1306)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1306	4	2	–1306	3	21	1475	9	21	4	6:60	6:02	155	6:01	70	6:00	12
–1306	5	1	–1306	4	19	1475	<b>10</b>	<b>20</b>	5	22:29	5:40	263	5:40	136	5:39	<b>65</b>
–1306	5	31	–1306	5	19	1475	11	20	7	13:14	5:21	220	5:21	124	5:20	52

DoW = day of week; ToD = time of day.

Seti II’s death was reported on I *prt* 19 and was attributed to his year six.<sup>82</sup> However, the next documented feast date is a year six in the reign of Siptah, which, as we shall see, occurred in the year 1299 BCE (–1298). Therefore, between the year six of Seti II in 1307 BCE and the sixth year of Siptah in 1299 BCE, there are about eight years. Since six of these are taken up with the reign of Siptah, the previous two must belong to Seti II, thus giving to him an eighth year. Seti II died sometime prior to the report of his death on I *prt* 19, so his death came about approximately in the first half of I *prt* in 1305 BCE.

Therefore, Seti II reigned seven years and about nine months, from 1312 to 1305 BCE. The record of his death in his sixth year, when it should be the eighth, must founder on some sort of error, either in the ostrakon or in its transcription.

## Siptah

Siptah’s origins are uncertain.<sup>83</sup> Siptah was about 10 years old when he became king—judging from his mummy, which is presumed to be of a 16-year-old, about 1.6 meters in height. His left foot, at some stage, had been deformed, probably from poliomyelitis.<sup>84</sup> His mummy was found in KV 35 in 1898 where it had been moved from KV 47.<sup>85</sup>

Siptah’s royal duties were undertaken by Twosre, widowed queen of Seti II, assisted by a high-ranking official, the Chancellor Bay, who had risen to power in the reign of Seti II. He was honored by Seti II by having a private tomb (KV 13) ordered for him,<sup>86</sup> but Bay fell into disrepute in the reign of Siptah, and in his fifth regnal year in III *šmw* 27 Siptah had him executed.<sup>87</sup>

An unprovenanced listing attributes to Siptah a Beautiful Feast of the Valley on II *šmw* 25 in his year four.<sup>88</sup> With Seti II’s death and Siptah’s accession in I *prt* in 1305 (in December) with most of the year being in 1304, Siptah’s year four falls in 1301 BCE.

<sup>80</sup> Jauhiainen, “Do not Celebrate,” 151.

<sup>81</sup> Krauss, *Sothis- und Monddaten*, 152; Jauhiainen, “Do not Celebrate,” 39.

<sup>82</sup> O. Cairo CG 25515; Hornung, “New Kingdom,” 212-13.

<sup>83</sup> For more about Siptah, see “Siptah.” <http://en.wikipedia.org/wiki/Siptah>

<sup>84</sup> G. Callendar, “The Cripple, the Queen and the Man from the North,” *Kmt* 17 (2006) 87, 52.

<sup>85</sup> J. Dunn, “King Siptah and his Tomb in the Valley of the Kings,” at

<http://www.touregypt.net/featurestories/siptah.htm>

<sup>86</sup> Clayton, *Chronicle of the Pharaohs*, 159.

<sup>87</sup> V.G. Callender, “Queen Tausret and the End of Dynasty 19,” *SAK* 32, (2004) 90; Hornung, “New Kingdom,” 213.

<sup>88</sup> Jauhiainen, “Do not Celebrate,” 39.

However, in 1301 there was *no* new moon on II *šmw* 25. But in the year 1302 BCE (–1301) a new moon fell on II *šmw* 26 as shown in Casperson’s table (Table 31.16). This date indicates that the applicable year fell in Siptah’s year three, not four.

**Table 31.16: Siptah’s third year in –1301 (new moon listing for –1301)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1301	4	7	–1301	3	26	1480	9	27	1	14:07	5:58	312	5:57	149	5:56	58
<b>–1301</b>	<b>5</b>	<b>6</b>	–1301	4	24	1480	<b>10</b>	<b>26</b>	2	21:26	5:37	450	5:36	193	5:36	<b>79</b>
–1301	6	5	–1301	5	24	1480	11	26	4	4:17	5:19	244	5:19	103	5:18	–3

DoW = day of week; ToD = time of day.

The given date of II *šmw* 25 is one day before the new moon, but almost certainly is associated with the Feast of the Valley. This feast, attributed to Siptah’s third year, concurs with the aforementioned Deir el-Bahari (DB) feast falling in his sixth year in 1299 BCE.

Siptah’s DB feast (no. 9) dates to III *šmw* 9 of his sixth year. Four DB dates are characterized by the refrain, “Amun rests in the funerary temple of ...” (name of king).<sup>89</sup> With his third year dated to –1301, Siptah’s sixth year dates to –1298. But in this year the *new* moon fell on III *šmw* 23, and, therefore, is *not* applicable (Table 31.17).

**Table 31.17: Siptah’s sixth year in –1298 (new moon listing for –1298)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1298	5	3	–1298	4	22	1483	10	24	3	16:60	5:39	226	5:38	104	5:37	22
–1298	6	2	–1298	5	22	1483	<b>11</b>	<b>24</b>	5	6:12	5:20	176	5:20	<b>65</b>	5:19	<b>–20</b>
–1298	7	1	–1298	6	20	1483	12	23	6	17:34	5:11	287	5:11	135	5:11	27

DoW = day of week; ToD = time of day.

However, the date of III *šmw* 9 is one day after a *full* moon that fell on III *šmw* 8 in –1298 as Casperson’s table below shows (Table 31.18). Since DB feasts could last over several days with the visit of Amun and the procession to the temple, the day after the full moon would have been a day of festivity.

**Table 31.18: Siptah’s sixth year in –1298 (full moon listing for –1298)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–1298	4	18	–1298	4	7	1483	10	9	2	12:60	5:48	18:48
–1298	5	17	–1298	5	6	1483	11	8	3	20:35	5:28	18:28
–1298	6	16	–1298	6	5	1483	12	8	5	5:05	5:14	18:14

DoW = day of week.

Siptah was the penultimate king of the 19th Dynasty. His sixth year, seen on a graffito at Buhen, appears to have been his last. This gives to Siptah a reign of about five years and nine months, 1305–1299 BCE.

Other scholars propose that he died between II *3ht* 9 and 12, and was buried on IV *3ht* 22 of his year seven.<sup>90</sup>

<sup>89</sup> Krauss, “Lunar Dates,” 415, 416.

<sup>90</sup> Hornung, “New Kingdom,” 213.

## Twosre

Siptah was succeeded by Twosre. Her years of reign were counted as a continuation of Siptah's. Twosre's first year is dated to a DB feast (no. 3) in "year 7" on II *šmw* 28,<sup>91</sup> thus the next year after Seti II's death in his seventh year, -1297 (Table 31.19).

**Table 31.19: Siptah's "seventh year" = Twosre's first year in -1297 (full moon listing for -1297)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-1297	4	8	-1297	3	28	1484	9	29	7	6:13	5:56	18:56
-1297	5	7	-1297	4	26	1484	10	28	1	13:17	5:35	18:35
-1297	6	5	-1297	5	25	1484	11	27	2	19:58	5:18	18:18

DoW = day of week.

The fact that these DB dates apply to *full* moons and not new moons is endorsed by two subsequent DB dates that also apply to full moons: DB 6 for Ramesses VI and DB 10 for Ramesses VII of the 20th Dynasty.<sup>92</sup>

After Siptah died, Twosre adopted the full titles of a pharaoh and extended the tomb (KV 14) for herself that had been started in the second year of Seti II on I *pṛt* 8.<sup>93</sup> Twosre's date of death is uncertain. On O. Cairo 25293 there is a year eight and a date of IV [*pṛt*] x, or I *šmw* [y] or IV [*šmw* x] or IV *šmw* [y].<sup>94</sup> From these it seems that Twosre's death occurred in IV *šmw* of her "8th" year, which would have ended her reign in 1297 BCE (-1296). It allows Twosre a reign of about one year and ten months after the death of Siptah. IV *šmw* 1 equates to 8 June 1297 BCE. Twosre's death brings the 19th Dynasty to an end as there were no heirs to fill the vacant throne. Political turmoil provided the opportunity for a commoner, Sethnacht, to take control and commence a new dynasty. The dates of the 19th Dynasty rulers are shown in Table 31.20.

**Table 31.20: 19th Dynasty from Ramesses I to Twosre with regnal years and dates**

Ruler	Regnal years*	Dates BCE	Lunar or Sothic anchor points
Ramesses I	2 yr, 3 mo	1404-1401	None known
Seti I	11 yr	1401-1390	None known
Ramesses II	66 yr, 3 mo	1390-1324	Yr 34 Feast of Ptah full moon on IV <i>šmw</i> 25 in 1356; Yr 41 Heliacal rising of Sothis I <i>3ḥt</i> 22 in 1349; Yr 52 new moon II <i>pṛt</i> 27 in ship's log, 1338
Merenptah	9 yr, 6 mo	1324-1314	Yr [4] Heliacal rising of Sothis on I <i>3ḥt</i> 29 at Thebes in 1321 (calendar of Upper Egypt)
Amenmesses	2 yr, 4 mo	1314-1312	1314 New Sothic cycle commences at Memphis on I <i>3ḥt</i> 1
Seti II	7 yr, 9 mo	1312-1305	Yr 2 Epiphi feast days on IV <i>šmw</i> 1-2 with new moon on IV <i>šmw</i> 2 in 1311; Yr 6 Beautiful Feast of the Valley, river crossing on II <i>šmw</i> 25 with new moon on II <i>šmw</i> 20
Siptah	5 yr, 9 mo	1305-1299	Yr 6 DB feast, full moon on III <i>šmw</i> 8 in 1299
Twosre	1 yr, 10 mo	1299-1297	"Yr 7" DB feast, full moon on II <i>šmw</i> 28 in 1298
<b>Total</b>	<b>107 yr, 7 mo</b>	<b>1404-1297</b> <b>= 107 yr</b>	

\* = most months approximate; DB = Deir el-Bahari.

<sup>91</sup> Ibid., 213-4; Krauss, "Lunar Dates," 415, 416.

<sup>92</sup> Krauss assumed that the DB feasts were new moon dates on the analogy of DB 31 being a Feast of the Valley date, the only one so described (Krauss, "Lunar Dates," 416).

<sup>93</sup> Callender, "Queen Tausret," 93, 96, 99. See also, M. Andrews, "The Tomb of Tausert and Setnakhte," <http://www.touregypt.net/featurestories/tst.htm>

<sup>94</sup> Krauss, "Lunar Dates," 415, citing J. von Beckerath, *Chronologie des ägyptischen Neuen Reiches* (HÄB 39; Hildesheim: Gerstenberg, 1994) 74-76.

Twosre's final date of 1297 BCE is the starting date for the 20th Dynasty in this chronology.

## Chapter 32

### Correlating Egypt and Israel, Manetho and Moses

Before continuing with the chronology of the 20th Dynasty I now correlate the 18th and 19th Dynasties known from the monuments with the dynastic lists of Manetho, also termed the 18th and 19th Dynasties. However, the two “versions” are very different in the names of the kings and the years attributed to their reigns. Manetho’s version appears to reflect kingly lines from the delta region, whereas the monuments portray records of the kings of Upper and Lower Egypt centered at Thebes and associated locations.

As in previous dynastic lists, the versions of Manetho (Africanus, Eusebius, and the Armenian) for the 18th and 19th dynasties have been subjected to errors of transmission, especially in the years attributed to various kings. However, these records are more complete than for subsequent dynasties that give only partial lists of names and regnal years. (From the 20th Dynasty onwards, Manetho’s listings record the same dynasties as those of the contemporary sources; that is, the kings of Upper and Lower Egypt.)

Despite the variations of the individual versions for Manetho’s 18th Dynasty it is possible to produce the “probable length” of reign for each king. Manetho’s lists for the 18th and 19th Dynasties also lead into a discussion of the correlation of Israel and Egypt centered in the time that the Israelites were enslaved in Egypt during the reigns of Ramesses II and his successors, and the exploits of Moses and the exodus from Egypt.

My table of the 18th and 19th Dynasties (Table 32.1) are repeated here and should be compared with those of Manetho (Table 32.2) that follow.

**Table 32.1: Rulers of the 18th and 19th Dynasties**

Ruler	Regnal years*	Years rounded	Date BCE
<b>18th Dynasty</b>			
Ahmose	25 yr, 4 mo	25	(April) 1676–1651
Amenhotep I	20 yr, 9 mo	21	1651–1630
Thutmose I	8 yr, 7 mo	9	1630–1622
Thutmose II	17 yr, 7 mo	18	1622–1604
Hatshepsut	14 yr, [+ 22 with Thutmose III]	14 [+ 22]	1604–1590 [to 1568]
Thutmose III	53 yr, 6 mo 26 d	53	1590–1537
Amenhotep II	25 yr, 9 mo	26	1537–1510
Thutmose IV	8 yr, 7 mo	9	1510–1501
Amenhotep III	37 yr, 8 mo	38	1501–1464
Akhenaten	16 yr, 11 mo	17	1464–1447
Smenkhkare/Neferferuaten	2 yr, 4 mo	2	1447–1444
Tutankhamun	8 yr, 11 mo	9	1444–1435
Ay	4 yr, 4 mo	4	1435–1431
Horemheb	27 yr	27	1431–1404 (January)
<b>Total</b>	<b>271 yr, 3 mo, 26 d</b>	<b>272</b>	<b>272 yr</b>
<b>19th Dynasty</b>			
Ramesses I	3 yr, 3 mo	3	1404–1401
Seti I	11 yr	11	1401–1390
Ramesses II	66 yr, 2 mo	66	1390–1324
Merenptah	9 yr, 6 mo	10	1324–1314

Amenmesse	2 yr, 4 mo	2	1314–1312
Seti II	7 yr, 9 mo	7	1312–1305
Siptah	5 yr, 9 mo	6	1305–1299
Twosre	1 yr, 10 mo	2	1299–1297
<b>Total</b>	<b>107 yr, 7 mo</b>	<b>107</b>	<b>1404–1297 = 107 yr</b>

\* = most months approximate.

**Table 32.2: Manetho's 18th Dynasty list**

Ruler	Josephus & Theophilus	Africanus	Eusebius & the Armenian	<i>Book of Sothis</i>	Probable length*
Tethmosis/Amosis	25 yr, 4 mo	absent	25 yr	26 yr	25 yr, 4 mo
Chebron	13 yr	13 yr	13 yr	13 yr	13 yr
Amenophis	20 yr, 7 mo	24 or 21 yr	21 yr	15 yr	20 yr, 7 mo
Amesses ( <i>f</i> )	Jos. 21 yr, 9 mo Th. 21 yr, 1 mo	22 yr	absent	11 yr	21 yr, 9 mo
Mephres	12 yr, 9 mo	13 yr	12 yr	13 yr	12 yr, 9 mo
Mephramou-thosis	Jos. 25 yr, 10 mo Th. 20 yr, 10 mo	26 yr	26 yr	16 yr	25 yr, 10 mo
Thmosis	9 yr, 8 mo	9 yr	9 yr	39 yr	9 yr, 8 mo
Amenophis	30 yr, 10 mo	31 yr	31 yr	34 yr	30 yr, 10 mo
Orus	36 yr, 5 mo	37 yr	Eus. 36 or 38 yr Arm. 28 yr	48 yr	36 yr, 5 mo
Acencheres ( <i>f</i> )	12 yr, 1 mo	32 yr	Eus. 12 yr Arm. absent	25 yr	12 yr, 1 mo or 32 yr, 1 mo?
Rathotis	9 yr	6 yr	Eus. 39 yr Arm. absent	29 yr	9 yr, or 29 yr, or 39 yr?
Acencheres I	12 yr, 5 mo	12 yr	16 yr	25 yr	12 yr, 5 mo
Acencheres II	12 yr, 3 mo	12 yr	8 yr	8 or 30 yr	12 yr, 3 mo
[Cherres]	absent	absent	15 yr	absent	Nil
Harmais	4 yr, 1 mo	5 yr	5 yr	9 yr	4 yr, 1 mo
Ramesses	1 yr, 4 mo	1 yr	absent	absent	1 yr, 4 mo
Harmesses Miamun	66 yr, 2 mo	absent	absent	68 yr	66 yr, 2 mo
Amenophis	19 yr, 6 mo	19 yr	40 yr	8 yr	19 yr, 6 mo, or 40 yr?

\* = most months approximate; Arm. = the Armenian; Eus. = Eusebius; *f* = female.

Noting the rulers' names and regnal years in the comparative tables, only two entries are the same. The first is Ahmose otherwise Tethmosis/Amosis in Manetho's rendering, who is given 25 years and 4 months by Josephus and Theophilus, rounded up or down in the other versions, and agreeing with the 25-plus years from the Egyptian inscriptions.

The second is Ramesses [II], otherwise Harmesses Miamun as he is named by Josephus and Theophilus, who is given 66 years and 2 months by them in accord with contemporary Egyptian records for Ramesses II.

### Manetho's Versions in General Agreement with Each Other

All the other names and regnal years allocated in Manetho's table are different from the previous list of kings, but the Manetho rounded versions show that they come from the same original record. This is further demonstrated by their general adherence to the numbers given by Josephus and Theophilus. Although the numbers in the *Book of Sothis* have obviously suffered in transmission more than in the other versions, even they can be seen to have once had a common source. Apart from a few apparent errors, Manetho's versions still give an astonishing amount of concordance considering that numerous copies would have been made over centuries of transmission.

Apart from the two kings mentioned above, the other names and regnal years show no similarity to the names that scholars recognize from the monuments as comprising the kings of the 18th Dynasty based at Thebes. In spite of this, scholars have sought to identify Manetho's kings with those known from Thebes, but their results are

far from convincing. It takes implausible emendations to make even a few of the names represent a king from the Theban 18th Dynasty.

### **Different Traditions and Rulers**

The explanation for the two different lists is probably found in their differing provenance. Manetho's 18th Dynasty and the Theban 18th Dynasty both began with Ahmose as their first king. Ahmose banished the Hyksos kings from the Delta area near Avaris, but his son, Amenhotep I, resided in Thebes. His successors began a new line of kings who lived at Thebes, and later at Amarna, before returning to Thebes. Since Ahmose's successor, Amenhotep I, with 20 years and 9 months, cannot be the same person as Chebron with 13 years in Manetho's 18th Dynasty list, the assumption is that they were different people, presumably both sons and successors of Ahmose. Chebron succeeded Ahmose in the Delta region.

After many disparate reigns in both lists, Ramesses II moved the royal residence from Thebes back to the Delta, building his new city Pi-Ramesses over the ruins of the previous Hyksos capital, Avaris, which is now known as Tell el-Daba.

Presumably, Ramesses II appears in Manetho's list because he succeeded or usurped a previous king, who appears as a man named Ramesses, and is possibly a relative. The other surviving records of the 19th Dynasty indicate that Ramesses II's father was Seti I, and his grandfather was Ramesses I—the latter being the first king at Thebes after the 18th Dynasty ended with the reign of Horemheb, who had no relatives to succeed him.

Ramesses I may have come from the north at the behest of Horemheb, and it was to the north that Ramesses II returned to set up his new capital.

### **Multiple Witnesses to Manetho's Chronology**

Josephus records the 18th Dynasty with mostly the same names as given by Manetho's copyists, but states it lasted 393 years,<sup>1</sup> whereas Africanus gives it 263 years, and Eusebius and the Armenian give it 348 years. It is obvious, however, that some names have been omitted. The years can be plausibly recovered from the figures given by Josephus and Theophilus with only two reigns of obviously corrupted figures, those of Acencheres (*f*) followed by those of Rathotis.

From the variants for Acencheres (*f*) the 32 years given by Africanus can be seen as the probably original number of regnal years from what is now the 12 years and 1 month given by Josephus and Theophilus, and 12 years given by Eusebius and the Armenian version. Presumably, the 1 month can add to the 32 years.

From the variants for Rathotis, the 9 years of Josephus and Theophilus, the 39 years of Eusebius, and the 29 years of the *Book of Sothis* indicate a rounded figure ending in 9. If all the kings' years are totaled, they require the 29 years given in the *Book of Sothis*.

Although the *Book of Sothis* is notoriously corrupted, that does not exclude the possibility of it containing a correct number not given by the other variants. By including the 32 years and 1 month reign of Acencheres (*f*), and the 29 years as the probable length of the reign of Rathotis, the "probable length" column in the table does add up to 393 years.

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<sup>1</sup> F. Josephus, *Contra Apionem* Fr. 50, §230; Fr. 54 §231, in W.G. Waddell, *Manetho* (London: William Heinemann, 1940) 107, 121.

### The One-Year-Four-Month mystery

A problem arises if the years down to the reign of Ramesses II's accession (in the Josephus, Theophilus, and "probable length" columns of Table 32.2) are added up. They amount to 287 years and 4 months. Subtracting this period from the beginning of the dynasty, assumed to be in 1676 BCE when Ahmose began to reign, Harmesses Miamun, whom we assume to equate to Ramesses II, must have begun to reign in 1388 BCE. By the records from the Theban 18th Dynasty, he began to reign in 1390 BCE. This date is established on lunar and Sothic data.

It seems that Harmesses Miamun began his reign one year and four months after the accession of Ramesses II. So how can they be the one and the same person, as we assume them to be? One can argue that the Harmesses Miamun in Manetho's list is not the same as Ramesses II, but it is not credible that two kings of similar name could have ruled in the Delta at the same time, both reigning 66 years and 2 months. How then to explain the excess of one year and four months for the reign of Ramesses II? None of the reigns seem to suggest an alternative whereby one or other might be reduced singly or in combination for the amount of the excess.

There remains a possibility that the reign of Ramesses preceding Harmesses Miamun mentioned by Josephus and Theophilus and given *one year and four months* has been included erroneously. It may be significant that Eusebius and the Armenian, and the *Book of Sothis*, do not mention this man. If *this* Ramesses is excluded or at least seen as a co-regent with Ramesses II, then the latter's accession will have fallen in 1390 BCE, where it falls in the Theban 18th Dynasty.

Updating the reign of Harmesses Miamun to 1390 BCE means that the one year and four months needed to make up the 393 years for the dynasty must now fall after the reign of Harmais. If authentic, it seems to have been inserted into the wrong place. Harmesses Miamun, like Ramesses II, accounts for 66 years and 2 months. Amenophis's variants of 19 years and 6 months, and a rounded 40 years, suggests 39 years and 6 months can be allocated to him, leaving one year and four months to make up the 393 years. Who filled this space? Was it the aforementioned Ramesses or someone else?

Ramesses II was succeeded by his 13th son, Merenptah, in 1324 BCE, who reigned approximately nine years and six months. He cannot be the Amenophis who, on the above suggestion, reigned 39 years and 6 months. Amenophis was the 14th son of Ramesses II. Amenhotep is the Egyptian rendering for the later Greek Amenophis, significantly the next son after Merenptah.<sup>2</sup>

A web page gives the names of 50 of the sons of Ramesses II in hieroglyphs accompanied with brief notes. In 13th position is Merenptah, and after him in 14th position is Amenhotep. The comment below reads, "*Amun is pleased. Shown running and presenting prisoners after battle of Qadesh to his father in a scene in Luxor.*"<sup>3</sup> There is, then, evidence for the existence of Amenhotep, a son of Ramesses II. His older brother, Merenptah, had his capital in Memphis and ruled as King of Upper and Lower Egypt. We can surmise—based on Manetho's list for the 18th Dynasty kings—that Amenhotep/Amenophis ruled and had his residence in the Delta. On the above dates, Amenophis would have occupied the years 1324 to mid-1285 BCE. The name of his successor is not preserved in Manetho's dynastic list.

However, it is possible that the Ramesses given one year and four months now misplaced before Harmesses Miamun, is the missing name. It seems significant that he is attributed one year and four months the exact period required for the reign of the successor of Amenophis. Maybe he was a son of Amenophis, or another son of

<sup>2</sup> W.M.F. Petrie, *A History of Egypt* (London; 1924) Vol. 3, 37; referenced to L.D. iii, 168.

<sup>3</sup> D. Sitek, "Sons of Ramesses II," <http://www.narmer.pl/dyn/sren.htm>



Ramesses II. The 15th son was Itamun, buried in Tomb 5 in the Valley of the Kings.<sup>4</sup> If the body of the king who drowned in the Red Sea was not recovered, Amenophis' successor could not have been Itamun.

The inclusion of a king who reigned one year and four months will bring the end of Manetho's 18th Dynasty to the year 1283 BCE. The Theban 18th Dynasty ended in 1297 (reign of Twosre) 14 years before that of Manetho's 18th Dynasty.

### Manetho's 19th Dynasty

Following the 18th Dynasty lists from Manetho, a long portion of subsequent events from Josephus's *Contra Apionem* ensues. It begins by recounting that after the 393 years there were two brothers named Sethos and Hermaeus, who took the names of Aegyptus and Danaus. "Sethos drove out Hermaeus and reigned for 59 years; then Rampses, the elder of his sons, for 66 years."<sup>5</sup> Josephus accepts this statement from Manetho, but then tells how Manetho interpolates legends about a fictitious Amenophis, which Josephus then sets about disclaiming as unhistorical.<sup>6</sup> Following this lengthy discourse, Manetho's records for the 19th Dynasty are supplied from Africanus, Eusebius, and the Armenian versions.

Table 32.3 provides the names and variants arising from the following discussion, with the proposed originals in the last column.

**Table 32.3: Manetho's 19th Dynasty**

King	Josephus	Africanus	Eusebius	Armenian	Proposed original
Sethos	59	51	55	55	55
Rampses	66	61 (66)	66	66	66
Ammenephtes	--	20	40	8	10
Ramesses	--	60	absent	absent	--
Ammenemnes	--	5	26	26	26
Thuoris	--	7	7	7	7
<b>Stated total</b>	--	<b>209</b>	<b>194</b>	<b>194</b>	
<b>Actual total</b>	--	<b>204 (209)</b>	<b>194</b>	<b>162</b>	<b>164</b>

The stated totals compared with the actual totals show a difference of 40 years for Eusebius and 32 for the Armenian. With the number of variants, the length of Manetho's 19th Dynasty is not clear.

### Manetho and Contemporary Egyptian Sources Cover the Same Period

What appears here is that the total number of years from Manetho's 18th and 19th Dynasties cover the same number of years as the 18th, 19th, and 20th Dynasties known from contemporary sources. Manetho's 18th Dynasty amounts to 393 years and the 19th Dynasty amounts to 164 "proposed original" years, totaling 557 years. For the 18th Dynasty, the monumental evidence yields 271 years and 3 months; for the 19th Dynasty, 107 years and 7 months; and for the 20th Dynasty, 175 years. This totals 553 years and 10 months. The time between the end of Manetho's 18th Dynasty in 1283 and the end of the 20th Dynasty in 1122—common to both Manetho and the monuments—is 161 years. The 393 years and the 161 years yields 554 years, which is the same number given for the same period by the monuments.

The "proposed original" number of 164 years can be reduced to 161 years by the deletion of 3 years. It may be suggested that the original figure for Ammenephtes may have been 8 not 10 years. The Greek letters for 40 (M) and 8 (H) are not dissimilar. A further year could be removed from another reign, perhaps from Ammenemnes, giving

<sup>4</sup> Ibid., 3-4; N.D. Lemonick, "Secrets of the Lost Tomb," *Time*, May 29, 1995, No. 21, 48.

<sup>5</sup> *Manetho*, 121.

<sup>6</sup> Ibid., 121-147.

to him 25 years, not 26. (Africanus gives 5 years; the original may have been 25). The subtractions would give to Manetho's 19th Dynasty a total of 161 years, thus Manetho and the monuments both cover the same 554 year period, 1676–1122 BCE.

### Concurrent Dynasties

The point of this discussion is to demonstrate that the total number of years from Manetho's 18th and 19th Dynasties cover the same number of years as the 18th, 19th, and 20th Dynasties known from contemporary sources as mentioned in the above section.

The Theban 18th Dynasty began in 1676 BCE, followed by the 19th Dynasty in 1404, and the 20th Dynasty in 1297, ending in 1122 BCE. These years run concurrently with Manetho's 18th Dynasty also beginning in 1676, and his 19th Dynasty beginning in 1283 and ending in 1119 when the 21st Dynasty begins. This means that Manetho's 19th Dynasty in Lower Egypt runs mostly concurrently with the Theban-based 20th Dynasty in Upper Egypt. Their reigns are aligned in Table 32.4 below.

**Table 32.4: Manetho's concurrent dynasties**

Manetho's 18th & 19th Dynasties: Delta			18th, 19th, & 20th Dynasties: Upper Egypt		
Ruler	Probable length	Dates BCE	Ruler	Proposed length	Dates BCE
Tethmosis/Amosis	25 yr, 4 mo	1676–1651	Ahmose	25 yr, 4 mo	1676–1651
Chebron	13 yr	1651–1638	Amenhotep I	20 yr, 9 mo	1651–1630
Amenophis	20 yr, 7 mo	1638–1617	Thutmose I	8 yr, 7 mo	1630–1622
Amesses ( <i>f</i> )	21 yr, 9 mo	1617–1595	Thutmose II	17 yr, 7 mo	1622–1604
Mephres	12 yr, 9 mo	1595–1582	Hatshepsut ( <i>f</i> )	14 yr, (+22)	1604–1590
Mephramou-Thosis	25 yr, 10 mo	1582–1556	Thutmose III	53 yr, 6 mo 26d	1590–1537
Thmosis	9 yr, 8 mo	1556–1546	Amenhotep II	25 yr, 9 mo	1537–1510
Amenophis	30 yr, 10 mo	1546–1515	Thutmose IV	8 yr, 7 mo	1510–1501
Orus	36 yr, 5 mo	1515–1479	Amenhotep III	37 yr, 8 mo	1501–1464
Acencheres ( <i>f</i> )	32 yr, 1 mo	1479–1447	Akhenaten	16 yr, 11 mo	1464–1447
Rathotis	29 yr, 0 mo	1447–1418	Smenkhkare/Neferneferuaten	2 yr, 4 mo	1447–1444
Acencheres I	12 yr, 5 mo	1418–1406	Tutankhamun	8 yr, 11 mo	1444–1435
Acencheres II	12 yr, 3 mo	1406–1394	Ay	4 yr, 4 mo	1435–1431
[Cherres]	Nil		Horemheb	27 yr, 0 mo?	1431–1404
Harmais	4 yr, 1 mo	1394–1390	Ramesses I	3 yr, 3 mo	1404–1401
[Ramesses]	[1 yr, 4 mo]		Seti I	11 yr,	1401–1390
Harmesses Miamun	66 yr, 2 mo	1390–1324	Ramesses II	66 yr, 2 mo	1390–1324
Amenophis	39 yr, 6 mo	1324–1285	Merenptah	9 yr, 6 mo	1324–1314
[Unidentified king]	[1 yr, 4 mo]	1285–1283	Amenmesse	2 yr, 4 mo	1314–1310
Sethos	55 yr,	1283–1228	Seti II	7 yr, 9 mo	1310–1305
Rampses	66 yr,	1228–1162	Siptah	5 yr, 9 mo	1305–1299
Ammenephthes	8	1162–1152	Twosret ( <i>f</i> )	1 yr, 10 mo	1299–1297
[Ramesses?]	--	--	Setnakht	3 yr, 11 mo	1297–1293
Ammenemnes	25	1152–1126	Ramesses III	31 yr, 1 mo, 19d	1293–1262
Thuoris	7	1126–1119	Ramesses IV	6 yr, 5 mo	1262–1256
			Ramesses V	3 yr, 2 mo	1256–1252
			Ramesses VI	8 yr, 2 mo	1252–1244
			Ramesses VII	11 yr, 5 mo	1244–1233
			Ramesses VIII	23 yr	1233–1210
			Ramesses IX	18 yr, 4 mo	1210–1192
			Ramesses X	39 yr, 6 mo	1192–1152
			Ramesses XI	29 yr, 6 mo	1152–1122
<b>Total</b>	<b>554 years</b>	<b>1676–1122</b>		<b>554 years</b>	<b>1676–1122</b>

*f* = female.

It is surely obvious that the 18th and 19th Dynasty kings listed by Manetho have no resemblance in names or regnal years to the 18th, 19th, and 20th Dynasty kings known from the Egyptian monuments, apart from the initial Ahmose in 1676 and

Ramesses II. In 1390, Ramesses II ascended the throne in Thebes but changed his residence to the Delta, succeeding or ousting the king who ruled there. Thus, Ramesses II appears in the Theban 19th Dynasty as well as Manetho's 18th Dynasty.

The significance of Manetho's 18th and 19th Dynasties is that they provide a continuity of kings who ruled in the Delta, which is different from those who ruled from Thebes. Manetho includes Ramesses II who reigned 66 years and 2 months. His successor Amenophis/Amenhotep reigned 39 years and 6 months. He was followed by a period of 1 year and 4 months before the end of the dynasty, in which no king has been identified. This series offers a scenario for correlating the events of the initial chapters of the Book of Exodus in the Old Testament of the Bible.<sup>7</sup>

### **Correlation with Israel**

The 13th century BCE is the general timeframe in which many biblical scholars place the so-called exodus of the Israelites out of Egypt, and their emergence in their ancestral home of Canaan or Israel. Archaeologists have noted the evidence of a new settlement of people at this time, which is associated with the Israelites' arrival.

Prior to their departure, the Israelites served as slaves to an unnamed Egyptian king who forced them to build the cities of Pithom and Rameses (Exod 1:11). The city of Rameses has now been identified with Tell el-Daba—the residence of Ramesses II in the eastern Delta. It is generally recognized that the Israelites were slaves in the reign of Ramesses II, but it has not been so clear in whose reign the Israelites departed, and who was the Egyptian king reported to have drowned in the Red Sea with his army while attempting to stop the Israelite escape. The facts as related in Exodus, do not seem to be in accord with what is known of Ramesses II's successors of the 19th (Theban) Dynasty.

### **The Israelite Background**

Special attention to this part of Israelite history occupies the first few chapters of Exodus. Further references are found elsewhere in the Bible. During this time a Hebrew (Israelite) couple named Amram and Jochebed had a third child who was named Moses.

### **Moses**

The Egyptian king, presumed to be Ramesses II, had ordered that all male Hebrew babies be killed to minimize their prolific increase. Moses was hidden and at three months of age (Exod 2:2) Jochebed placed Moses in a waterproof bassinet in the river, and set his older sister Miriam to observe. Moses also had a three-year-old brother, Aaron. One of pharaoh's daughters found Moses as his basket floated in the river and took him back to the palace. Miriam arranged with pharaoh's daughter for the infant's mother to nurse him, and Moses was brought up in the Egyptian king's household with all the advantages of knowledge and wealth.

Moses became aware that he was not Egyptian but Hebrew. When aged 40, he killed an Egyptian who was beating up a Hebrew. This incident became known and his identity was disclosed, so he fled for his life into the desert of Midian. He married and had two sons (see Exod 2:11–22, 18:1–4; Acts 7:23–29).

Around 40 years on, when Moses was aged about 80, he believed that God spoke to him from a strange flaming bush that did not burn up, and told him to return to Egypt and deliver his Hebrew people. The king from whom he had earlier fled was now dead.

Moses returned to Egypt, but the new king did not want to release the slaves. After a series of plagues, the Israelites were at first released by Pharaoh, but he soon

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<sup>7</sup> *Exodus* is the second book of the Old Testament, which is also variously termed the Hebrew Bible or the First Testament.

changed his mind and pursued them. The Israelites escaped across the Red Sea, in a manner they regarded as miraculous, by an interruption of the flow of water. Pharaoh and his army also sought to cross, but were overcome by the returning waters.

The people of Israel endured 40 years of adventure and adversity in the deserts of Sinai. Moses brought them to the brink of “the Promised Land,” and died at the age of 120.

### **Chronological Connections**

Bearing the chronological data in mind, we may discern that Ramesses II was the Egyptian king in whose reign Moses was born. The time between Moses’s 40th and 80th years assume the continuous reign of a king who had a personal warrant out for Moses but died shortly before Moses returned to Egypt. Upon his return, Moses initiated new palace negotiations to lead the Hebrews back to their homeland of promise.

### **Amenophis (1324–1285 BCE) and the King with No Name**

The king from whom Moses fled clearly had a long tenure, approaching 40 years—the period between the flight of Moses and his return. This king was not Ramesses II, because he did not reign nearly 80 years, but a successor. We have seen that the successor of Ramesses II is identified as his 13th son, Merenptah, who returned the capital to Thebes from the Delta region in a period of turbulence and battles at home and abroad. Meanwhile, Manetho’s 18th Dynasty reports events in the Delta region and supplies the name of King Amenophis, or Amenhotep, 14th son of Ramesses II and next male sibling to Merenptah. Presumably the brothers had a regnal arrangement intended to perpetuate their father’s power in both parts of Egypt.

According to Manetho, Amenophis reigned 39 years and 6 months. His reign fits in with the biblical data; he died shortly before Moses turned 80. It was under his successor, after 10 plagues, which could have occurred over a period of a year or so, that the Israelites finally left Egypt. The pursuing Egyptian king and his army drowned in the Red Sea, a landmark event notable in Israel’s historical tradition.<sup>8</sup>

This king fills the period of the one year and four months after the reign of Amenophis and before the end of the 393-year period attributed by Manetho to the 18th Dynasty. He is the “pharaoh of the Exodus.”

That would place this king as the final king of that dynasty with Manetho’s 19th Dynasty beginning in 1283 BCE. The year 1283 synchronizes with Moses’ 80th year. Therefore, his 40th year fell in 1323 BCE, in agreement with Ramesses II’s death the previous year in 1324. Moses fled from his successor, Amenophis, who reigned 39½ years and died in 1285 BCE. Over a year later, under Amenophis’s successor, Moses and the Israelites escaped Egypt in the year 1283 BCE.

### **The Key Chronological Conjunction between Egypt and Israel**

Forty years further on, a new generation led by two octogenarians—Joshua and Caleb—entered Canaan in 1243. This is the 13th century date that scholars have been seeking as the time of the influx of people into Canaan, which is associated with the arrival of the Israelites from Egypt.

The conquest of the land occupied by the Canaanites, and the settlement of the 12 tribes of Israel is known as the Judges period. The length of this period can be reckoned because it comes before the period known as the United Kingdom of which there were three kings, Saul, David, and Solomon, each of whom are attributed reigns of 40 years. Their dates are reckoned from the beginning of the subsequent Divided Kingdom,

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<sup>8</sup> E.g. Psalm 136:13–15.

elucidated in my *Reconstructed Chronology of the Divided Kingdom*. The Divided Kingdom began under Rehoboam. In Rehoboam's fifth year in 977 B.C.E. Shoshenq I plundered Jerusalem in his 20th year. As indicated in the Preface and throughout this book, encounter is the key synchronism by which the chronologies of Egypt and Israel are linked and established.

All the reigns for the preceding Egyptian kings back to the beginning of the 18th Dynasty in 1676 have been accounted for and dated, and the remaining period down to the end of the 25th Dynasty in 664 BCE occupies the remaining chapters, and includes the details of Shoshenq I's reign (22nd Dynasty discussed in chapters 36-37) within that matrix of dates based on inscriptional and astronomical evidence.

### **The Israel or Merneptah Stela**

The Israel or Merneptah stela found at Thebes in 1896 by Flinders Petrie, records that, in his fifth year, Merneptah (variant spelling) made a campaign to Canaan. It reports his defeat of Ashkelon, Gezer, Yanoam, and Israel—unique in Egyptian references to Israel: “Israel is laid waste, his seed is not.” Much discussion has centered on how “Israel” is written in the stela, especially with its determinative used for nomadic tribes without a city-state. Suffice it to say here, in previous (and erroneous) chronologies Merneptah's campaign is dated ca. 1209 BCE, which puts it in the time of the Judges, sometime after Israel was back in its homeland. How, then, could Israel be described as being “laid waste”?

However, the correct chronology presented here places Merneptah, successor to Ramesses II, in the years 1324–1314, with his fifth year falling in 1319. At this time, Amenophis, Merneptah's brother, was ruling over the Israelites in the Delta of Egypt, Ramesses II having died only five years previously. Whatever may be the meaning of “Israel is laid waste, his seed is not,” the chronology makes it quite clear that the Israelites were not living in Canaan in 1319. The original family under Jacob had arrived in Egypt in 1498, over 180 years earlier. It would be another 35 years after Merneptah's fifth year before they left Egypt at the time of the Exodus, and another 40 years in the desert of Sinai before they arrived in Canaan at the beginning of the so-called Judges period. The stela places Merneptah's campaign to Canaan in the fifth year of his reign, and the chronology places it in its proper context in 1319 during the time the Israelites were enslaved under Amenophis in the Delta.

### **Dates for Israel**

In the reconstructed chronology the United Kingdom kings are afforded the following dates: Saul, 40 years, 1101–1061 BCE; David, 40 years, 1061–1021 BCE; Solomon, 40 years, 1021–981 BCE. Between the beginning of occupation in Canaan in 1243 and the accession of Saul as the first king in 1101, there were 142 years. Early scholars formerly thought that the events in the Book of Judges were consecutive, but it is now generally understood that many of the events of this pioneering period were contemporaneous, with the periods assigned to each of the regional heroes (or judges) having regional application. The individual periods assigned to the judges are not meant to be added to yield a total. Furthermore, the genealogies (which cover the Judges period) of the descendants of Levi, involving the priests and Levites, and the descendants of Judah, who became the kings of Judah, do not allow for a period much longer than the 142 years. The 142 years is confirmed by the Egyptian chronology, which does not allow for any longer or shorter time-period, and runs concurrently with the greater part of the 20th Dynasty, Ramesses VII to Ramesses XI (1244–1122 BCE), and Manetho's 19th Dynasty of Sethos to Thuoris (1283–1122 BCE).

### Dates for Abraham's Family Connections with Egypt

Since Moses was 80 at the time of the exodus in 1283, he must have been born in 1363. This equates with the 27th year of Ramesses II. Proceeding backwards to Abraham's period, we can fill in the relevant dates for the Hebrew chronology with Abraham being the acknowledged forefather of the nation of Israel. However, it is easier to understand this in a descending period of years, therefore, the dates are given beginning with Abraham.

Abraham was born in Ur of the Chaldees (Gen 11:31) in 1788 BCE. The family moved to Haran, and at the age of 75 Abraham and his family entered Canaan (Gen 12:4) in 1713. His son, Isaac, was born when Abraham was 100 years old (Gen 21:5) in 1688. Isaac's twin sons, Jacob and Esau, were born when Isaac was 60 (Gen 25:26) in 1628. Jacob had 12 sons from 4 different women. His 11th son, Joseph, was 17 years old (Gen 37:2) when his brothers sold him to the Midianites who took him to Egypt (Gen 37:28) and sold him to Potiphar—a chief servant and “captain of the guard” to the pharaoh (Gen 37:36, 39:1).

Joseph arose to become the pharaoh's next-in-command (Gen 41:41–44, 45:8). When famine overcame Canaan, Jacob and his family, numbering about 70 people, departed their land and sought food in Egypt (Gen 45:26–46:27). Joseph was aged about 40 years old<sup>9</sup> and Jacob was 130 years old (Gen 47:9) when they were reunited. They were settlers in Canaan for 215 years between 1713 and 1498 before the family relocated to Egypt.

The family settled in “the land of Goshen,” which was “the land of Rameses” (Gen 47:11) in the eastern Delta region but synonymous with “the land of Egypt” (Gen 47:4, 27). Jacob died at the age of 147 years (Gen 47:28). Since Jacob was born in 1628 and was 130 years old when he entered Egypt, the date of relocation was 1498 BCE.

Their 215 “settler” years in Canaan is known as the Patriarchal Period. Another period of 215 years immediately followed, which is known as the Egyptian Sojourn. The king under whom Joseph worked—who had welcomed his family to Egypt in 1498—according to Manetho's list at this time, is King Orus. He reigned for 36 years and 5 months, from 1515 to 1479 BCE.

After Jacob's family had settled in Goshen, the famine became so severe that they paid for their food by selling their cattle and herds, and when that had all gone they sold their land and themselves to become slaves of pharaoh (Gen 47:13–26). Time passed and the Israelites multiplied (Exod 1:7). Then “there arose a new king over Egypt who did not know Joseph” (Exod 1:8). He forced the Israelites to build the cities of Pithom and Rameses (Exod 1:12). The king was Ramesses II who ascended the throne over all of Egypt in 1390. Moses was born in 1363, 135 years into the 215-year period of the sojourn. That period ended in 1283 when Moses negotiated with the successor to Amenophis to return to Canaan, their former homeland. The Exodus account of Egypt's defeat (Exodus 14–15) speaks of complete and utter decimation of Pharaoh and his forces.

The correlation of the Egyptian and Hebrew chronology shows definitively that the date of 1297, accepted by some for Ramesses II is actually 93 years too late. It cannot be reconciled with the Israelites emergence in Canaan in the 13th century, because, as shown by the aforementioned data, from the accession of Ramesses II in 1390 to the entrance of the Israelites into Canaan in 1243 BCE there were 147 years. If

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<sup>9</sup> Joseph was 30 years old at the beginning of the seven years of plenty (Gen 41:46). His brothers came to him at the end of the second year of famine (Gen 45:6, 11), then returned to Canaan and brought Jacob and the family back to Egypt while the famine still prevailed (Gen 46). Thus, Joseph was about 40 years old.

147 years are subtracted from 1297, the entrance occurs in 1150, far too late for archaeologists to date the arrival of a new influx of people into the region.

Curiously, 1 Kings 6:1 indicates that there were 480 years from the time that the Israelites came *out* of the land of Egypt to the time that the foundations of the temple were laid in Solomon's fourth year, which was 1018. But 480 years before, in 1498 BCE, Jacob and his family *entered* Egypt. The Hebrew text uses the words "from the land of Mizraim" (Egypt) מארץ-מצרים where "from" is simply מ. Alternatively, "entered" is ב, thus בארץ.<sup>10</sup> Obviously, the two Hebrew letters appear similar and a mistake in copying was presumably made; for some unknown reason it was allowed to remain in subsequent texts. Unfortunately, it had consequences for the chronology.

The error in 1 Kings 6:1 has been compounded by Exodus 12:40 as given in the Hebrew text, which states that the people of Israel had lived in Egypt 430 years. The Greek text, however, attributes the 430 years to the time that the Israelites lived in Egypt *and* in Canaan. Thus, as noted above, there were 215 years from Abraham's entrance to Canaan in 1713 BCE until Jacob and his family entered Egypt in 1498. Another 215 years later, the exodus from Egypt occurred in 1283 BCE. The Greek text is correct and the Hebrew text has omitted the fact that the 430 years included the Patriarchal Period; that is, the "and in Canaan" period.

Genesis 15:12–16 refers to a dream given to Abraham in which his descendants would be slaves in a foreign land and oppressed for 400 years. Then Abraham's descendants would come back in the fourth generation. While the 400 years does seem to refer to the period of enslavement, it is not specific as to where the oppression might have started. The mention of the "fourth generation" can only apply to a period of 215 years and not 430. Because the Israelites lived long lives, the four generations stretched across the 215 years. The four generations were Levi (the son of Jacob), then Kohath, Amram, and Moses (1 Chr 6:1–3). The three generations preceding Moses had died by the time of the exodus.<sup>11</sup> The presence of the fourth generation at the exodus (and often also the fifth and sometimes the sixth) is also found in other tribes whose descendants are mentioned (1 Chr 2:1–7:40).

The building of Solomon's temple began in 1018, which is only 36 years before the beginning of the Divided Kingdom under Rehoboam of Judah and Jeroboam of Israel in 981. Five years later, in 977, Shoshenq I attacked Jerusalem in Rehoboam's fifth year.

I make a few ancillary comments to the synchronization of Egypt with Israel.

Firstly, in the reign of David (1061–1021 BCE), his army had decimated a population of Edomites, some of whom escaped and fled to Egypt. Among them was a child named Hadad. A king of Egypt gave sanctuary to the Edomites. When Hadad had grown up, the pharaoh gave him the sister of his own wife, Queen Tahpenes, to be his bride (1 Kgs 11:14–25). This happened before David's death in 1021. The king of Egypt must have been Siamun who reigned 1030–1011 BCE. This assumes that the king in mind belonged to the 21st Dynasty and resided at Tanis.

Secondly, Osorkon II of the 22nd dynasty visited Ahab of Israel, which is evidenced by a bowl found at Samaria. Osorkon II reigned at least 30 years, from approximately 902 to 872—the latter date being correct.<sup>12</sup> Ahab's dates include this period, being 919–897 BCE.

<sup>10</sup> Hebrew is written from right to left.

<sup>11</sup> Levi lived 137 years (Exod 6:16), Kohath lived 133 years (Num 26:59), Amram 137 years (Exod 6:20), which, even with the next generation being born when the father was well mature, still means they died before the exodus in 1283.

<sup>12</sup> It is the last date of the first division of the 22nd Dynasty dated to 782, and Osorkon II was its last king.

Thirdly, the Egyptian king “So” of 2 Kings 17:4 from whom Hoshea of Israel (727–719/718) sought help—because the king of Assyria, Shalmaneser IV (726–721) was exacting tribute—was Osorkon IV (741–730). He was the last king of the 22nd Dynasty.

The Hebrew and the Egyptian chronologies synchronize perfectly once Rehoboam’s fifth year is corrected from 925 to 977 BCE. The correlation of the Hebrew and Egyptian chronology proves that the Assyrian Eponym Canon is not reliable before 763 BCE (and more specifically before 786). I have already demonstrated in *The Reconstructed Chronology of the Divided Kingdom* that Rehoboam’s accession as king of Judah took place in 981 BCE. Now this date is reinforced by the Egyptian chronology that synchronizes Shoshenq I’s 20th year with Rehoboam’s fifth year in 977, as the subsequent chapters will substantiate.



## Chapter 33

### Positioning the 20th Dynasty

The 20th Dynasty and remaining dynasties to the 25th are significantly informed by the chronological information attributed to *Manetho* in its several versions. In the case of the 20th Dynasty, the larger “totals” in the *Manetho* versions offer greater consistency with other evidence than dates currently being presented by some Egyptologists. Ancient historians were much closer to the events and inscriptional evidence than we are, and their writings were intentionally preserved.

Book Three of *Manetho* begins with the 20th Dynasty. Unfortunately, the record now handed down is very brief, but following dynasties have better coverage. No individual reign lengths are cited. The Africanus version of *Manetho* states that, “The Twentieth Dynasty consisted of twelve kings of Diospolis who reigned for 135 years.” The Eusebius and the Armenian versions diverge in giving the dynasty 178 and 172 years, respectively.<sup>1</sup> Evidence of textual corruption in the numbers is seen, and the number of kings was 10 (not 12) according to the monuments beginning with Setnakhte and followed by Ramesses III–XI.

The dynasty has lunar dates recorded for specific regnal years of six kings as shown in Table 33.1, plus other references. Combined with records of the length of kings’ reigns, including those from *The Book of Sothis*, the records provide a total of 175 years.

**Table 33.1: 20th Dynasty kings**

King	Regnal years	Dates	Lunar anchor points
Setnakhte			None known
Ramesses III			Yr 22, DB 31 Feast of the Valley on I <i>šmw</i> 22, new moon on I <i>šmw</i> 21 in 1271
Ramesses IV			None known
Ramesses V			None known
Ramesses VI			Yr 3, DB 6 feast, full moon II <i>šmw</i> 20 in 1250
Ramesses VII			Yr 7, DB 10 feast, full moon III <i>šmw</i> 9 in 1238
Ramesses VIII			Yr 17, feast of Mut, new moon on I <i>prt</i> 30 in 1217
Ramesses IX			None known
Ramesses X			Yr 3 Amun feast, IV <i>šmw</i> 2 in 1189
Ramesses XI			Yr 25, Amun feast, III <i>šmw</i> 28, in 1127

DB = Deir el-Bahari.

I shall now discuss the evidence that identifies the lunar anchor points within the regnal years of the associated kings and the dates and lengths of their reigns, proceeding from the anchor points of the 19th Dynasty established in chapter 31 and the conclusion of Twosre’s reign in 1297 BCE.

<sup>1</sup> *Manetho* (trans. W.G. Waddell; Loeb Classical Library 350; London: William Heinemann and Cambridge, MA: Harvard University Press, 1940) 152-155.

Kitchen dates the 20th Dynasty kings from Setnakhte's reign beginning in 1186 BCE to Ramesses XI's reign ending in 1070 BCE<sup>2</sup> giving a dynasty of about 116 years, which is quite reduced from *Manetho's* numbers. Hornung writes that, "Only Africanus' total [135 years] could be correct, provided it follows directly on the sum down to Merneptah and so includes the last rulers of Dyn. 19. The actual length of the various reigns is both certain and precise, thanks to an abundance of dated documents."<sup>3</sup> For suggestions of any lengthening of the reign, he says, "There is simply no space available."<sup>4</sup> But of course he assumes an inaccurate and truncated "space."

Because of the lack of "space," three of the large numbers in *The Book of Sothis* have been shortened by scholars. *The Book of Sothis* appears as Appendix IV in *Manetho*. Amongst a garbled and diverse listing of kings, five Ramesses are listed, numbered 20–24.<sup>5</sup> Scholars have identified these as in the right-hand column in Table 33.2, below, with changes to their regnal years as they felt appropriate; thus, Ramesses VIII's 23 years is reduced to 1 or 2; Ramesses X's 39 years to 9, and Ramesses XI's years from 29 to 9.

**Table 33.2: Alignment and modified regnal years in comparison with *The Book of Sothis***

No.	<i>The Book of Sothis</i>		Identified with	
20	Usimare	31 yr	Ramesses III	31 yr
21	Ramessescos	23 yr	Ramesses VIII	1–2 yr
22	Ramessesameno	19 yr	Ramesses IX	19 yr
23	Ramesse Iubasse	39 yr	Ramesses X	9 yr
24	Ramesse	29 yr	Ramesses XI	20 yr

### Setnakhte and Ramesses III (Usermaatre Meryamun)

Setnakhte was a commoner who rose to power at the end of the 19th Dynasty amidst political unrest. He may have been related to the royal family.<sup>6</sup> The Great Harris Papyrus describes how Setnakhte slew the rebels and established himself as ruler of the Two Lands.<sup>7</sup>

Earlier it was thought that he reigned just two years, his regnal year two and the date of II šmw 10 being attested on a stela from Elephantine. But a third regnal year was found on Inscription 271 from Mt Sinai,<sup>8</sup> and following that, in 2008 a newly discovered and well-preserved quartz stela was unearthed from the avenue of ram-headed sphinxes that once connected the temples of Luxor and Karnak. The top half of the stela depicts a crowned Setnakhte bowing before Amun, and the bottom part features Bakenkhunsu, the High Priest of Amun, in his robes.

According to Mansour Borayek, Luxor Antiquities Director, the stela was carved

<sup>2</sup> K.A. Kitchen, "Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I): The Historical Chronology of Ancient Egypt, a Current Assessment," *SCIEM II* (2000) 49.

<sup>3</sup> E. Hornung, "New Kingdom," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 214.

<sup>4</sup> Hornung, "New Kingdom," 214.

<sup>5</sup> *Manetho*, 237.

<sup>6</sup> "Setnakhte," <http://en.wikipedia.org/wiki/Setnakhte>

<sup>7</sup> J.H. Breasted, *Ancient Records of Egypt*, Vol. 4 (1906) 198-99 cited in "Setnakhte," <http://en.wikipedia.org/wiki/Setnakhte>

<sup>8</sup> J. von Beckerath, *Chronologie des Pharaonischen Ägypten*, (1997) 201-02; "Setnakhte," <http://en.wikipedia.org/wiki/Setnakhte>; J. Dunn, "Setnakhte, The First King of Egypt's 20th Dynasty," <http://www.touregypt.net/featurestories/setnakhte.htm>

for Bakenkhunsu in the fourth year of Setnakhte's reign.<sup>9</sup> The year four is explicitly stated.<sup>10</sup> The last known date of Twosre is year eight III *prt* 5, so an accession date of Setnakhte on II *šmw* 10 follows about three months later and may be the actual date. Assigning Setnakhte nearly four years matches with the accession date for Ramesses III. Our discussion below assigns Ramesses III's first year to 1293, which gives to Setnakhte a reign of about 3 years and 11 months. See Casperson's table below (Table 33.3).

**Table 33.3: Twosre's "Eighth" year and Setnakhte's accession in -1296; Setnakhte's fourth year and Ramesses III's accession in -1292 (new moon listing from -1297 and -1292)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1297	12	14	-1297	12	3	1485	6	4	5	23:14	6:45	346	6:46	213	6:46	95
<b>Twosre's last known date in Year eight is III <i>prt</i> 5</b>																
-1296	1	13	-1296	1	2	1485	7	4	7	9:46	6:48	269	6:48	139	6:48	33
-1296	2	11	-1296	1	31	1485	8	3	1	20:40	6:37	363	6:36	173	6:36	65
<b>Setnakhte's possible accession date is II <i>šmw</i> 10</b>																
-1296	4	10	-1296	3	30	1485	10	2	4	20:42	5:55	299	5:54	117	5:54	25
-1296	5	10	-1296	4	29	1485	11	2	6	10:05	5:34	178	5:33	61	5:32	-17
<b>Four years later:</b>																
-1292	2	28	-1292	2	17	1489	8	21	2	3:55	6:26	160	6:25	43	6:25	-39
<b>Setnakhte dies in fourth year and Ramesses III accedes on I <i>šmw</i> 26</b>																
-1292	3	28	-1292	3	17	1489	9	20	3	13:47	6:05	274	6:04	80	6:03	-10
-1292	4	26	-1292	4	15	1489	10	19	4	21:40	5:43	583	5:43	141	5:42	27

DoW = day of week; ToD = time of day.

### Ramesses III (Usermaatre Meryamun)

Ramesses III was the son of Setnakhte and Queen Tiy-merenese. His accession is dated to I *šmw* 26 in the Medinet Habu calendar.<sup>11</sup> All but the first year of Ramesses III are documented.<sup>12</sup> Krauss notes that a Deir el-Bahri (DB) graffito (DB31) dating to II *šmw* 22 was written during a Feast of the Valley in the reign of an unidentified king's 22nd year. He proposed the reigns of Ramesses II, III, or XI.<sup>13</sup> According to the Medinet Habu Calendar, List three, the Festival of the Valley took place in II *šmw* and "It is the new moon, which brings it in."<sup>14</sup> Since the Feast of the Valley is dated to a new moon, the search can be narrowed down. In the reign of Ramesses III, a new moon fell on II *šmw* 21 in -1270 (1271 BCE), which is 22 years after his accession in 1293. See Casperson's table (Table 33.4).

**Table 33.4: Ramesses III's 22nd year in -1270 (new moon listing for -1270)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1270	3	25	-1270	3	14	1511	9	22	6	5:38	6:07	148	6:07	52	6:06	-10
-1270	4	23	-1270	4	12	1511	10	21	7	20:09	5:46	250	5:45	113	5:44	43
-1270	5	23	-1270	5	12	1511	11	21	2	11:11	5:26	197	5:25	104	5:25	37

DoW = day of week; ToD = time of day.

<sup>9</sup> N. El-Aref, "Dynasty Revealed," *Al Ahram Weekly*, Issue 827, 11-17 January 2007,

<http://weekly.ahram.org.eg/2007/827/hr1.htm>; "Setnakhte," <http://en.wikipedia.org/wiki/Setnakhte>

<sup>10</sup> "Setnakhte," <http://en.wikipedia.org/wiki/Setnakhte>

<sup>11</sup> S. el-Sabban, *Temple Festival Calendars of Ancient Egypt* (Liverpool Monographs in Archaeology and Oriental Studies; Liverpool: Liverpool University Press, 2000) 84; Hornung "New Kingdom," 215.

<sup>12</sup> Hornung, "New Kingdom," 215.

<sup>13</sup> R. Krauss, "Lunar Dates," *AEC*, 416-17.

<sup>14</sup> El-Sabban, *Temple Festival Calendars*, 67. DB 10 documents a feast in III *šmw* 9, Year 7, attributable to Ramesses VII (see Table 33.10 below); Krauss, "Lunar Dates," 416-17.

The graffito with the date of II *šmw* 22 was presumably written on the second day of the feast. The convergence of Ramesses III's 22nd year with the date falling as expected in the Feast of the Valley in 1271 identifies Ramesses III as the king to whom the date belongs. It further confirms the accuracy of this reconstructed chronology.

Previously, we noted feasts at DB in the reigns of Siptah and Twosre in the 19th Dynasty (penultimate and final rulers) both occurring on a *full* moon. However, this feast at DB early in the 20th Dynasty in the reign of Ramesses III occurs on a *new* moon, and appears to be the only feast at DB that is clearly designated as a Feast of the Valley.

After a long and turbulent career fighting enemies, and construction on a massive scale, Ramesses III died on III *šmw* 14 in his 32nd year, most likely by assassination, giving him a reign of 31 years, 1 month, and 19 days.<sup>15</sup> From the evidence that his 22nd year was 1271 BCE, we can assume that he reigned from 1293–1262.

### Ramesses IV (Heqamaatre)

Ramesses IV was the fifth son of Ramesses III, his four older brothers predeceasing him.<sup>16</sup> His accession is attested on III *šmw* 15,<sup>17</sup> word having reached the workers at Deir el-Medina the next day.<sup>18</sup> According to O. Chicago 12073 there were 18 years between year 17 of Ramesses III and year three of Ramesses IV.<sup>19</sup> With Ramesses III's 17th year in 1276 and his death, and the accession of Ramesses IV in 1262 BCE, the third year of Ramesses IV would have fallen in 1260/1259, being 18 years after Ramesses III's 17th year, and thus in agreement with O. Chicago 12073.

Ramesses IV reigned into his seventh year, with a date of III *3ht* 23 attested;<sup>20</sup> his highest known date. The Turin Indictment Papyrus indicates that he died before the harvest of his seventh year,<sup>21</sup> which would bring his year of death to about 1256. Any time "before the harvest" when Ramesses IV died could come after III *3ht* 23 and before the first harvest month of I *šmw*. The time of death may be defined more closely by ascertaining the accession date of his successor, Ramesses V.

### Ramesses V (Usermaatre Sekhepenre) and Ramesses VI (Nebmaatre Meryamun)

Scholars have calculated Ramesses V's accession date to have fallen variously on IV *prt* 1, III *prt* 29, between IV *prt* 29 to I *šmw* 7, and in I *prt*.<sup>22</sup> The latter date is von Beckerath's recalculation from his previously given IV *prt* 1 date, and according to Hornung "supported by Demarée's new interpretation of P. Turin 2044."<sup>23</sup> The great Wilbour papyrus dates to year four of his reign.<sup>24</sup> Dates of II *šmw* 25 to IV *šmw* 17 of a year four without a king's name have been attributed to him.<sup>25</sup>

<sup>15</sup> E.F. Wente and C.C. Van Siclen III, "A Chronology of the New Kingdom," *Studies in Honor of George R. Hughes* (eds. J.H. Johnson and E.F. Wente; SAOC 39; Chicago IL: Oriental Institute of the University of Chicago, 1976) 235; Hornung, "New Kingdom," 215.

<sup>16</sup> "Ramesses IV," [http://en.wikipedia.org/wiki/Ramesses\\_IV](http://en.wikipedia.org/wiki/Ramesses_IV)

<sup>17</sup> From O. Deir el-Medina 44, cited by Hornung, "New Kingdom," 215.

<sup>18</sup> From O. Deir el-Medina 39 and P. Turin 1949 +1946, cited by Hornung, "New Kingdom," 215.

<sup>19</sup> Hornung, "New Kingdom," 215, citing S. Allam, *Hieratische Ostraka und papyri aus der Ramessidenzeit* (Tubingen: Allam, 1973) No. 40, 73-76.

<sup>20</sup> O. Deir el-Medina 207: KRI VI, 49, cited by Hornung, "New Kingdom," 215; Wente and van Siclen, "Chronology of the New Kingdom," 237.

<sup>21</sup> RAD 80, 8-9, cited by Hornung, "New Kingdom," 215.

<sup>22</sup> Hornung, "New Kingdom," 215.

<sup>23</sup> *Ibid.*, 215. Demarée's "new interpretation" is not referenced.

<sup>24</sup> A.H. Gardiner, *Egypt of the Pharaohs* (London: Oxford University Press, 1961) 296; "Ramesses V," [http://en.wikipedia.org/wiki/Ramesses\\_V](http://en.wikipedia.org/wiki/Ramesses_V)

<sup>25</sup> O. Cairo CG 25247; cited by Hornung, "New Kingdom," 215.

The actual length of Ramesses V's reign has to be calculated in conjunction with the next fixed point, that of Ramesses VI's year three when a Deir el-Bahri text attributes the date of Amun resting in his funerary temple to II šmw 20. If Ramesses V reigned into his fourth year, there are approximately seven years between the end of Ramesses IV's reign in 1256 and year three of Ramesses VI, which would date to about 1250. The question now is whether this DB feast is that of a new or full moon. Casperson provides the following table (Table 33.5), which shows that a *full* moon fell on II šmw 20 in -1249 (1250 BCE).

**Table 33.5: Ramesses VI's year three *full* moon date on II šmw 20 in -1249 (full moon listing for -1249)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-1249	3	18	-1249	3	7	1532	9	20	4	16:29	6:11	17:11
<b>-1249</b>	<b>4</b>	<b>17</b>	-1249	4	6	1532	<b>10</b>	<b>20</b>	6	8:22	5:49	18:49
-1249	5	16	-1249	5	5	1532	11	19	7	22:57	5:29	18:29

DoW = day of week.

The accession of Ramesses VI is confined between I *prt* 28 and II *prt* 11, and narrowed to II *prt* 8 by Janssen.<sup>26</sup> With Ramesses VI's third year anchored to -1249 (1250 BCE), his first year began on or about II *prt* 8 in -1251 (1252 BCE). The seventh year of Ramesses IV ends sometime after III 3*ht* 23, and before the start of his next year on III šmw 15 in 1256. Sometime within this year of 1256, Ramesses V became king. His reign probably ended on II *prt* 7 with Ramesses VI's accession the following day in 1252.

On these dates, it becomes evident that the seventh year of Ramesses IV and the fourth year of Ramesses V must have amounted to less than a year each if the reigns are to fit in the available space. Consequently, the accession of Ramesses V is set before I *prt* as suggested by von Beckerath's recalculation supported by Demarée.<sup>27</sup>

Ramesses IV was alive on III 3*ht* 23 of his seventh year, but died before I *prt* 1. He must have died either in the latter part of III 3*ht* or sometime in IV 3*ht*. Assuming a date in IV 3*ht*, his death occurred in 1256 when Ramesses V succeeded him. See Casperson's table (Table 33.6).

**Table 33.6: Ramesses IV's Seventh year and Ramesses V's Accession in -1255 (new moon listing from -1255)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1255	4	8	-1255	3	28	1526	10	10	4	15:08	5:57	207	5:56	68	5:55	-8
<b>Ramesses IV's seventh year began on III šmw 15</b>																
<b>-1255</b>	<b>5</b>	<b>8</b>	-1255	4	27	1526	<b>11</b>	<b>10</b>	6	2:18	5:35	145	5:34	41	5:34	-31
-1255	6	6	-1255	5	26	1526	12	9	7	11:40	5:18	262	5:18	108	5:17	16
-1255	7	5	-1255	6	24	1527	1	3	1	19:58	5:11	361	5:11	182	5:11	69
-1255	8	4	-1255	7	24	1527	2	3	3	3:59	5:17	239	5:18	119	5:18	2
-1255	9	2	-1255	8	22	1527	3	2	4	12:28	5:34	284	5:35	163	5:36	40
<b>Ramesses IV dies late in III 3<i>ht</i> or some day in IV 3<i>ht</i>; Ramesses V begins to reign</b>																
<b>-1255</b>	<b>10</b>	<b>1</b>	-1255	9	20	1527	<b>4</b>	<b>1</b>	5	22:13	5:56	331	5:57	208	5:58	85
-1255	10	31	-1255	10	20	1527	5	1	7	9:56	6:19	255	6:20	136	6:21	20

DoW = day of week; ToD = time of day.

<sup>26</sup> Jacques J. Janssen, *Village Varia: Ten Studies on the History and Administration of Deir-el-Medina* (EU 11; Leiden: NINO, 1997) 131-38; cited by Hornung, "New Kingdom," 215.

<sup>27</sup> Hornung, "New Kingdom," 215.

Between the accession of Ramesses V in late III *3ht* or some day in IV *3ht* of -1255 and the accession of Ramesses VI on II *prt* 8 in -1252, there are just three years and approximately two months. See Casperson's table (Table 33.7).

**Table 33.7: Ramesses V's fourth year and Ramesses VI's accession in -1252 (new moon listing from -1252 to -1251)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1252	9	29	-1252	9	18	1530	3	30	7	4:35	5:55	210	5:55	103	5:56	-6
<b>Ramesses V's fourth year begins in late III <i>3ht</i> or IV <i>3ht</i></b>																
-1252	10	28	-1252	10	17	1530	4	29	1	17:41	6:17	279	6:18	168	6:19	54
-1252	11	27	-1252	11	16	1530	5	29	3	5:33	6:38	234	6:38	109	6:39	-13
<b>Ramesses VI's accession fell on II <i>prt</i> 8</b>																
-1252	12	26	-1252	12	15	1530	6	28	4	16:13	6:49	334	6:49	155	6:49	26
-1251	1	25	-1251	1	14	1530	7	28	6	2:03	6:45	205	6:44	55	6:44	-44

DoW = day of week; ToD = time of day.

According to the foregoing analysis, the allocation of the year four (to an unnamed king with dates of II *šmw* 25 to IV *šmw* 17) reported in the Wilbour papyrus cannot belong to Ramesses V. To extend his fourth year would mean that the DB date of the full moon on II *šmw* 20 in Ramesses VI's year three would no longer fall in his third year but in his second. Therefore, the year four dates of II *šmw* 25 to IV *šmw* 17 must belong to the reign of another king.

### Summary of Years of Ramesses IV and Ramesses V

The above analysis provides Ramesses IV with a reign of six years and five months from 1262 to 1256 BCE. He was buried in tomb KV 2, but in 1898 his mummy was found by Victor Loret in the cache of KV 35 tomb belonging to Amenhotep II.<sup>28</sup> His mummy showed a man estimated at about 50 years of age (CG 61041).<sup>29</sup>

Ramesses V (Usermare Sekhepenre) was the son of Ramesses IV and his chief wife and queen, Tentopet. He came to the throne in late III *3ht* or IV *3ht* in 1256, and his fourth year, consisting of only about two months, ended probably in II *prt* 7 with Ramesses VI acceding on II *prt* 8 in 1252, based on his full moon date in year three in 1250.

Ramesses V was put in a temporary tomb while his successor, Ramesses VI, dealt with Libyan invaders, and was not buried in his tomb KV 9 until II *3ht* 1 of Ramesses VI's year two.<sup>30</sup> His tomb was subsequently usurped by Ramesses VI. His mummy was also found in the tomb of Amenhotep II in 1898. Ramesses V died from smallpox when he was about 30 years of age judging by the condition of his skin.<sup>31</sup>

### Ramesses VI (Nebmaatre Meryamun)

Ramesses VI was the son of Ramesses III (not Ramesses V). As noted above by Jacques Janssen, his accession is set at II *prt* 8. The year would be 1252 BCE (-1251). His year three date of II *šmw* 20 in DB 32, the date of a full moon, is aligned with April 17 in 1250 BCE (-1249; see Table 33.5). A year seven is recorded on the Turin papyrus 1907 + 1908 when it states that there were 11 full years from year five of Ramesses VI

<sup>28</sup> "Ramesses IV," [http://en.wikipedia.org/wiki/Ramesses\\_IV](http://en.wikipedia.org/wiki/Ramesses_IV)

<sup>29</sup> Hornung, "New Kingdom," 215.

<sup>30</sup> A.J. Peden, *The Reign of Ramesses IV* (Warminster: Aris and Phillips, 1994) 21.

<sup>31</sup> J.E. Harris and K.R. Weeks, *X-raying the Pharaohs* (London: Scribner, 1973) 166-67; cited by Hornung, "New Kingdom," 215.



to year seven of Ramesses VII.<sup>32</sup> A reconstruction of Turin papyrus 1907+1908 by Raphael Ventura has determined that Ramesses VI reigned eight full years and two months into his ninth year.<sup>33</sup> With his ninth year beginning on II *prt* 8 in 1245, his reign will have ended two months later, probably sometime in IV *prt* (January/February) 1244 BCE (–1243; see Table 33.8).

**Table 33.8: Ramesses VI's ninth year and Ramesses VII's accession in –1244/1243 (new moon listing from –1244 to –1243)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1244	10	30	-1244	10	19	1538	5	3	6	1:54	6:19	220	6:20	98	6:20	-23
<b>Ramesses VI's 9th year begins on II <i>prt</i> 8</b>																
-1244	11	28	-1244	11	17	1538	6	2	7	12:55	6:38	283	6:39	154	6:40	35
-1244	12	27	-1244	12	16	1538	7	1	1	23:43	6:49	377	6:49	208	6:49	91
<b>Two months later Ramesses VII begins to reign in IV <i>prt</i></b>																
-1243	1	26	-1243	1	15	1538	8	1	3	10:27	6:44	269	6:44	137	6:43	42
-1243	2	24	-1243	2	13	1538	8	30	4	21:32	6:28	364	6:27	176	6:27	79
-1243	3	26	-1243	3	15	1538	9	30	6	9:33	6:06	224	6:05	108	6:05	29

DoW = day of week; ToD = time of day.

The mummy of Ramesses VI found in Tomb KV 35 in 1989 had been attacked with an axe leaving his head and torso in several pieces.<sup>34</sup>

### Ramesses VII (Usermaatre Meryamun Setepenre)

Ramesses VII was the son of Ramesses VI. His accession must date to III or IV *prt* 1244 on the evidence above that Ramesses VI reigned two months into his ninth year, having begun on II *prt* 8. Various suggestions by Egyptologists for the accession date mostly fall in these two months with von Beckerath recently proposing III *prt* 30.<sup>35</sup> In Table 33.8, the last day of II *prt* begins a lunar month (8 30) and III *prt* begins the next day.

### Full Moon Date Is Applicable to Ramesses VII Not Ramesses III

Krauss lists a DB date (DB 10) for III *šmw* 9 for *either* the seventh year of Ramesses III or the seventh year of Ramesses VII.<sup>36</sup>

The years for Ramesses III's reign have been established above on the evidence of the regnal and lunar data attached to his and associated reigns. The seventh year of Ramesses III starts on I *šmw* 26 in 1287 (–1286), so if the date of III *šmw* 9 belongs to Ramesses III's reign, it should fall soon after. However, it cannot be the correct date because in this year (–1286) the full moon falls on III *šmw* 29 as shown in Table 33.9.

<sup>32</sup> R. Ventura, "More Chronological Evidence from Turin Papyrus Cat. 1907+1908," *JNES* 42 (1983) 271-72; cited in "Ramesses VII," [http://en.wikipedia.org/wiki/Ramesses\\_VII](http://en.wikipedia.org/wiki/Ramesses_VII)

<sup>33</sup> Ventura "More Chronological Evidence" 271-77 cited in "Ramesses VI,"

[http://en.wikipedia.org/wiki/Ramesses\\_VI](http://en.wikipedia.org/wiki/Ramesses_VI) See also, L. Bell, "Only One High Priest Ramessesnakht and the Second Prophet Nesamun His Younger Son," *Serapis* 6 (1980) 16, cited by Ventura.

<sup>34</sup> P. Clayton, *Chronicle of the Pharaohs* (London: Thames and Hudson, 1994) 168.

<sup>35</sup> Hornung, "New Kingdom," 216, citing J. von Beckerath in *GM* 188 (2002) 17.

<sup>36</sup> Krauss, "Lunar Dates," 415-17.

**Table 33.9: Full moon date in III šmw in –1286 (full moon listing from –1286)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–1286	5	6	–1286	4	25	1495	10	30	7	3:08	5:35	18:35
<b>–1286</b>	<b>6</b>	<b>4</b>	–1286	5	24	1495	<b>11</b>	<b>29</b>	1	12:11	5:18	18:18
–1286	7	3	–1286	6	22	1495	12	28	2	20:12	5:11	18:11

DoW = day of week.

The date of –1286 cannot be allocated to a new moon date as it would need to fall 15–16 days before or after III šmw 29, which would not fall on III šmw 9. There is a full moon on III šmw 10 in Ramesses III's *sixth* year, but this year is not admissible as it would upset the dates of the regnal years already discussed.

However, the date does apply in the reign of Ramesses VII. As Casperson's Table 33.10 shows, there was a full moon on III šmw 9 in –1237 which corresponds to Ramesses VII's seventh year, his first year having started in –1243. (1244 BCE). The evidence of the full moon date falling on Ramesses VII's seventh year on III šmw 9 in –1237 demonstrates that the date belongs to his reign and not that of Ramesses III.

**Table 33.10: Ramesses VII's seventh year in –1237 (full moon listing for –1237)**

Thebes; Lat. 25.7, Long. 32.6												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–1237	4	4	–1237	3	24	1544	10	10	1	12:09	5:58	18:58
<b>–1237</b>	<b>5</b>	<b>3</b>	–1237	4	22	1544	<b>11</b>	<b>9</b>	2	20:50	5:37	18:37
–1237	6	2	–1237	5	22	1544	12	9	4	7:01	5:19	18:19

DoW = day of week.

### Dates for Reigns of Ramesses VII and VIII

In addition to the year seven noted in Turin papyrus 1907 + 1908, a seventh year is also known from O. Strasbourg H 48, dated to II šmw 16.<sup>37</sup> However, this is not the full length of Ramesses VII's reign, which must be considered together with the length of the reign of Ramesses VIII. In *The Book of Sothis*, Ramesses VIII is attributed 23 years, but conventional chronologies have shortened this figure to one or two years at the most.<sup>38</sup>

The length of Ramesses VII's reign can be calculated by a new moon date in his 17th year. Alan Gardiner and Richard Parker, in their contrary views about the Egyptian calendar, referred to the Periplous of Mut falling on I prt 30 in an *unnamed* king's 17th regnal year, which Gardiner attributed to Ramesses IX.<sup>39</sup> Parker said it was the only dated example of this feast, and that it was insignificant unless it was held on a lunar day, such as that of a full moon.<sup>40</sup>

Gardiner noted that part of a diary of the Necropolis (pTurin 68, col. 3, 1) dates from the 13th year of an unnamed king, but was identified as belonging to Ramesses IX from similar contents in pChabas-Lieblein. The latter papyrus mentions the vizier *H<sup>c</sup>-m-w3st* who is also cited on a related papyrus dating from a year 17 written in the same handwriting.<sup>41</sup> So it seemed that the 17th year belonged to Ramesses IX. But the identification is incorrect. As the following discussion shows, it belonged to Ramesses VIII.

<sup>37</sup> J. Janssen, "A Twentieth-Dynasty Account Papyrus," *JEA* 52 (1966) 91 n. 2.

<sup>38</sup> "Ramesses VIII," [http://en.wikipedia.org/wiki/Ramesses\\_VIII](http://en.wikipedia.org/wiki/Ramesses_VIII)

<sup>39</sup> A.H. Gardiner, "Mesore as First Month of the Egyptian Year," *ZÄS* 43 (1906) 140.

<sup>40</sup> R.A. Parker, "Problem of the Month-Names: A Reply," *Rd'É* II (1957) 102-03.

<sup>41</sup> Gardiner, "Mesore as First Month," 138 n. 4; 140.



### Ramesses VIII (Sethherkhepshef Meryamun)

According to Kitchen, Ramesses VIII was the son of Ramesses VI and brother to Ramesses VII,<sup>42</sup> though other Egyptologists place him as the last surviving son of Ramesses III.<sup>43</sup> He is the most obscure king of the dynasty. In Table 33.11, Casperson provides the new moon table for Ramesses VIII's 17th year falling in -1216 (1217 BCE) with the date of I *prt* 30, thus revealing the significance of the feast of Mut date.

**Table 33.11: Ramesses VIII's 17th year in -1216: Feast of Mut (new moon listing from -1216)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1216	10	20	-1216	10	9	1566	4	30	3	21:24	6:11	278	6:12	175	6:13	69
<b>-1216</b>	<b>11</b>	<b>19</b>	-1216	11	8	1566	<b>5</b>	<b>30</b>	5	11:14	6:33	246	6:34	134	6:34	<b>20</b>
-1216	12	18	-1216	12	7	1566	6	29	6	23:18	6:47	348	6:47	195	6:48	68

DoW = day of week; ToD = time of day.

Ramesses VIII's 17th year falling in -1216 (1217 BCE), with only another six weeks to run in the Julian year, indicates his probable accession in 1233 BCE, which has been attributed to a date of I *3ht* 13.<sup>44</sup> His successor's accession is dated to sometime between I *3ht* 18 and I *3ht* 21 indicating the date for the death of Ramesses VIII.<sup>45</sup>

Ramesses VII's seventh year falling in -1237 (1238 BCE) indicates that between 1238 (beginning in III *prt* 30—his assumed accession day) and 1233 in I *3ht* 13, there were five years and about five months on the above dates, which gives Ramesses VII a reign of 11 years and about 5 months, 1244–1233.

Ramesses VIII's first year fell in 1233, so his 23rd year will have fallen in 1211 BCE, and, if including further months, into his 24th year in 1210.

### Ramesses IX (Neferkare Setepenre)

Ramesses IX is said to be the son of Ramesses III,<sup>46</sup> but this is dubious given the approximately 80 years between their accessions. Hornung estimates that the reign of Ramesses IX began between I *3ht* 18–21,<sup>47</sup> as does von Beckerath who concludes that the accession of Ramesses IX was "probably" dated to I *3ht* 21, or at least on or after I *3ht* 18.<sup>48</sup>

Ramesses IX is given 19 years by *The Book of Sothis*. This is validated by the Turin Papyrus 2075 + 2056 + 2096 in which the recto and verso is written in two columns referring to fish deliveries. The verso refers to the second regnal year of Ramesses X. On the recto, following on from the 19th year of an unnamed king, are the dates IV *3ht* 9, 14, 24, 29, I *prt* 13, year 1, I *prt* 30. The last date belongs to the reign of Ramesses X, so the preceding king with 19 years must be Ramesses IX.<sup>49</sup>

Also, on the verso of the papyrus is a corresponding year 19 with the last date being unclear, but apparently I *prt* 26, followed by a year one and the date I *prt* 27, II *prt*

<sup>42</sup> K.A. Kitchen, "The Twentieth Dynasty Revisited," *JEA* 68 (1982) 123.

<sup>43</sup> N. Grimal, *A History of Ancient Egypt* (Oxford: Blackwell, 1992) 288-89.

<sup>44</sup> Hornung, "New Kingdom," 216.

<sup>45</sup> *Ibid.*, 216.

<sup>46</sup> "Ramesses IX," [http://en.wikipedia.org/wiki/Ramesses\\_IX](http://en.wikipedia.org/wiki/Ramesses_IX)

<sup>47</sup> Hornung, "New Kingdom," 216, citing Botti, *JEA* 14 (1928) 48-51.

<sup>48</sup> J. von Beckerath, "Drei Thronbesteigungsdaten der XX. Dynastie" *GM* 79 (1984) 7-8; see also citations by Hornung, "New Kingdom," 216.

<sup>49</sup> Von Beckerath, "Drei Thronbesteigungsdaten," 8-9.

2, etc., which infers that I *prt* 27 is the accession date of Ramesses X,<sup>50</sup> and that Ramesses IX died on I *prt* 26. Assuming an accession year of 1210 for Ramesses IX—allowing Ramesses VIII 23 years plus months of a 24th year—the death of Ramesses IX would have occurred after 19 years in 1191/1190 depending on the length of his last year. This can be determined by an Amun feast held in the third year of Ramesses X’s reign.

**Ramesses X (Amonhirkhepeshef)**

Ramesses IX is proposed as the father of Ramesses X, but it is not confirmed.<sup>51</sup> His accession, as noted above, fell on I *prt* 27 in 1210 BCE. Years one and two of the reign of Ramesses X are attested by Papyrus Turin 1932 + 1939.<sup>52</sup> The Amun feast held in the third year of Ramesses X’s reign included IV *šmw* 2, which is documented in a diary of workmen from Deir el-Medina where it appears that the workmen were work-free on IV *šmw* 1–2 because of a feast, which is understood to be that of Epiphi.<sup>53</sup>

However, the feast of Epiphi, (*’ipip*)<sup>54</sup> is also attested as including III *šmw* 28 in an oracle inscription from the reign of Ramesses XI when the god Amen-Re appeared to the people.<sup>55</sup> The two dates, III *šmw* 28 and IV *šmw* 2, seem intimately connected with the feast of Epiphi. However, P. Turin Cat. 1898 + 1926 + 1037 + 2094 recto V, 18–19 infers that the work-free period in the third year of Ramesses X had commenced already by III *šmw* 19, and the men continued to be work-free after the feast (recto V, 7–23), and on IV *šmw* 3 crossed the river to Thebes, and on IV *šmw* 10 were still searching for rations (recto V, 19–20; VI, 1).<sup>56</sup> In List 67 of Medinet Habu feasts, the “Processional Feast of Amun” fell in the first month of summer at a new moon’s festival. Amun-Re went out on the “fourth occasion,” inferring the fourth day of the feast.<sup>57</sup> It may be similar in the feast of Epiphi held in III–IV *šmw*. And we find a new moon on IV *šmw* 4 in the year –1188 (1189 BCE; see Table 33.12).

**Table 33.12: New moon in the third year of Ramesses X (new moon listing for –1188)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1188	4	16	-1188	4	5	1593	11	5	5	18:58	5:50	403	5:49	169	5:49	62
<b>-1188</b>	<b>5</b>	<b>16</b>	-1188	5	5	1593	<b>12</b>	<b>5</b>	7	3:41	5:29	208	5:29	<b>83</b>	5:28	<b>-9</b>
-1188	6	14	-1188	6	3	1593	13	4	1	13:53	5:15	267	5:14	121	5:14	19

DoW = day of week; ToD = time of day.

<sup>50</sup> See on length of reign of Ramesses IX: J. Černý, *A Community of Workmen at Thebes in the Ramesside Period* (Institute Français D’Archéologie Orientale du Caire, 1973) 234-35; Wenté and Van Siclen, “Chronology of the New Kingdom” 235 and n. 11; von Beckerath, “Drei Thronbesteigungsdaten,” 7-9.

<sup>51</sup> “Ramesses X,” [http://en.wikipedia.org/wiki/Ramesses\\_X](http://en.wikipedia.org/wiki/Ramesses_X)

<sup>52</sup> Wenté and van Siclen, “Chronology of the New Kingdom,” 261.

<sup>53</sup> Gardiner, “Mesore as First Month,” 137-38; idem, “A. H. Gardiner, “The Problem of the Month-Names,” *Rd’É* 10 (1955) 11; Wenté and van Siclen, “Chronology of the New Kingdom,” 261; H. Jauhiainen, “Do not Celebrate Your Feast Without Your Neighbours” : *A study of References to Feasts and Festival in Non-Literary Documents from Ramesside Period Deir el-Medina* (Publications of the Institute for Asian and African Studies 10; Helsinki: Helsinki University Print, 2009) 155. This date is now referenced to P. Turin Cat. 1898 + 1926 + 1937 + 2094.

<sup>54</sup> Also the name for the hippopotamus god Ipet or Ipy.

<sup>55</sup> Gardiner, “Problem of Month-Names, 12; Jauhiainen, “Do not Celebrate,” 153, n. 11.

<sup>56</sup> Jauhiainen, “Do not Celebrate,” 155 n. 10.

<sup>57</sup> A.J. Spalinger, “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; Alter Orient und Altes Testament 297; Münster: Ugarit, 2002) 392-93, 395.

The new moon coming two days after the mention of the feast when the workmen did no work implies that this is the new moon of the Epiphi feast in Ramesses X's third year in -1188 (1189 BCE) equated with 15 May. His accession anniversary fell on I *prt* 27, which equates to 11 November in -1189. Two years earlier, his accession fell on I *prt* 27,<sup>58</sup> in -1191, which equates to 10 November in 1192 BCE.

### Confirming Ramesses IX's Length of Reign

By locating Ramesses X's accession as above, we may confirm that Ramesses IX's 19th year ended in I *prt* 26 in 1192 BCE. With his accession being after I *3ht* 18, possibly I *3ht* 21, he reigned approximately four months into his 19th year. And by fixing Ramesses VIII's 17th year in 1217 (Feast of Mut) and his 23rd year in 1210, which was the accession year of Ramesses IX, we can confirm that the latter reigned 18 years and 4 months. P. Turin 1932 + 1939 concurs in giving Ramesses IX 18 years and 4 months.<sup>59</sup> The 19 years given him in *The Book of Sothis* has been rounded up. Casperson's table (Table 33.13) shows the dates for the two accessions.

**Table 33.13: Ramesses IX's 18th anniversary year and Ramesses X's accession in -1191 (new moon listing for -1191)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1191	5	20	-1191	5	9	1590	12	8	7	0:38	5:27	164	5:26	82	5:26	9
<b>Ramesses IX's 18th accession anniversary on I 3ht 18-21</b>																
-1191	6	18	-1191	6	7	1591	1	2	1	15:04	5:14	236	5:13	132	5:13	44
-1191	7	18	-1191	7	7	1591	2	2	3	4:37	5:12	197	5:12	94	5:12	-5
-1191	8	16	-1191	8	5	1591	3	1	4	17:04	5:24	267	5:24	157	5:25	48
-1191	9	15	-1191	9	4	1591	4	1	6	4:30	5:44	223	5:45	109	5:46	-9
-1191	10	14	-1191	10	3	1591	4	30	7	15:21	6:07	290	6:07	169	6:08	46
<b>Ramesses X's accession on I prt 27</b>																
-1191	11	13	-1191	11	2	1591	5	30	2	2:03	6:29	227	6:30	97	6:30	-27
-1191	12	12	-1191	12	1	1591	6	29	3	12:56	6:45	297	6:45	145	6:46	25

DoW = day of week; ToD = time of day.

With little known about the reign of Ramesses X, most Egyptologists give him just three regnal years.<sup>60</sup> Morris Bierbrier suggests that an unnamed king's year eight in Theban graffito 1 860a refers to Ramesses X, and might indicate he had a reign of nine years.<sup>61</sup> Parker's attempt on astronomical grounds to give him nine years<sup>62</sup> has been discarded by scholars.<sup>63</sup> However, in *The Book of Sothis*, Ramesses X is attributed 39 years (no. 23).<sup>64</sup> Acceding in 1191, a reign of 39 years would bring the final year of Ramesses X to 1152 BCE. Consideration of Ramesses X's length of reign depends upon fixing the reign of the final king, Ramesses XI, and the full length of the 20th Dynasty, and ultimately how the proposed length of 175 years fits into the absolute chronology. In consideration of those matters, I conclude that the 175 years allocated in *The Book of Sothis* can be sustained and that its attribution of 39 years to Ramesses X is also

<sup>58</sup> Hornung, "New Kingdom," 216.

<sup>59</sup> Wente and van Siclen, "Chronology New Kingdom" 235, 261; Hornung, "New Kingdom," 216.

<sup>60</sup> E.g. R. Krauss, "Sothis- und Monddaten, Studien zur astronomischen und technischen Chronologie Altägyptens," (HÄB 20; Hildesheim: Gerstenberg, 1985) 41, 154. Kitchen formerly suggested nine years taking 30 from 39, (*TIP*, 23 n. 90), but later gave him 3 years "Regnal and Genealogical Data," *SCIEM II* (2000), 42.

<sup>61</sup> M.L. Bierbrier, "The Length of the Reign of Ramesses X," *JEA* 61 (1975) 251.

<sup>62</sup> Parker, "Length of Reign of Ramses X," *Rd'É* 11 (1957) 163-64.

<sup>63</sup> Hornung, "New Kingdom," 217.

<sup>64</sup> *Manetho*, 237.

correct—conclusions the reader will also test in the scrutiny of this chapter and the proposed chronology as a whole.

### Ramesses XI (Menmaatre Setepenptah)

Ramesses XI is presumed to be the son of Ramesses X. The earliest surviving date in the reign of Ramesses XI, is, “Year 1, 3rd month of Summer, day 20, under the Majesty of the King of Upper and Lower Egypt Ramesses (XI),” noted on the Adoption papyrus.<sup>65</sup> This same date appears again on the same papyrus but in a later section<sup>66</sup> where it is seen as evidence of Ramesses XI’s accession date. Examined by Klaus Ohlhafer, he notes that the date of III *šmw* 19 appears to end one section of consecutive datings in pTurin 1888, a necropolis day book, and then continues with a year 18 and the date of IV *šmw* with a partially destroyed number read as 14, 18, or 24.<sup>67</sup> Analysis of other documents led him to the conclusion that the accession of Ramesses XI took place on III *šmw* 20.<sup>68</sup>

Thus Ramesses X died on III *šmw* 19 in 1152 BCE, having reigned from I *prt* 27 in 1191 BCE, giving him a reign of 39 years and about 6 months.

### Oracle Inscription from Karnak

Previous mention was made of an oracle inscription from Karnak. It has been translated as follows, “Year 7, Renewal of Births, third month of Summer, day 28, under the majesty of the King of Upper and Lower Egypt Menma<sup>c</sup>rē<sup>c</sup>-setapenamūn, etc., the day of the appearance of this august god Amen-Rē<sup>c</sup>, king of the gods [at ti]me of morning in his beautiful festival of ’Ipt-ḥmt·s.”<sup>69</sup>

The reference to the “Renewal of Births” in year seven equates to Ramesses XI’s 25th year. There is no mention of a new or full moon in the text, but in connection with the Epiphi feast in the reign of Ramesses X the date recorded was IV *šmw* 2 when the new moon fell on IV *šmw* 4. In the 25th year of the reign of Smendes, Ramesses XI’s successor in the 21st Dynasty, there is also the mention of the date of III *šmw* 29 in connection with the feast of Epiphi. If Ramesses XI’s first year began in –1151, his 25th year began in –1126 (1127 BCE). Casperson provides the details in Table 33.14.

**Table 33.14: Ramesses XI’s 25th year (new moon listing for –1126)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1126	3	23	-1126	3	12	1655	10	26	2	10:15	6:08	283	6:07	80	6:06	-17
<b>-1126</b>	<b>4</b>	<b>21</b>	-1126	4	10	1655	<b>11</b>	<b>25</b>	3	17:58	5:46	445	5:46	114	5:45	<b>7</b>
-1126	5	21	-1126	5	10	1655	12	25	5	2:21	5:26	176	5:26	47	5:25	-34

DoW = day of week; ToD = time of day.

Table 33.14 shows that a new moon fell on III *šmw* 25, being four days before the appearance of the god Amun-Re at the feast of Epiphi; whereas, in the Amun feast celebrated in the third year of Ramesses X, the new moon fell on IV *šmw* 2 after the god’s first appearance. It is possible that the date of III *šmw* 28 refers to the re-entry of

<sup>65</sup> Spalinger, “Egyptian Festival Dating,” citing *KRI* VI 735, 10-12. See also citations by Hornung, “New Kingdom,” 217; “Adoption Papyrus,” [http://www.reshafim.org.il/ad/egypt/texts/adoption\\_papyrus.htm](http://www.reshafim.org.il/ad/egypt/texts/adoption_papyrus.htm)

<sup>66</sup> pAshmolean Mus. 1945.96 = *KRI* VI, 735-38.

<sup>67</sup> K. Ohlhafer, “Zum Thronbesteigungsdatum Ramses’ XI. und zur Abfolge der Grabräuberpapyri aus Jahr 1 und 2 *wḥm-mswt*,” *GM* 135 (1993) 59.

<sup>68</sup> *Ibid.*, 59-72.

<sup>69</sup> Gardiner, “Problem of Month-Names,” 12, citing F. Nims, “An Oracle Dated in the ‘Repeating of Births’,” *JNES* 7 (1948) 157-62, pl. 8. The hieroglyphic text is also given.

Amun four days after the new moon when he slept in the temple and received offerings. This is analogous to the Medinet Habu List 67, the Processional Feast of Amun in I *šmw*, when Amun went out on the “4th occasion of the new moon’s festival.”<sup>70</sup> The feast of Epiphi took place in the latter days of III *šmw* and proceeded into IV *šmw* when workmen did not have to work, and this may be the case here too.

The timing of the appearance of Amun-Re on III *šmw* 28 at the Epiphi feast with a preceding new moon on III *šmw* 25 in Ramesses XI’s 25th year seems to be too “coincidental” for the Epiphi feast not to have taken place over the days of III *šmw* 23–28 and possibly before and after these days. Therefore, it seems acceptable to connect the Epiphi date of III *šmw* 28 of the Karnak oracle inscription with the new moon of III *šmw* 25 in Ramesses XI’s 25th year in –1126 (1127 BCE).

### **The Renaissance—Final Years of Ramesses XI’s Reign**

Ramesses XI’s final 11 regnal years were known as the “Renaissance period” or *whm-mswt* the “Renewing/Repeating of Births.” The high priest of Amun, Herihor, dated his first year as high priest to the 19th year of Ramesses XI. Six years later, he was followed by Piankh for the remaining four or five years before the 21st Dynasty began under King Smendes who is attested as governor from the 23rd year of Ramesses XI.<sup>71</sup> Kitchen concludes, “Ramesses XI and the Era died in his 30th and its 12th year, after 28 (and 11) full years of reign.”<sup>72</sup>

*The Book of Sothis* gives to Ramesses XI 29 years,<sup>73</sup> which brings his last year to the date of 1122 BCE. He was succeeded by Smendes, the first ruler of the 21st Dynasty. No accession date is known for Smendes, so we do not know the exact length of Ramesses XI’s 29th year. His 29th year began on his accession date of III *šmw* 20, which equates to April 15 in –1121 (1122 BCE), so Ramesses XI died and Smendes became king sometime after that date in his final year. A further six months is required for the total years and months to be afforded to the 20th Dynasty. Some, if not all of these, may be attributed to Ramesses XI.

The 20th Dynasty began in 1297 BCE under Setnakhte and ended in 1122 BCE under Ramesses XI, having traversed 175 years. The version of Africanus is usually considered the more reliable of *Manetho*’s copies. But its 135 years is incorrect. The original must have been 175 years; curiously, midway between the 178 is attested by Eusebius (178) and by the Armenian (172)—who both affirm more than 170 years. The 175 years will be found to be consistent with the 21st Dynasty’s 124 years beginning in 1122 BCE with the reign of Smendes. This analysis justifies the allocation of 39 years to Ramesses X, which is also based on *The Book of Sothis*. The scattered lunar data matching the dates and Julian years given in Casperson’s tables demonstrates the validity of the chronology.<sup>74</sup> Table 33.15 on the following page sets out the dates and lengths of reign of the 20th Dynasty kings.

<sup>70</sup> El-Sabban, *Temple Festival Calendars*, 129.

<sup>71</sup> Kitchen, *TIP*, 17-23.

<sup>72</sup> *Ibid.*, 23.

<sup>73</sup> *Manetho*, 237.

<sup>74</sup> For generation-counting for the 20th Dynasty, vastly at odds with what is demonstrated above, one may consult M.L. Bierbrier, *The Late New Kingdom in Egypt (1300-664 BC): A Genealogical and Chronological Investigation* (Warminster: Aris and Phillips, 1975) 19-44. Bierbrier is criticized by David Henige, “Generation-counting and Late New Kingdom Chronology,” *JEA* 67 (1981) 183.

**Table 33.15: 20th Dynasty kings with regnal years and dates**

<b>King</b>	<b>Regnal years*</b>	<b>Dates BCE</b>	<b>Lunar anchor points</b>
Setnakhte	3 yr, 11 mo	1297–1293	None known
Ramesses III	31 yr, 1 mo, 19 d	1293–1262	Yr 22, DB 31 Feast of the Valley on I <i>šmw</i> 22, new moon on I <i>šmw</i> 21 in 1271
Ramesses IV	6 yr, 5 mo	1262–1256	None known
Ramesses V	3 yr, 2 mo	1256–1252	None known
Ramesses VI	8 yr, 2 mo	1252–1244	Yr 3, DB 6 feast, full moon II <i>šmw</i> 20 in 1250
Ramesses VII	11 yr, 5 mo	1244–1233	Yr 7, DB 10 feast, full moon III <i>šmw</i> 9 in 1238
Ramesses VIII	23 yr	1233–1210	Yr 17, feast of Mut, new moon on I <i>prt</i> 30 in 1217
Ramesses IX	18 yr, 4 mo	1210–1192	None known
Ramesses X	39 yr, 6 mo	1192–1152	Yr 3 Amun feast, IV <i>šmw</i> 2 in 1189
Ramesses XI	29 yr, 6 mo	1152–1122	Yr 25, Amun feast, III <i>šmw</i> 28, in 1127
<b>Total</b>	<b>175 yr, 0 mo, 19 d</b>	<b>1297–1122 = 175 yr</b>	

\* = most months approximate; DB = Deir el-Bahari.

## Chapter 34

### Revising the 21st Dynasty Once More

The Third Intermediate Period comprises the 21st Dynasty to the 26th Dynasty. The period is not as well documented with chronological data as the New Kingdom. It has only about a dozen lunar dates that can be used for dating the kings. Kitchen has revised his chronology of the period several times. Others continue revisionary efforts. I offer a further revision in keeping with the principles and periods of my chronology, anchored to lunar data in the inscriptions.

For the 21st Dynasty, the lack of chronological data from elsewhere is somewhat offset by Manetho, who, via his copyists has transmitted the names and regnal years of seven kings located at Tanis in Lower Egypt. The change of residence to Lower Egypt gave opportunity for the High Priests at Thebes to exert considerable influence. They effectively governed Middle and Upper Egypt, with some even having their names in cartouches and given the title of king. For example, Pinudjem I proclaimed himself “king” of Upper Egypt during the 15th–16th year of King Smendes of Lower Egypt.<sup>1</sup> However, according to Kitchen,<sup>2</sup> in rebuttal of Jansen-Winkel,<sup>3</sup> they are not known to have appropriated regnal years for themselves, as these were always attributed to the kings at Tanis who had nominal rule over the whole of Egypt.<sup>4</sup>

Events were dated by the regnal years of the kings at Tanis recorded by Manetho. The records of the concurrently serving High Priests based at Thebes confirm the general length of the dynasty and in some cases assist in clarifying the chronology, such as the Karnak Priestly Annals. Manetho’s dynastic list for the 21st Dynasty kings is as follows:

- |                   |                                                                     |
|-------------------|---------------------------------------------------------------------|
| 1. Smendes,       | 26 years                                                            |
| 2. Psusennes [I], | 46 years Africanus; 41 years Eusebius and the Armenian              |
| 3. Nephercheres,  | 4 years                                                             |
| 4. Amenophthis,   | 9 years                                                             |
| 5. Osorchor       | 6 years                                                             |
| 6. Psinaches      | 9 years                                                             |
| 7. Psusennes [II] | 14 years Africanus; 35 years Eusebius and the Armenian <sup>5</sup> |

The versions all give the total as 130 years even though the reigns amount to only 114 years (giving Psusennes I 46 years and Psusennes II 14). Scholars usually emend

<sup>1</sup> K.A. Kitchen, *TIP*, 258-59, 262 §§216, 219.

<sup>2</sup> *Ibid.*, xvii-xviii §L.

<sup>3</sup> K. Jansen-Winkel, “Das Ende des Neuen Reiches,” *ZÄS* 119 (1992) 22-37; and subsequent to Kitchen’s rebuttal, in “Dynasty 21,” *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D. A. Warburton; Leiden and Boston: Brill, 2006) 229-31.

<sup>4</sup> A year 48 attributed to the High Priest Menkheperre, which is without precedent as a regnal year for a pontiff, is better explained as the 48th year of Psusennes I in whose reign he officiated and in whose year 48 he probably died. See Kitchen, *TIP*, xvii-xviii §M; 36 §32 n. 152, 77 §62, 271 §228, 415 §377.

<sup>5</sup> These are found in *Manetho* (trans. W.G. Waddell; Loeb Classical Library 350; London: William Heinemann Ltd. and Cambridge, MA: Harvard University Press, 1940) 154-57.

Psinaches' 9 years to 19 years by identifying him with Siamun from inscriptions, and attribute 124 years to the dynasty.

### Identifying the Kings

The identification of several of these kings has been discussed by Egyptologists over the years. They have ascertained that Manetho's Nephhercheres is the same as Amenemnisu known from the monuments, Nephhercheres being his prenomen. Amenophthis is otherwise known as Amenemope.

Osorchor was previously not attested, but in 1963, Eric Young identified him as the Akheperre Setepenre from an inscription, differentiating him from Akheperre Setepenamun, the prenomen of Psusennes I.<sup>6</sup>

Osorchor, or Orsorkon, is often called Osorchor the Elder to differentiate him from Osorkons I–V of the 22nd Dynasty, who were all enumerated before Osorchor of the 21st Dynasty was identified.

Psinaches is a name unknown from the monuments, but he is understood by scholars to be the same as Siamun who does appear in inscriptions. Siamun is attested as having reigned at least 17 years, so it is assumed that the 9 years of Psinaches in *Manetho* should be amended to 19 years, supposing that an iota (ι = 10) has been dropped from the number in the Greek text.<sup>7</sup> There are two kings with the name of Psusennes, dubbed Psusennes I and II.

### The Period of the 21st Dynasty

In 2000, Karl Jansen-Winkeln listed the *attested* regnal years for the seven kings.<sup>8</sup> In the same year, Kitchen's revised chronology of the dynasty was published.<sup>9</sup> These are shown in Table 34.1.

**Table 34.1: 21st Dynasty published in 2000 by Jansen-Winkeln and by Kitchen**

King	Jansen-Winkeln		Kitchen	
	Attested years	Deduced years	Deduced years	Dates BCE
1. Smendes	25	26	26	1070–1044
2. Nephhercheres/Amenemnisu	0	4	4	1044–1040
3. Psusennes [I]	49	48	48	1040–992
4. Amenemope	9	9 (2 CR)	9 (2 CR)	994–985
5. Osorchor	2	6	6	985–979
6. Siamun	17	19	19	979–960
7 Psusennes [II]	13	15	15	960–945
<b>Total</b>	<b>115</b>	<b>127 (125)</b>	<b>127 (125)</b>	

CR = co-regent.

The number of the attested years does not necessarily reflect the final number of years the kings reigned. Kitchen's chronology has used the four years for Amenemnisu and six years for Osorchor as given by Manetho, and amended the 9 years to 19 for Siamun/Psinaches. Kitchen finishes the dynasty with the year 945 BCE, which is perceived to be the first year of Shoshenq I on the basis that his 20th year equated with Rehoboam of Judah's fifth year in 925 BCE, as derived by Edwin Thiele, discussed earlier in chapter 2. I asserted the date of 977 BCE as Rehoboam's fifth year in my *The*

<sup>6</sup> E. Young, "Some Notes on the Chronology and Genealogy of the Twenty-First Dynasty," *JARCE* 2 (1963) 100.

<sup>7</sup> Kitchen, *TIP*, 12 §9.

<sup>8</sup> Jansen-Winkeln, "Dynasty 21," 227.

<sup>9</sup> K.A. Kitchen, "Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I): The Historical Chronology of Ancient Egypt, a Current Assessment," *SCIEM II* (2000) 50. The dates are all one year earlier than those tabled as "Preferred Dates" in *TIP*, 465.



*Reconstructed Chronology of the Divided Kingdom*<sup>10</sup> by establishing the chronology of the kings of Israel and Judah. The incentive and focus of this present work is to establish Shoshenq I's 20th year in the chronology of Egyptian kings.

My dates proposed for the 12th Dynasty, and all the reigns of the 18th–20th Dynasties, are buttressed by the agreement of lunar and Sothic dates in the Julian calendar, assisted by Casperson's lunar tables. I have shown in the previous chapter that the 20th Dynasty ended in 1122 BCE. The beginning of the 22nd Dynasty under Shoshenq I is 998/997 BCE—a base date for the synchronism between Shoshenq I's 20th year and Rehoboam's fifth in 977 BCE. The 21st Dynasty covers 124 years, as shown in Table 34.2.

**Table 34.2: 21st Dynasty Tanite kings**

King	Regnal Yrs	Dates reigned	Lunar anchor points
Smendes		1122 to ?	Yr 25, Epiphi feast, III <i>šmw</i> 28 in 1097
Amenemnisu Nephercheres			Yr 4, Amun feast, new moon I <i>3ht</i> 1 in 1092
Psusennes I			None known
Amenemope Amenophthis			None known
Osorchor the Elder			Yr 2, induction of Nespaneferhor on new moon I <i>šmw</i> 20 in 1032.
Siamun Psinaches			Yr 17, induction of Hori on new moon I <i>šmw</i> 4 in 1011 (Jan. 1).
Psusennes II		? to 998/997	Yr 3, induction of Nesankhefenmaat, 2 days after new moon I <i>šmw</i> 13 in 1009; Yr 13, induction of a priest on new moon III <i>pṛt</i> 10 +[x] = 14th in 999; (Sync. Yr 19 Psu. II + Yr 5 Shoshenq I in 994; Yr 5 Shoshenq I, <i>wṛš</i> feast IV <i>pṛt</i> 25–5 days after new moon on IV <i>pṛt</i> 20 in 994)
<b>Total</b>	<b>124</b>	<b>1122–998/997</b>	

I now determine the regnal years of the individual kings. Because of the scarcity of information and the absence of accession dates, the length of each king's reign must be considered approximate, though the new moons attached to regnal years provide anchors for five of the seven reigns.

### Smendes (Hedjkheperre Setepenre)

In the Renaissance period at the end of the 20th Dynasty, a man named Nesbanebdjed, now known as Smendes, rose to power to become governor of Tanis.<sup>11</sup> His wife, Tentamun, was a daughter of Ramesses XI.<sup>12</sup> Smendes is featured in the “Report of Wenamun” dated to year five of the *wḥm-mswt* (Renaissance era), which equates to the 23rd year of Ramesses XI in 1127 BCE. Having buried Ramesses XI in his 29th regnal year, Smendes became king and began a new dynasty with its capital at Tanis. There was intermarriage between the branches of the families at Tanis and Thebes. However, tensions and rivalries were ever-present.

By the time of Smendes's 25th regnal year, rebellion had broken out at Thebes. The Banishment Stela of Menkheperre records how the king dealt with this revolt. The name of the king is not given, but most scholars conclude that it refers to the reign of Smendes. After Smendes's death, Amenemnisu assumed the throne. From dates mentioned on this stela, the reigns of these two kings may be dated.

<sup>10</sup> M.C. Tetley, *The Reconstructed Chronology of the Divided Kingdom* (Winona Lake, IN: Eisenbrauns, 2005).

<sup>11</sup> *Idem*, *TIP*, 8 §5.

<sup>12</sup> *Ibid.*, 49 §42.

**Banishment Stela: Epiphi Feast on III šmw 29 in Year 25**

The text of the Banishment Stela is similar to the Epiphi feast in the 25th year of the reign of Ramesses XI on III šmw 28 (previously discussed in chapter 33), which is mentioned in the Karnak oracle inscription. Line 1 of the Banishment Stela of Menkheperre reads in part, “Year 25, third month of the third season, day 29, corresponding to the feast of Amon-Re, king of the gods at his [beautiful] feast [of Epiphi...].”<sup>13</sup>

The text continues in line 4, referring to year 25, dated to I 3ht 4 or 5,<sup>14</sup> when Amun summons Menkheperre to Thebes. In line 7, Menkheperre arrives at Thebes, and, in line 8, Amun appears in a procession and establishes Menkheperre on the throne of his father as High Priest and Commander-in-Chief of the armies of Upper and Lower Egypt. Menkheperre put down opposition led by an unnamed foe and banished the leaders to the western oases.<sup>15</sup>

Referring back to line 1, the name of the feast is broken away, but Epiphi has been assumed by scholars since the feast fell in the third month of šmw. I noted in chapter 33, in the reign of Ramesses X, that the Epiphi feast included the day IV šmw 2, and in the reign of Ramesses XI the date of III šmw 28. Here, in the reign of Smendes, the date is III šmw 29, and the feast would have continued into IV šmw. The dates were associated with a new moon at the beginning of IV šmw. Consequently, we would expect to find in Smendes’s 25th year a new moon near the beginning of IV šmw. If Smendes’s first year was 1122 BCE, his 25th year would fall in 1097 or 1096 BCE. Casperson’s table (Table 34.3) shows that a new moon fell on IV šmw 2 in –1096 (1097 BCE), three days after the date recorded for the feast.

**Table 34.3: Smendes’s 25th year in –1096 (new moon listing for –1096)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1096	3	21	-1096	3	11	1685	11	2	3	19:27	6:11	270	6:10	141	6:09	69
<b>Epiphi feast date falls on III šmw 29; new moon on IV šmw 2</b>																
-1096	4	20	-1096	4	10	1685	12	2	5	7:22	5:43	207	5:42	102	5:41	29
-1096	5	19	-1096	5	9	1685	13	1	6	17:06	5:19	314	5:18	144	5:17	48

DoW = day of week; ToD = time of day.

Showing that the reported Epiphi feast occurred in 1097, Smendes’s 25th year, the table confirms that Smendes’s reign began in 1122 BCE, thus also the final year for the end of the reign of Ramesses XI and the 20th Dynasty.

**Amenemnisu\Nephercheres (Neferkare)**

The existence of Nephercheres, referred to by Manetho, was not attested until two gold bow-caps were found in the tomb of Psusennes [I] with twin cartouches of

<sup>13</sup> R. Krauss, *Sothis- und Monddaten, Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 151; A.J. Spalinger, in “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; Alter Orient und Altes Testament; Münster: Ugarit, 2002) 393, has given the regnal year as 23 when it should be 25. The “5” is usually written as five vertical strokes but in lines 1 and 4 are written as a short horizontal stroke adjoining the top right of a vertical stroke; J. von Beckerath, “Die ‘Stele der Verbannten’ im Museum des Louvre,” *Rd’É* 20 (1968) 10.

<sup>14</sup> Von Beckerath, “Die ‘Stele der Verbannten,’” 9, 33.

<sup>15</sup> Kitchen, *TIP*, 260 §217; José Lull, “Beginning and End of the High Priest of Amun Menkheperre,” *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st–24th Dynasties: Proceedings of a Conference at Leiden University, 25–27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, O.E. Kaper; Leiden: NINO, 2009) 241-43.

Psusennes' name and that of another King of Upper and Lower Egypt, Neferkare, having the prenomen of Amenemnisu.<sup>16</sup>

Manetho places Nephhercheres as the *third* king of the 21st Dynasty at Tanis, and assigns him four years. However, the Berlin genealogical table puts him as the successor of Smendes.<sup>17</sup> In 1994, von Beckerath argued that a year 49 followed by a year four found on a mummy bandage from Deir el-Bahri (Papyrus Brooklyn 16.205) should be assigned to Psusennes I and Amenemope, and not, as previously, to Shoshenq III and Pimay (Pami) of the 22nd Dynasty. The grounds stated were that “it is unlikely that private persons from Upper Egypt [would] refer to this late year of Shoshenq III.”<sup>18</sup>

The association of the bandage with Psusennes I and Amenemope was confirmed by the discovery of a hitherto unknown Shoshenq IV who reigned about 12–13 years after the 39th year of Shoshenq III.<sup>19</sup> The 49 years could not have belonged to Shoshenq III and are attributed instead to Psusennes I with the year four to Amenemope. Thus, Amenemnisu must have preceded Psusennes I since he did not come between Psusennes I and Amenemope.

Line 7 of the above-mentioned Banishment Stela continues into line 8. The end of line 8 is broken away and unfortunately so, because it contained a *regnal year*. Von Beckerath is of the opinion that there could only be enough space for a small number, and suggests one to five.<sup>20</sup> If this is so it must refer to the reign of Smendes's successor, and Kitchen comments, “This low regnal figure would, perforce, belong to a successor of Smendes I—and preferably to a date as soon as possible after his 25th year. This consideration would favour Amenemnisu rather than Psusennes I, as the king in whose reign the final oracle was given and the stela erected.”<sup>21</sup>

Line 9, which follows the missing regnal year in line 8, was translated by Henry Breasted, as rendered here, but it is unfortunate that Breasted fails to indicate that a regnal year is missing at the beginning of this section:

[Now after] the fourth month of the third season, on the fifth day of the (feast), “Birth of Isis”, corresponding to the feast of Amon at the New Year, the majesty of this august god, lord of gods, Amon-Re, king of gods, appeared (in procession), came to the great halls of the house of Amon, and rested before the [enclosure wall] of Amon. The High Priest of Amon-Re, king of gods, commander in chief of the army, Menkheperre, triumphant, went to him and praised him exceedingly, exceedingly, many times...<sup>22</sup>

From this we see that in the reign of Smendes's successor, understood to be Amenemnisu, an Amun feast had its fifth day on New Year's day, I *3ht* 1. The feast must have started on the second epagomenal in the reign of Amenemnisu for the fifth day to fall on New Year's Day.

Manetho credits Smendes with a reign of 26 years; thus, we would expect another year between Smendes 25th year and the accession of Amenemnisu. With Smendes' 25th year dated to –1096, his last and Amenemnisus' first year will have fallen

<sup>16</sup> Ibid., 69 §56.

<sup>17</sup> E. F. Wente, “On the Chronology of the Twenty-First Dynasty,” *JNES* 26 (1967) 155-56.

<sup>18</sup> J. von Beckerath, “Zur Datierung des papyrus Brooklyn 16.205,” *GM* 140 (1994) 15-17.

<sup>19</sup> Kitchen, *TIP*, xxvi. See further under 22nd Dynasty.

<sup>20</sup> Von Beckerath, “Die ‘Stele der Verbannten’,” 17, 8*d* and 33, n. 2.

<sup>21</sup> Kitchen, *TIP*, 261 §218 n. 103, 15 §12.

<sup>22</sup> “Stela of the Banishment of Menkheperre,” <http://www.specialtyinterests.net/maunier.html> citing J. Breasted, *Records Ancient Records of Egypt: Historical Documents from the Earliest Times to the Persian Conquest* (1907) Vol. IV; von Beckerath, “Die ‘Stele der Verbannten’,” 9-14; Kitchen, *TIP*, 260-61 §§217-18. The result of Menkheperre's praise of Amun was that he found favor with Amun and obtained his permission for the return of the exiles.

on –1095. Four years later, Amenemnisu’s fourth year would have fallen in –1091 (see Table 34.4). Thus, the amnesty referred to on the Banishment Stela occurred in one of the years –1095 to –1091.

**Table 34.4: Amenemnisu’s fourth year in –1091 (new moon listing for –1091)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-1091	4	24	-1091	4	14	1690	12	7	1	10:16	5:40	238	5:39	67	5:38	-17
<b>In Amenemnisu’s fourth year, a new moon fell on the fifth day of the Amun feast on I 3<sup>ht</sup> 1</b>																
-1091	5	23	-1091	5	13	1691	1	1	2	19:45	5:16	366	5:15	110	5:15	11
-1091	6	22	-1091	6	12	1691	2	1	4	7:03	5:00	190	5:00	65	5:00	-19

DoW = day of week; ToD = time of day.

Casperson’s table for –1091 (Table 34.4) shows that a new moon fell on I 3<sup>ht</sup> 1 at the beginning of a new 25-year lunar cycle, indicating that the feast began on the second epagomenal day. The missing regnal year number in line 8 of the Banishment Stela can be restored to year four and to the reign of Amenemnisu.<sup>23</sup> His first year can be confirmed as 1096 BCE—the 26th and final year of his predecessor, Smendes.

Apart from the identification of Amenemnisu as the king who followed Smendes and in whose fourth year the High Priest Menkheperre was able to bring back exiles banished to the western oasis, very little is known about Amenemnisu.<sup>24</sup> The four years given to him (i.e. Nephhercheres) by Manetho is the only other indication of his reign.

### Psusennes I and Amenemope (Amenophthis in *Manetho*)

Psusennes I’s mother was Henuttawy, the daughter of Ramesses XI and Tentamun. His father was the High Priest Pinudjem I. His wife, Mutnedjmet, was likely his full sister.<sup>25</sup> Amenemope was the son of Psusennes I and Mutnedjmet.<sup>26</sup>

Psusennes I has no known accession date. As noted above, a year 49 followed by a year four on Papyrus Brooklyn 16.205 previously assigned to Shoshenq III and Pimay are now assigned by scholars to the reigns of Psusennes I and Amenemope. Amenemope’s highest attested year, according to Jansen-Winkeln is his fifth with a year 10 that might be his or Siamun’s (penultimate king of the 21st Dynasty).<sup>27</sup>

### *Manetho’s numbers*

Africanus gives Psusennes I a reign of 46 years while Eusebius and the Armenian attribute him 41 years. The possibility of a co-regency between Psusennes I and Amenemope has been suggested by Kitchen on the basis of a fragment of a mummy bandage found at Deir el-Bahri. Kitchen states, “Daressy read: ‘King of Upper & Lower Egypt, Amenemope: Regnal Year 49’.”<sup>28</sup> However, Kitchen renders the bandage in keeping with the wording on other bandages to be understood as “part of a now

<sup>23</sup> Jansen-Winkeln proposed that the High Priests may have had their own regnal year dating system and that the missing date in the Banishment Stela is the first year of the High Priest Menkheperre who granted an amnesty on New Year’s Day to mark the transition from his father, Pinudjem, to himself as High Priest (“Dynasty 21,” 229-31 and n. 73). Kitchen rebuts this, pointing out that there is no evidence that any but actual kings ever used regnal datings, and even the possible exception of the year 48 of Menkheperre on a linen bandage in all likelihood dates from Psusennes I’s 48th year (*TIP*, xvii, 420 §387:46). See also, Lull, “Beginning and End of the High Priest of Amun Menkheperre,” 245-46.

<sup>24</sup> Kitchen, *TIP*, 69-71 §56, 261 §218.

<sup>25</sup> *Ibid.*, 49 §42, 264 §221.

<sup>26</sup> P. Clayton, *Chronicle of the Pharaohs* (London: Thames and Hudson, 1994) 178.

<sup>27</sup> Jansen-Winkeln, “Dynasty 21,” 227, citing Kitchen, *TIP*, 421 §388:55.

<sup>28</sup> Kitchen, *TIP*, 24 §22.

incomplete legend: ‘[Year x of] King Amenemope; Year 49 [of King Psusennes I]’, or the like.”<sup>29</sup>

Kitchen suggests the following as the original text: “[Year 3 of] King Amenemope; Year 49 [of King Psusennes I]; linen made by the high priest of Amun, Smendes II son of Menkheperre for his lord Amun].” He continues, “This scheme would fit exactly the known structure of bandage-epigraphs.”<sup>30</sup> On Kitchen’s understanding, the bandage implies that the 49th year of Psusennes I, the year of his death, was the third year of the reign of Amenemope. However, this is a different reading from that given by Daressy whom Kitchen quotes. In the 12th Dynasty, we noted that the period of co-regency is attributed to the incumbent, not the older king, which is the opposite of what Kitchen is suggesting.

In this papyrus, Papyrus Brooklyn 16.205, year 49 followed by a year four may indicate the fourth year of Amenemope’s *sole* reign, coming four years after the death of Psusennes I. Amenemope is given nine years by Manetho.

Following the four years for Amenemnisu, we come to Psusennes I with either 49 sole-reign years or 46 years followed by a three-year co-regency with Amenemope (assuming such a co-regency occurred), and then Amenemope with nine sole years, and Osochor’s second year, for a total of approximately 59 years or 56 years. These parameters guide the further investigation.

### **Osochor (the Elder) and Siamun (Psinaches in *Manetho*)**

Amenemope apparently died childless<sup>31</sup> and was succeeded by Osochor, as named by Manetho. Manetho’s Osochor is often called “Osorkon the Elder,” to differentiate him from the Osorkons known from the 22nd and 23rd Dynasties, to avoid having to renumber them and create confusion.<sup>32</sup> His relationship to Amenemope is unattested. Manetho gives to Osochor a reign of six years coming between Amenophthis (Amenemope) and Psinanaches (understood to be Siamun). His existence was unattested until 1963 when Eric Young proposed that a king named Akheperre Setepenre was different from the king Akheperre Setapenamun, that is, Psusennes I, with whom the former name had been associated.

### **High Priest Inductions**

Young had noticed that in the Karnak Priestly Annals, fragment 3B, lines 1–3, mentions the induction of Nespaneferhor in the reign of Akheperre Setepenre in year two on I *šmw* 20.<sup>33</sup> And the same fragment, in lines 3–5, records that in year 17 of Siamun, Hori, the son of Nespaneferhor, was inducted on I *šmw* 1[?] with part of the day-number missing.<sup>34</sup> Young noted that the induction of father and son must be a generation apart, about 20–30 years, with both being young men at the time because they were inducted into office at the beginning of their respective careers.<sup>35</sup>

That the two inducted high priests were father and son shows that Akheperre Setepenre must have preceded Siamun and could not have been Psusennes I with the prenomen Akheperre Setapenamun who would have reigned much earlier.

<sup>29</sup> Ibid., 29 §25.

<sup>30</sup> Ibid., 33 §29; see also 29 §25, 411-16 §§ 371-77, 531 §432.

<sup>31</sup> Ibid., 574 §505.

<sup>32</sup> Ibid., 573 §505.

<sup>33</sup> Young, “Some Notes on the Chronology,” 99-101; Kitchen, *TIP*, 422 §388:56.

<sup>34</sup> Ibid., 100; see also Kitchen, *TIP*, 423 §390:83.

<sup>35</sup> Ibid.

Young identified the Akheperre Setepenre of lines 1–3 with Manetho’s Osochor, and the Siamun in lines 3–5 with Manetho’s Psinachés.<sup>36</sup> The identification of Akheperre Setepenre as Manetho’s Osorchor was confirmed by Jean Yoyotte in 1976–1977. He noted that a Libyan king by the name of Osorkon was the son of Shoshenq A and a Lady Metenweshket who was given the title “King’s Mother” in a genealogical document.

Since no other King Osorkon had a mother known as Metenweshket, her son was identified as Manetho’s Osochor. Metenweshket was also the grandmother of Shoshenq I, first king of the 22nd Dynasty, for his father was her son Nimlot A, “Great Chief of the Meshwesh.”<sup>37</sup>

Also referring to year 17 from the reign of Siamun is a date found on a graffito at Abydos where the day date is 10 +[x],<sup>38</sup> showing that the day was numbered from 11 to 19. However, there is no indication what this date was referring to, so it need not be a lunar date.

Krauss notes that the induction dates of Nespaneferhor and his son, Hori, are in I šmw indicating a *Tepi Shemu* feast day, that is, a feast day on or near the first day of the lunar month falling in the civil month of I šmw.<sup>39</sup> I šmw 20 in the second year of Osorchor should be followed a generation later in the 17th year of Siamun with a date also I šmw and an early day-date.

For Osochor’s second year, we may look for a new moon falling on or near I šmw 20 about 56 or 59 years after the date of Amenemnisu’s fourth year in 1092, thus in 1036/35 or 1033/32 depending on the length of final years. Taking the period from –1035 to –1030 into account, I see that a new moon did not fall on 1035, but it did occur on I šmw 20 equated to 22 January in –1031 (1032 BCE) as Caspersen’s Table 34.5 shows.

**Table 34.5: Years for locating I šmw 20 in years –1035 to –1030 for induction of Nespaneferhor (new moon listing from –1035 to –1030)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2		-1		0	
-1035	1	7	-1035	12	28	1746	9	4	6	16:06	7:01	232	7:01	133	7:01	51
-1035	2	6	-1035	1	27	1746	10	4	1	8:49	6:48	195	6:47	94	6:46	16
-1034	1	26	-1034	1	16	1747	9	23	5	10:46	6:55	190	6:54	93	6:53	17
-1034	2	25	-1034	2	15	1747	10	23	7	4:19	6:33	139	6:32	50	6:31	-19
-1033	1	15	-1033	1	5	1748	9	12	2	10:35	6:59	202	6:59	97	6:59	13
-1033	2	14	-1033	2	4	1748	10	12	4	4:35	6:42	138	6:41	47	6:41	-23
-1032	1	4	-1032	12	25	1749	9	1	6	15:29	7:01	271	7:01	133	7:01	30
-1032	2	3	-1032	1	24	1749	10	1	1	6:25	6:50	171	6:49	59	6:49	-21
<b>-1031</b>	<b>1</b>	<b>22</b>	-1031	1	12	1750	<b>9</b>	<b>20</b>	5	14:60	6:56	299	6:56	113	6:55	<b>8</b>
-1031	2	21	-1031	2	11	1750	10	20	7	3:07	6:36	141	6:35	29	6:34	-44
-1030	1	12	-1030	1	2	1751	9	10	3	5:19	7:00	232	7:00	77	7:00	-30
-1030	2	10	-1030	1	31	1751	10	9	4	15:10	6:45	348	6:44	95	6:43	-6

DoW = day of week; ToD = time of day.

<sup>36</sup> Ibid., 101.

<sup>37</sup> J. Yoyotte, “Osorkon fils de Mehytouskhé: Un pharaon oublié?” *Bulletin de la Société française d’égyptologie*, 77-78 (1976-77) 39-54 cited in “Osorkon the Elder,”

[http://en.wikipedia.org/wiki/Osorkon\\_the\\_Elder](http://en.wikipedia.org/wiki/Osorkon_the_Elder)

<sup>38</sup> Young, “Some Notes on the Chronology,” 99-101; Kitchen, *TIP*, 423 §390:83-84.

<sup>39</sup> R. Krauss, “Lunar Dates,” *AEC*, 412-43. He references this to Kruchten, *Annales*, 45-48.

Coming on the first lunar day, the date satisfies Krauss's criterion for a *Tepi Shemu* feast day. This date falls in January 1032, Osochor's second year, so his accession year can be dated to 1034/1033 BCE. Thus, there were 58–59 years from the fourth year of Amenemnisu in 1092 to 1034/1033 and 49 years to be distributed to Psusennes I followed by 9 years for the reign of Amenemope with probably months to be added to the rounded down figures.

The dates prove that Psusennes I and Amenemope did not have a three-year co-regency (or any co-regency) and that the Papyrus Brooklyn 16.205, having a year 49 followed by a year four, was indicating the sole reign years of Psusennes I after which it recorded a year four in the reign of Amenemope.

Kitchen's rendering of the bandage fragment as "[Year 3 of] King Amenemope; Year 49 [of King Psusennes I]" on which the idea of the co-regency gained acceptance, is unwarranted.<sup>40</sup>

### Siamun

As noted above, Hori, son of Nespaneferhor, was inducted on I *šmw* 1[?] in Siamun's 17th year.<sup>41</sup> The day date is uncertain. If Osochor reigned six years as given by Manetho, dying ca. 1028 BCE, Siamun's 17th year fell ca. 1011 (–1010). Casperson provides Table 34.6, showing that a new moon fell on I *šmw* 4, which could be the date that is now damaged in the text.

**Table 34.6: Siamun's 17th year in –1010 (new moon listing from –1011 to –1010)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1011	12	3	–1011	11	23	1771	8	5	2	3:22	6:42	184	6:42	80	6:43	–22
<b>–1010</b>	<b>1</b>	<b>1</b>	–1011	12	22	1771	<b>9</b>	<b>4</b>	3	18:28	6:49	282	6:49	138	6:49	<b>28</b>
–1010	1	31	–1010	1	21	1771	10	4	5	6:42	6:41	208	6:41	65	6:40	–29

DoW = day of week; ToD = time of day.

Since this date equates to 1 January, Siamun's 17th year must have started in –1011 (unless I *šmw* 4 was also his accession date). Because Osochor is attributed six regnal years by Manetho and his second year fell in –1031,<sup>42</sup> it agrees with Siamun's 17th year in –1010 (1011 BCE).

Scholars have invariably attributed to Siamun a reign of 19 years based on the 9 years given by Manetho, understood to have dropped 10 years from his reign, since his 17th year is known. However, there is no attestation for Siamun having reigned 19 years. The following reconstruction of the regnal years of his successor, Psusennes II, having two lunar dates for the inductions of two priests, as well as dates for his successor, Shoshenq I, show unequivocally that Siamun reigned only 17 years.

### Siamun and Solomon Dates

Various scholars have identified Siamun as the king of Egypt who captured the Canaanite city of Gezer, slew its inhabitants, and gave it as dowry to King Solomon of Judah for his daughter's marriage (1 Kgs 9:16). Obviously, if Siamun is the unnamed pharaoh mentioned, he must have been contemporary with Solomon.

<sup>40</sup> See Kitchen's comment referenced in footnote 30 above.

<sup>41</sup> Kitchen, *TIP*, 423 §390:83.

<sup>42</sup> Young has proposed that a year 14 in a fragment of the Karnak Priestly Annals also belonged to Osochor, so he must have reigned longer than six years ("Some Notes on the Chronology," 101). However, Kitchen has resolved this by noting that the section in which the number 14 is found refers to a *new* section of the annals (No. 33 line 2) and refers to the reign of Siamun (*TIP*, 11 §7, 423 §390:81).

In my *Reconstructed Chronology of the Divided Kingdom*, Solomon's son, Rehoboam, began to reign in 981, and his father began to reign 40 years earlier (1 Kgs 11:42), from 1021 to 981. The reigns of Siamun and Solomon were contemporaneous for the years 1021–1011 showing that Siamun was the king of Egypt who gave his daughter to Solomon as his wife. Significantly, it shows that the histories of Egypt and Judah/Israel are in accord both with the chronology presented in *The Reconstructed Chronology of the Divided Kingdom* and *The Reconstructed Chronology of the Egyptian Kings*. Following Solomon's death, the divided kingdom period began with separate kings in Judah and Israel in 981 BCE.

### **Psusennes II or Pasenbakenniut (Titkheperure/Tyetskheperre Setepenre)**

The name Psusennes II is now giving way to Pasenbakenniut. Psusennes II was the son of Pinudjem II, a High Priest of Amun, who was grandson to Psusennes I (via Menkheperre and Istemkeb C). That made Psusennes II the great-grandson of Psusennes I.

This lineage gave Psusennes II a greater claim to the throne than his contemporary, Shoshenq [I], who was a nephew of Osorchor the Elder.<sup>43</sup> Shoshenq's father, Nimlot, and his brother, Osorchor the Elder, were both sons of the Lady Mehtenweskheth ("King's mother") inferred from now lost inscriptions from the Temple of Khons at Karnak.<sup>44</sup>

Psusennes II succeeded Siamun. Psusennes II is identified as Titkheperure/Tyetskheperre Setepenre, given along with his titles as High Priest of Amun-Re-Sonter and Army Leader Psusennes Meriamun on a graffito found in the Temple of Abydos.<sup>45</sup> His name, without further titles, is also found on an Abydene potsherd from Umm el-Ga'ab. Following an oracle of Amun at Thebes, a graffito was written to commemorate the occasion of the visit of "The Great chief of the Ma;" that is, the future Shoshenq I, and King Psusennes II for "the inauguration of the statue-cult of Shoshenq's father Nimlot."<sup>46</sup> That this king could bear the titles of both King and High Priest "is indicated by a cane-top of the former Saurma collection."<sup>47</sup> This king is also known as Hor-Psusennes because of the element in his nomen: Hor-Pasebakhaenniut.<sup>48</sup>

Psusennes II is given 14 years by Africanus, and 35 years by Eusebius and the Armenian version (thought to be in error for 15 years). Psusennes II has no known accession date. However, we can narrow it down by applying other dated information to his reign.

### **Karnak Priestly Annals Regarding Psusennes II and a High Priest Induction**

In 2008, Frédéric Payraudeau published a recently discovered fragment of the Karnak Priestly Annals.<sup>49</sup> It has been designated as Block Karnak 94, CL 2149, and records that a priest named Nesankhefenmaat was inducted into the chapel of Amun-Re in Karnak on I šmw 13 in year 11 (or possibly year three) of a king Psusennes. This Psusennes can be identified with Psusennes II because the preceding line of the text records the induction of Nesamun, Nesankhefenmaat's father, into the same priesthood

<sup>43</sup> Kitchen, *TIP*, xxi-xxii.

<sup>44</sup> *Ibid.*, 534-35 §437.

<sup>45</sup> A. Dodson, "Psusennes II," *Rd'É* 38 (1987) 49-51.

<sup>46</sup> Kitchen, *TIP*, xxi.

<sup>47</sup> *Ibid.*, xxi.

<sup>48</sup> Dodson, "Psusennes II," 49 n. 2.

<sup>49</sup> F. Payraudeau, De nouvelles annals sacerdotales de Siamon, psousennès II et osorkon Ier., *BIFAO* 108 (2008) 294; cited in "Psusennes II," [http://en.wikipedia.org/wiki/Psusennes\\_II](http://en.wikipedia.org/wiki/Psusennes_II)



in the reign of Siamun (no date given). Then in the succeeding line, Hor, the son of Nesankhefenmaat (distinguished from earlier HP Hori, son of Nespamerhor) was similarly inducted on II *3ht* 14 in year two or three of a king whose name is damaged but attributed to Oso[r]k[on] I.<sup>50</sup>

It is notable that three generations of priests cover the reigns of the four kings: Siamun, Psusennes II, Shoshenq I, and Osorkon I. Shoshenq I is not mentioned as having a priest inducted in his reign. According to Dodson, if a priest took up office in the end years of the reign of Psusennes II, he could encompass the 21-year reign of Shoshenq I and die or resign early in the reign of Osorkon I.<sup>51</sup> This would mean that Hor's induction took place more than a generation after his father's. Dodson says that the name of the king is "almost certainly to be read as Osorkon," and, "that the latter two kings are Pasebkhanut II and Osorkon I is difficult to doubt."<sup>52</sup>

But the length of Shoshenq I's reign is controversial (which I discuss extensively in chapter 36), some scholars attributing to him a much longer reign than 21 years, which would make the priestly service of Hor quite long.

In addition to the dates given above for Psusennes II and Osorkon I, another Karnak Priestly Annals' fragment, 3B line 6, refers to an induction in a year 13 III *pri* 10+[x], which comes after Siamun (mentioned in line 3) and most likely refers to the reign of Psusennes II.<sup>53</sup>

### Inductions Held on a New Moon

Previously, I noted that the dates of the Karnak Priestly Annals that were attributed to the induction of two priests fell on the new moon: Nespamerhor in the reign of Osorkon and his son Hori in the reign of Siamun. Krauss followed Vernus and Kruchten in asserting that inductions in the month of I *šmw* took place at a feast lasting five days from lunar day one.<sup>54</sup> Therefore, the above two dates of inductions in the reign of Psusennes II may also apply to new moons: year 11 (or possibly 3)<sup>55</sup> on I *šmw* 13, and year 13 on III *pri* 10+[x].

I have already dated Hori's earlier induction in Siamun's 17th year to the date of -1010 (1011 BCE). See Table 34.6. If it is conjectured that Siamun reigned 19 years, I would expect that Psusennes II's 11th year would fall about -998 or -997 (see Table 34.7). What are the implications?

**Table 34.7: Psusennes II's 11th or 13th year -998? (new moon listing from -998 to -997)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-998	10	10	-998	10	1	1784	6	14	6	18:41	6:04	309	6:05	188	6:06	66
<b>-998</b>	<b>11</b>	<b>9</b>	-998	10	31	1784	<b>7</b>	<b>14</b>	1	5:60	6:27	238	6:28	121	6:28	<b>3</b>
-998	12	8	-998	11	29	1784	8	13	2	18:58	6:44	289	6:44	175	6:45	67
<b>-997</b>	<b>1</b>	<b>7</b>	-998	12	29	1784	<b>9</b>	<b>13</b>	4	9:47	6:49	227	6:49	119	6:48	<b>25</b>
-997	2	6	-997	1	28	1784	10	13	6	2:06	6:38	163	6:38	67	6:37	-14

DoW = day of week; ToD = time of day.

<sup>50</sup> Frederic Payraudeau, "De nouvelles annales sacerdotales de Siamon, psousennès II et osorkon Ier.," *BIFAO* 108 (2008) 294; cited in A. Dodson, "The Transition Between the 21st and 22nd Dynasties Revisited," *Libyan Period*, 103; see "Psusennes II," [http://en.wikipedia.org/wiki/Psusennes\\_II](http://en.wikipedia.org/wiki/Psusennes_II)

<sup>51</sup> Dodson, "Transition," 103.

<sup>52</sup> Ibid., 103. Psusennes II is now known also as Pasebkhanut II.

<sup>53</sup> Kitchen, *TIP*, 423 §391:86; see also 284 §238 and n. 240, 13 §10.

<sup>54</sup> Krauss, "Lunar Dates," 408-9.

<sup>55</sup> Cited by Dodson, "Transition," 103, whereas this alternative regnal year is not cited in "Psusennes II," [http://en.wikipedia.org/wiki/Psusennes\\_II](http://en.wikipedia.org/wiki/Psusennes_II)

Table 34.7 shows a new moon falling in 997 (7 January in the Julian calendar and 29 December 998 in the Gregorian calendar) being I *šmw* 13 (9 13) by Egyptian reckoning, which might support a reference to Psusennes II’s 11th year. However, if the induction is that of a king, then it must be noted that the year 997 BCE is postulated throughout this book as the date of commencement of the reign of Shoshenq I (with 977 BCE being his 20th year). Nevertheless, there is another date for the 13th year of Psusennes II, based on other considerations, which I now explain.

**Psusennes II’s 13th Year is 998 BCE**

The Karnak Priestly Annals gives a date of III *prt* 10 + [x] in year 13 of a king who came after Siamun, therefore Psusennes II or possibly Shoshenq I.<sup>56</sup> A year 13 of Psusennes II dating from Siamun’s 17th year in –1010 places the High Priest’s induction date ca. –998/–997. Casperson’s Table 34.7 shows that a new moon fell on III *prt* 14 (7 14) in –998, which could be the original date for the induction, of which now only the ten-sign is legible. This date agrees with his 14th year being Psusennes’ last before Shoshenq I’s reign began in –997. However, the 11th year date of I *šmw* 13 cannot also fall in –998! For this date there was an alternative of the year three for Psusennes II so we turn to that now. Again giving to Siamun 17 years, Psusennes II’s third regnal year should apply to the year –1009 or –1008 (see Table 34.8).

**Table 34.8: Psusennes II’s third year in –1009 to –1008 (new moon listing at turn of the year –1009 to –1008)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–1009	12	10	–1009	11	30	1773	8	12	4	23:39	6:45	268	6:45	151	6:45	50
<b>–1008</b>	<b>1</b>	<b>9</b>	–1009	12	30	1773	<b>9</b>	<b>12</b>	6	18:51	6:49	237	6:48	109	6:48	<b>18</b>
–1008	2	8	–1008	1	29	1773	10	12	1	12:28	6:37	186	6:37	74	6:36	0

DoW = day of week; ToD = time of day.

The new moon fell on I *šmw* 12, so the date of I *šmw* 13 was the next day, and applicable to a feast coming within five days of a new moon. It is also possible that the induction of Nesankhefenmaat was thought (by the Egyptians taking part) to have occurred on the new moon—as with the previous dates noted above—which it may have done since Table 34.8 shows, with the 109 visibility, that the moon would not have been far from being invisible.

The 17th year of Siamun includes the date of I *šmw* 4 (induction of Hori, son of Nespamerhor), which equates to 1 January in 1011 BCE, and the third year of Psusennes II includes the date of I *šmw* 13 (induction of Nesankhefenmaat, son of Nesamun), which equates to 9 January in 1009 BCE. These dates are separated by two years and eight days which indicates that the changeover of regnal years fell between I *šmw* 4 and I *šmw* 13 when Siamun died and Psusennes II ascended the throne.

By assigning the induction of Nesankhefenmaat to year three of Psusennes II instead of year 11 of –997 (998 BCE), the problem of having year 11 in the same year as year 13 no longer pertains.<sup>57</sup> These dates and a confirming one in year five of Shoshenq I that fell in –992 makes it certain that Siamun reigned only 17 years, not 19.

The question arises why Manetho attributed nine years to Siamun (called Psinaches) if he reigned 17 years. I suggest that nine seen in hieroglyphs as nine vertical

<sup>56</sup> Kitchen, *TIP*, 423 §391:86.

<sup>57</sup> The assertion that the first conclusive date for king Psusennes II is revealed on the Block Karnak 94, CL 2149 for Year 11 and the date of I *šmw* 13 is incorrect ([http://en.wikipedia.org/wiki/Psusennes\\_II](http://en.wikipedia.org/wiki/Psusennes_II)) as it rightly applies to year 3, and the date of 10 January, 1009 BCE.

strokes was originally a ten-sign followed by seven strokes. The two uprights of the ten-sign without the top, which joins them, were counted as two strokes. Thus, 17 was seen as 9 (or some other combination incorporating a ten-sign and seven strokes). See Figure 34.1.

∩ original becomes				
		original becomes		
		original becomes		

**Figure 34.1:** Possible explanation of discrepant numbering

Similarly, the year 11 or year three attributed to Psusennes II from Block Karnak 94, CL 2149, apparently unclear, is seen now to be year three. This suggests that three vertical strokes were thought to be one ten-sign plus two vertical strokes originally joined at the top to give the number 11, thus ||| was read as | ∩. The same type of damage may be attributed to Osorkon I of the 22nd Dynasty, where his 30th year jubilee, which would have been engraved as three ten-signs ∩∩∩, has been read as 22: || ∩∩ (other examples are cited in chapter 36).

### A Co-regency between Psusennes II and Shoshenq I

Discussion has centered on whether Psusennes II is the same as a Psusennes III who was a High Priest of Amun, and after the death of his father Pinudjem II, succeeded him into office in the 10th year of Siamun.<sup>58</sup> The *High Priest* Psusennes is associated with a year five (or four) and a year 12 on bandage-epigraphs from Theban mummies.<sup>59</sup>

Kitchen attributes the year 12 to Siamun, and the year five to Psusennes II.<sup>60</sup> This *presents the problem* of a High Priest having a regnal year, which is unprecedented. (The year 48 of the high priest Menkheperre almost certainly refers to the regnal years of Psusennes I). See footnote 23 on this.

Most scholars accept the view that Psusennes II is the same as the High Priest Psusennes III who was inducted in Siamun's 10th year. On the death of Siamun he then combined the offices of High Priest at Thebes and King at Tanis reigning over the whole realm as indicated by the graffito from Abydos, which was mentioned earlier.<sup>61</sup>

Kitchen explains the year five on the mummy bandage fragment referring to the Psusennes as the High Priest of Amun as the title by which the Thebans knew him while at the same time being in his fifth regnal year as king at Tanis.<sup>62</sup> Kitchen quoted from Karnak Priestly Annal fragment four, "Regnal Year 2, 3rd month of Akhet, day 17, of the Great Chief of the Mā, Shoshe(n)q justified," and mentioned a throw-stick determinative-sign added to his name as for an alien, and no cartouches or pharaonic titles.<sup>63</sup> Apparently the Thebans did not initially recognize Shoshenq I as the new ruler, "But from Year 5 onwards, even reluctant Thebes acknowledged him officially as full pharaoh."<sup>64</sup>

Dodson doubted this attribution, and in 2009 suggested that there may have been a co-regency between Psusennes II and Shoshenq I.<sup>65</sup> Referring to the same Karnak

<sup>58</sup> Kitchen, *TIP*, 78 §62.

<sup>59</sup> Dodson, "Transition," 104-8.

<sup>60</sup> Kitchen, *TIP*, xix.

<sup>61</sup> See p. 476.

<sup>62</sup> *Ibid.*, xxii.

<sup>63</sup> *Ibid.*, 288 §242.

<sup>64</sup> *Ibid.*, 288 §242.

<sup>65</sup> In 1987 Dodson suggested that Psusennes II may have been High Priest and "shadow-king" of Shoshenq I, with the latter being the direct successor of Siamun ("Psusennes II," *Rd'É* 38 [1987] 49-54).

Priestly Annal Fragment 4b, he proposes that Shoshenq I would be insulted by the use of his “Chief of the Ma” title if he was a sole-reign pharaoh and suggests that it may have been, “an exceptional recognition of an exceptional status within another’s reign” and that toward the end of his reign Psusennes II granted Shoshenq I “control over an area that included Thebes.”<sup>66</sup>

How might this year five on the bandage following a year 12 assigned to Siamun be explained? Is there any stronger evidence for a co-regency between Psusennes II and Shoshenq I?

Concerning the chronology, we note that Psusennes II’s 13th year fell in 999 BCE as provided by the priestly induction dates in his third and 13th years. Manetho, via Africanus, attributes 14 years to Psusennes II, which ends his reign in 998 or 997 BCE and thus the date for the accession year of Shoshenq I.

Kitchen assigns Shoshenq I’s 20th regnal year to the fifth year of Rehoboam of Judah when Shoshenq I (biblical Shishak) invaded Israel and Judah as noted in 1 Kgs 14:25–26 and 2 Chr 12:2–5. As determined in my *The Reconstructed Chronology of the Divided Kingdom*, Rehoboam’s fifth year was in 977,<sup>67</sup> so 20 years earlier Shoshenq I’s accession would have fallen in 997 BCE. This date points to Psusennes II having 14 regnal years.

### **Court Dispute Dated to 19th Year of a King Psusennes**

The Larger Dakhla Stela records a court dispute over ownership of land and water rights involving a well in the Dakhla Oasis belonging to Tewhunet, the mother of the claimant, Nysu-Bastet. The land-register is dated to the *19th year* of a Pharaoh Psusennes without identifying whether this was Psusennes I or II.<sup>68</sup>

Most Egyptologists identify him as Psusennes II because Psusennes I’s reign, some 80 years earlier, was thought to be too early to be applicable.<sup>69</sup> A certain Wayheset, a son of a Chief of the Mā, was sent by *Shoshenq I* to restore order.<sup>70</sup> The *same stela* also records a *wereš* (*wrš*) feast and procession of the god Seth dated to IV *prt* 25 in the fifth year of Shoshenq I. This date can be used to determine Shoshenq I’s fifth year.

Krauss notes that, “According to other attestations, *wrš* designates the lunar month and/or a lunar day, possibly day 1.”<sup>71</sup> Thus, he finds it feasible to identify an appropriate year near to a new moon day for the date of the procession. (In his chronology Krauss dates Shoshenq I’s fifth year to 943 BCE *at the latest*” (emphasis his) but only 5 December in 939 BCE matches IV *prt* 25 making his first year “in November 943 BC at the latest, and at the earliest in December 944 BC.”<sup>72</sup>

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In 2006, Kitchen denied a co-regency between Psusennes II and Shoshenq I on the grounds that because the Thebans used Shoshenq I’s regnal year 2 it meant Psusennes II had died and, therefore, they could not date by Psusennes II (“The Strengths and Weaknesses of Egyptian Chronology – A Reconsideration,” *Ä und L* 16 (2006) 302).

<sup>66</sup> Dodson, “Transition,” 108.

<sup>67</sup> M.C. Tetley, *The Reconstructed Chronology of the Divided Kingdom* (Winona Lake, IN: Eisenbrauns, 2005) 178-84.

<sup>68</sup> A.H. Gardiner, “The Large Dakhla Stela,” *JEA* 19 (1930) 19-30, cited by Jansen-Winkel, “Dynasty 21,” 230.

<sup>69</sup> Kitchen (*TIP*, 290 §247) believes that this refers to Psusennes I.

<sup>70</sup> *Ibid.*, 290 §247.

<sup>71</sup> Krauss, “Lunar Dates,” 411. See sources of *wrš* feasts cited in pp. 411-12 and nn. 53-58.

<sup>72</sup> *Ibid.*, 412. This is in conflict with Thiele’s chronology, which places Rehoboam of Judah’s 5th year in 925 BCE, thus the 20th year of Shoshenq I in 945 BCE. This discrepancy causes problems to chronologists working with commonly assumed dates.

According to our chronology, Psusennes II's 14th year fell in 997 so his 19th year fell on 994/993 BCE. If Shoshenq I's first year was in 997, Shoshenq I's fifth year will *also have fallen in 993/992 BCE*.

Casperson's table below (Table 34.9) shows that the *wrš* date of IV *pṛt* 25 fell five days after the new moon on IV *pṛt* 20 in –993 (19 December 19 in 994 BCE). In an Amun feast, it was typical for Amun to appear in a procession four or five days after the new moon, and this appears to be enacted here also with the god Seth.<sup>73</sup> The date of IV *pṛt* 25 falling in Shoshenq I's fifth year, which equates to Psusennes II's 19th year, would add credence to Psusennes II's 14th year and Shoshenq I's first year falling in 997 BCE, assuming a co-regency.

**Table 34.9: Shoshenq I's fifth year *weresh* feast in –993 (new moon listing from –992 to –992)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-993	11	14	-993	11	5	1789	7	20	5	17:47	6:38	236	6:39	139	6:40	43
<b>-993</b>	<b>12</b>	<b>14</b>	-993	12	5	1789	<b>8</b>	<b>20</b>	7	11:43	6:58	215	6:58	105	6:58	<b>6</b>
-992	1	13	-992	1	4	1789	9	20	2	2:49	7:00	162	7:00	47	6:59	-42

DoW = day of week; ToD = time of day.

Most Egyptologists have assumed that the land-title mentioned in the Larger Dakhla stela went back several years to Psusennes II's 19th year before Shoshenq I's reign began. Krauss has assumed that because Psusennes II reigned longer than 14 years, his reign should be emended from 14 years to 24 years.<sup>74</sup> However, the above chronology demonstrates that the Larger Dakhla stela is recording regnal years for two kings in the same year both dated to –993. The two dates coming from the *same document* and the *same year* indicate some sort of a co-regency between Psusennes II and Shoshenq I.

The circumstances prevailing at the end of the 21st Dynasty make this co-regency quite feasible. Apparently, Psusennes II did not have a son to succeed him, and his intended successor was Shoshenq I who was already his Army Commander and who himself had claims to the throne through his father Nimlot A who was the brother of Osorchor "the Elder," grandsons of the Lady Mehtenweskheth who was "King's Mother."<sup>75</sup>

As in most other co-regencies, the younger partner counted his regnal years from the time he was appointed co-regent,<sup>76</sup> thereby giving Psusennes a reign of 14 years.

<sup>73</sup> Kitchen did not want to move Shoshenq I's date of 945 BCE down to 943 BCE on the basis of Krauss's dates for the *weresh* festival, because this would make 945 BCE become Shoshenq I's 18th year and not 20 years before Rehoboam's fifth year in the (assumed) date of 925 BCE supplied by Thiele (*MNHK*). Kitchen wrote, "There is no evidence whatsoever that the *weresh*-feast date of the god Seth on the Dakhleh stela was a lunar feast (no mention of *pesdjentyu*, etc.) rather than an ordinary calendar-feast; hence it should not arbitrarily be so treated, and this imaginary lunar occurrence can be deleted, leaving us with the normal 945 date" (K.A. Kitchen, "The Third Intermediate Period in Egypt: An Overview of Fact and Fiction," *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st–24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* [eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009] 167; also see p. 196). The evidence above shows that the *weresh* feast fell five days after a new moon date and was probably timed by it. This discounts Kitchen's assertion that it had no lunar connection.

<sup>74</sup> R. Krauss, "Das *wrš*-Datum aus Jahr 5 von Shoshenq [I]," *DE* 62 (2005) 43-48.

<sup>75</sup> Kitchen, *TIP*, 535 §437, from Yoyotte, "Osorkon fils," 39–54.

<sup>76</sup> The Nile Level Text 13 equates year 28 of Osorkon III with year 5 of his son Takeloth III. In this instance, Osorkon III seems to be credited with his 28 years, with the 5-year co-regency attributed to him, not to his son. See the discussion of Takeloth III's length of reign in chap. 38.

Since his fifth year would have been the 19th year of Psusennes II, and the year in which the latter died, Shoshenq I would then have assumed full kingly responsibilities as sole ruler, and have been acknowledged as king by the Thebans. In his second year, when Shoshenq I was referred to as “Chief of the Ma,” Psusennes II was still alive and it may be this that caused Shoshenq I to be described with the lesser title.

Referring back to the year five mummy bandage found with Psusennes II’s name as High Priest of Amun, it is possible to see the year five as belonging to Shoshenq I’s fifth year when Psusennes II died and was buried, giving to him his earlier title as High Priest of Amun by which he was known at Thebes.<sup>77</sup>

The 14-year sole reign of Psusennes II can be dated from 1011 to 997 BCE, with another five years as co-regent with Shoshenq I to the year 992. The accession of Shoshenq I to the throne in 997 brought the 21st Dynasty to an end, ushering in the 22nd Dynasty.

### The 21st Dynasty Tanite kings

The kings of the 21st Dynasty with their regnal years and dates provided by the preceding discussion are shown in Table 34.10.

**Table 34.10: Tanite kings of the 21st Dynasty with regnal years and dates**

King	Regnal years	Dates reigned BCE	Lunar anchor points
Smendes	26	1122–1096	Yr 25, Epiphi feast, III <i>šmw</i> 28 in 1097
Amenemnisu Nephercheres	4	1096–1092	Yr 4, Amun feast, new moon I <i>3ht</i> 1 in 1092
Psusennes I	49	1092–1043	None known
Amenemope Amenophthis	9	1043–1034	None known
Osorchor the Elder	6	1034–1028	Yr 2, induction of Nespaneferhor on new moon I <i>šmw</i> 20 in 1032
Siamun Psinaches	17	1028–1011	Yr 17, induction of Hori on new moon I <i>šmw</i> 4 in 1011 (1 January)
Psusennes II	14 (+ 5 CR) = 19	1011–998/997 (CR to 992)	Yr 3, induction of Nesankhefenmaat, 2 days after new moon I <i>šmw</i> 13 in 1009; Yr 13, induction of a priest on new moon III <i>pṛt</i> 10 +[x] = 14th in 999; (Sync. Yr 19 Psu. II + Yr 5 Shoshenq I in 994; Yr 5 Shoshenq I, <i>wrš</i> feast IV <i>pṛt</i> 25—5 days after new moon on IV <i>pṛt</i> 20 in 994)
<b>Total</b>	<b>124</b>	<b>1122–998/997</b>	

CR = co-regent.

The table shows that the 21st Dynasty lasted 124 years from 1122 to 998/997 BCE. Psusennes I had a co-regency with Amenemope for three years, thus Manetho via Africanus gives Psusennes I 46 years<sup>78</sup> and Amenemope 9 years. The lunar dates reveal that Siamun reigned only 17 years—not the 19 usually attributed to him. Psusennes II reigned 14 years with another 5 years as co-regent with Shoshenq I. The synchronism from the Large Dakhla stela giving the 19th year of Psusennes II and the fifth year of Shoshenq I, in conjunction with the lunar dates, proves conclusively that Psusennes II and Shoshenq I had a five-year co-regency. Fourteen sole-reign years are credited to Psusennes II, and the five years of the co-regency are attributed to the reign of Shoshenq I.

<sup>77</sup> Kitchen, *TIP*, xxi.

<sup>78</sup> The 41 years given to him by Eusebius and the Armenian is presumably the result of error in transmission.

The number of years given here for the 21st Dynasty and the individual reigns do not differ by more than a few years from the 124 or 125 given by other chronologies. The main difference is their allocation to Siamun of 19 years instead of 17 years. The dates, of course, are different.

Not discussed above are the service periods for the pontiffs of Thebes. These are not noted by Manetho. Their years of service do not alter the chronology of the kings, and have been discussed by other scholars.<sup>79</sup>

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<sup>79</sup> See Kitchen, *TIP*, 10-23, 77-81; idem, "Overview of Fact & Fiction," 191, 198; J. von Beckerath, *Chronologie des Pharaonischen Ägypten: Die Zeitbestimmung der ägyptischen Geschichte von der Vozeit bis 332 v. Chr.* (Mainz: von Zabern, 1997) 99-102; Jansen-Winkel, "Dynasty 21" 218-33.





## Chapter 35

### Looking at Other Reconstructions of the 22nd to 25th Dynasties

To anticipate the closing words, this chapter illustrates the fluidity of opinion and method in this period of Egyptian chronology, which, with the use of current methods, will surely continue (even in the period since this chapter was penned).

While reporting a high degree of variance and speculation amongst scholars interested in this dynastic period, it also discusses, in some detail, items of recent evidence that contribute to the presentation of my final chapters of the Egyptian Chronology.

This chapter represents a contrast to my approach which identifies firm anchor points and reconstructs the chronology from documented evidence in the 22nd to 25th Dynasties. This chapter offers readers the opportunity to judge which methodology gives greater confidence for establishing an Egyptian chronology, one that will stand—despite the currents of changing opinion.

The chronology of the 22nd Dynasty may be established by taking into account the chronologies of the 23rd, 24th, and 25th Dynasties—these being concurrent with its latter period. A conclusion can only be proposed when all the relevant chronological data for each of the dynasties has been examined, and kings' reigns and dates aligned. Dynasties 21–25 are known collectively as the Third Intermediate Period.

#### Sources

1. Manetho copied the dynastic lists of the 22nd to 25th Dynasties, which now exist in copies by Africanus (ca. 220 CE), Eusebius (early 4th century CE) and the latter's Armenian version. The latter two now preserve only a portion of the original, but are still a significant help. Though suffering obvious corruption, the version of Africanus retains more information about the kings and the length of the 22nd Dynasty than those of Eusebius and the Armenian.

2. Inscriptional records that state unequivocally the actual length of the king's reign are lacking in the 22nd Dynasty. Only the highest *known* year may be at our disposal, which may not be the king's actual regnal year at death. Synchronisms, tying one king's specifically dated regnal year to another, are very helpful. A few examples are discussed below.

3. A Heb Sed (royal jubilee) feast indicates the monarch reigned 30 years, and every three or four years thereafter.

4. Genealogies may determine the line of royal succession, but not all the kings' lineages, or even parents, are known. Kings with similar personal names, such as Shoshenq or Osorkon, can be distinguished by their prenomen, such as Hedjkheperre or Usimare. The nomen epithet, Si-Bast, is associated with kings of Lower Egypt from the time of Osorkon II of the 22nd Dynasty, while the epithet, Si-Ese, at least from the time

of Osorkon III, is associated with kings of the 23rd Dynasty, though not without exception.<sup>1</sup>

5. Particularly valuable for the 22nd and 23rd Dynasties are the records of Nile inundations inscribed on the Karnak Quay wall, which are known as Nile Level Texts.

6. The annals of the priests at Karnak have information relating to the priesthood, in both formal records and graffiti, for the period of the 22nd to 25th Dynasties.

7. The Serapeum Stelae record Apis bull installations and burials giving the regnal years of kings and/or the bull's lifespan.

8. The Chronicle of Prince Osorkon pertains to the reigns of Takeloth and Shoshenq III, and Prince Osorkon High Priest of Amun (HPA). The HPAs were powerful clerics of one of the most revered gods in ancient Egypt. They were responsible for the administration of daily rites in the god's honor and virtual owners of enormous tracts of land throughout Egypt (particularly in Upper Egypt near Thebes). For much of the Third Intermediate Period the High Priests ruled most of Upper Egypt as military theocrats. Not reckoned as a Dynasty per se, these priests nevertheless governed southern Egypt during much of the Third Intermediate Period.

9. Also important for establishing the kings' reigns are new moons dated to the Egyptian civil calendar, which are tied to specific regnal years. Several dates derive from festivals in the reigns of Shoshenq I, Takeloth II, and Shoshenq III of the 22nd Dynasty. Two dates of new moons relate to Pedubast I of the offshoot 23rd Dynasty, and to Shebitku of the 25th Dynasty. The conversion of an Egyptian civil year date (I *3ht* 1 to IV *šmw* 30) to a Julian date can anchor a king's reign when his specific regnal year is known.

One new moon date by itself is not conclusive since dates varying by only one day may occur in a cycle of 25 years making the accuracy of the particular lunar date questionable. When new moon dates come from several reigns, and each matches the date and regnal year given for each king, they provide a much more reliable framework on which to reconstruct the chronology. Discussion about the calendars of Egypt during this period, and tables for new moons, assume a calendar having Thoth (I *3ht*) as the first month of the year.

To aid in the discussion, the *commonly assumed* sequence of kings adopted by Kitchen and other Egyptologists for the four dynasties is given below in Table 35.1,<sup>2</sup> with the approximate position when each dynasty started in relation to the others.

**Table 35.1: Succession of kings for the 22nd, 23rd, 24th, and 25th Dynasties, based on Kitchen's model in 2006**

22nd Dynasty	23rd Dynasty	24th Dynasty	25th Dynasty
Shoshenq I			
Osorkon I			
Shoshenq II (co-regency)			
Takeloth I			
Osorkon II			
(Harsiese A, south)			
Takeloth II			
Shoshenq III	Pedubast I		
	Shoshenq VI		

<sup>1</sup> Shoshenq III and Pedubast I use this epithet at least once, but they usually use the epithet Si-Bast, according to B. Muhs, "Partisan Royal Epithets in the Late Third Intermediate Period and the Dynastic Affiliations of Pedubast I and Iuput II," *JEA* 84 (1998) 221-22.

<sup>2</sup> K.A. Kitchen, "The Strengths and Weaknesses of Egyptian Chronology—A Reconsideration," *Ä und L* 16 (2006) 308.

Shoshenq IV	Osorkon III		
Pimay			
Shoshenq V	Takeloth III		
	Rudamun		Piye/Piankhy
Osorkon IV	Shoshenq VIa	Tefnakht	
	Iuput II	Bocchoris	Shabako
			Shebitku/Shabataka
			Taharqa

Recent proposals that differ from this traditional sequence receive comment below. Traditionally, Dynasty 22 is thought to have started ca. 945 BCE, lasting some 230 years; Dynasty 23 some 200 years; Dynasty 24 some 12 years; and the 25th (from the reign of Piye/Pianky) some 83 years to the end of Taharqa's reign in 664 BCE. My methods in succeeding chapters produce different dates and timeframes.

### Noting Known Synchronisms

A synchronism between the fifth year of Pedubast I (the first king of the 23rd Dynasty) and the 12th year of Shoshenq III (seventh king of the 22nd Dynasty) on Nile Level Text No. 24, provides an alignment that must have the same date in both dynasties. In turn, the 23rd Dynasty needs to be dated with the additional help of the 25th Dynasty. A synchronism between the 12th regnal year of Piye/Piankhy of the 25th Dynasty is tied to the 19th year of an unnamed king of the 23rd Dynasty (Wadi Gasus inscription). Furthermore, according to Piye's Victory stela, dated to the first day of Piye's 21st year, it appears he invaded Egypt from Nubia in his 20th year, and caused the submission of Middle and Lower Egyptian kings/kinglets. These include Osorkon of Bubastis, understood by most scholars to be Osorkon IV, the last king of the 22nd Dynasty, and Iuput II of Leontopolis. Thus Piye's 12th year must have the same date as the 19th year of an unnamed king of the 23rd Dynasty, and his 20th year must coincide with the submission of Osorkon [IV], Iuput II, and other kings of Middle and Lower Egypt.

Tied to the dates of the 25th Dynasty are those of the 24th Dynasty. After Piye's invasion of Egypt in his 20th year, he returned to Nubia. In his absence, Tefnakht, a former chief of the Delta who had eventually submitted to Piye, took upon himself royal titles and founded the 24th Dynasty in Saïs. This dynasty consisted of only two kings: Tefnakht and his successor, Bocchoris, otherwise known as Bakenranef. Bocchoris was reputedly burnt alive in his sixth year by Piye's successor, Shabako, in the latter's second year. An Apis bull that died in Shabako's second year was embalmed and then buried in Bocchoris's burial chamber before the vault was closed,<sup>3</sup> giving the synchronism that Shabako's second year coincides with the sixth year of Bocchoris.

Another certainty is that Shebitku (Shabataka), Shabako's successor, must have been alive in 706 BCE when he extradited Iamani back to Sargon II of Assyria in the latter's 16th year in 706 (Tang-i Var inscription).

These are all significant synchronisms and reign lengths of these kings, which must all concur with each other. Only when *all* these pieces of the puzzle fit, and the additional items of chronological information complete the picture, may we be confident of a credible chronology.

### The Kitchen and "Birmingham School" Dispute

When Kitchen revised his 1973 edition of *TIP* in 1986 with a supplement, the majority of scholars, at least in the English-speaking world, accepted his understanding

<sup>3</sup> Ibid, *The Third Intermediate Period in Egypt (1100–650 BC)*, (3rd edition, 1986, Warminster: Aris & Phillips Ltd.) 141-42 §114 and n. 247.

and order of Egyptian dynastic succession and chronology. Since then, various scholars have challenged his tenets, such as the “New Chronologists” who seek to reduce the overall conventional chronology by 200–250 years (David Rohl, Peter James, et al.). The viewpoint of these scholars is not commented on here due to the vast difference in interpretation of data and time periods proposed for the reconstructed chronology.

Another group of scholars (the “Birmingham School”) led by Anthony Leahy and David Aston, has suggested changes to the 22nd and 23rd Dynasties as previously reconstructed by Kitchen. Each of these viewpoints purport to use the dynastic lists handed down from Manetho.

The main points of disagreement affecting the chronology of the 22nd to 25th Dynasties in recent years, between Kitchen on the one hand and Aston on the other, are summarized below. Aston’s view is generally supported by scholars such as Jürgen von Beckerath, Karl Jansen-Winkel, Aidan Dodson, and in part, Gerard Broekman.<sup>4</sup>

As an introductory overview, one may compare the conventional chronology (Kitchen’s) tabled above, and the Leahy/Aston chronology tabled below (Table 35.2). The main difference is that Takeloth II has been taken out of the 22nd Dynasty between Osorkon II and Shoshenq III and made the first king of a hypothetical *Theban* 23rd Dynasty, preceding Pedubast I listed by Manetho as first king of a *Tanite* dynasty.

This Tanite dynasty is then appended to the 22nd Dynasty (where Pedubast I becomes Pedubast II, Osorkon III becomes Osorkon IV, followed by the enigmatic Psammus and Zet). The *Theban* 23rd Dynasty is then provided with the names of a reconstructed 23rd *Tanite* Dynasty including the names of Pedubast [I] and Osorkon [III] as given by Manetho, but omitting Psammus and Zet.

**Table 35.2: Leahy/Aston succession of Tanite? Kings for the 22nd, 23rd, 24th, and 25th Dynasties**

22nd Dynasty	Theban 23rd Dynasty	24th Dynasty	25th Dynasty
Shoshenq I			
Osorkon I			
Shoshenq II			
Takeloth I			
Osorkon II	Takeloth II		
Shoshenq III	Pedubast I		
Shoshenq IV	Shoshenq VI		
Pimay	Osorkon III		
Shoshenq V	Takeloth III		
Pedubast II	Rudamun		
Osorkon IV	Peftjauawybast	Tefnakht	Piye/Piankhy
Psammus		Bocchoris	Shabako
Zet			Shebitku/Shabataka
			Taharqa

Kitchen proposes the following concepts, which continue to be challenged.<sup>5</sup>

1. Takeloth II was sixth king of the 22nd Dynasty as given by Manetho, based in Lower Egypt. He was succeeded by Shoshenq III.
2. Prince Osorkon, son of Takeloth II was High Priest of Amun in his father’s reign and that of Shoshenq III, but never became king.

<sup>4</sup> G.P.F. Broekman, “Once Again the Reign of Takeloth II; Another View on the Chronology of the Mid 22nd Dynasty,” *Ä und L* 16 (2006) 245.

<sup>5</sup> See, e.g., Kitchen, *TIP*, xxii-xxv §§W-X, xxvi-xxxiv §§Z-FF; idem, “Strengths and Weaknesses,” 296-301; idem, “The Third Intermediate Period in Egypt: An Overview of Fact & Fiction,” *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009) 168-71 §§16-23.

3. The last king of the 22nd Dynasty was Osorkon IV.
4. The 23rd Dynasty was founded by Pedubast I in the eighth year of the reign of Shoshenq III, and located in Lower Egypt.
5. The last king of the 23rd Dynasty was Iuput II.

Aston et al. challenge these assumptions by asserting:<sup>6</sup>

1. Takeloth II was not a king of the 22nd Dynasty but founder of another 23rd Dynasty (different from the one given by Manetho). Its second king was Pedubast I. Takeloth II and Pedubast I led rival factions and their reigns overlapped. This 23rd Dynasty was probably based in Upper Egypt at Thebes, not in Lower Egypt.
2. Prince Osorkon, son of Takeloth II of the 22nd Dynasty, after being High Priest of Amun, became Osorkon III of the 23rd Dynasty.
3. The last king of the 22nd Dynasty was Shoshenq V.
4. Manetho's 23rd Dynasty kings Pedubast and Osorkon are assumed to be Pedubast II and Osorkon IV.
5. The last king of the 23rd Dynasty was not Iuput II who lived in the Delta. Instead, Peftjauawybast of Middle Egypt is proposed by Aston, while a Shoshenq VII is proposed by Broekman.

### Spencer

A short article by P.A. Spencer and A.J. Spencer appeared in 1986<sup>7</sup> and introduced the perceived problems of locating a 23rd Dynasty in Lower Egypt where the 22nd Dynasty had its residence. The authors note that the monuments of the 23rd Dynasty kings are concentrated in Upper Egypt and are lacking in Lower Egypt with the exception of Iuput II, who is known from Piye's Victory stela to have lived in Ta-Remu (Leontopolis) in the Delta. There is no evidence, they say, that Iuput II had any connection with the 23rd Dynasty. Therefore, they write, "There is no justification, as yet, to assume that the kings of the Twenty-third Dynasty had a Delta centre, at Leontopolis or anywhere else."<sup>8</sup>

Further on, they state: "The evidence available at present strongly suggests a division between the Twenty-second Dynasty territory in the eastern Delta and the Twenty-third Dynasty domain in Upper Egypt, with a boundary a little north of Heracleopolis. The residence of the Twenty-third Dynasty kings has yet to be identified, but Thebes is a strong possibility."<sup>9</sup>

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<sup>6</sup> A. Leahy, "Appendix: The Twenty-third Dynasty," *Libya and Egypt c. 1300-750 B.C.* (ed. A. Leahy; London: School of Oriental and African Studies, 1990) 177-200; D.A. Aston, "Takeloth II - A King of the 'Theban Twenty-Third Dynasty'?" *JEA* 75 (1989) 139-53; idem, "Takeloth II, A King of the Herakleopolitan/Theban Twenty-third Dynasty Revisited: The Chronology of Dynasties 22 and 23," *Libyan Period*, 1-25; G.P.F. Broekman, "The Reign of Takeloth II, a Controversial Matter," *GM* 205 (2005) 21-35; idem, "Once Again the Reign of Takeloth II; Another View on the Chronology of the Mid 22nd Dynasty," *Ä und L* 16 (2006) 245-56; J. von Beckerath, "Beiträge zur Geschichte der Libyzeit," *GM* 144 (1995) 7-13 and *GM* 147 (1995) 9-13; K. Jansen-Winkeln, "Historische Probleme der 3. Zwischenzeit," *JEA* 81 (1995) 138-45; idem, "The Chronology of the Third Intermediate Period: Dyns. 22-24," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 247-52.

<sup>7</sup> P.A. and J.A. Spencer, "Notes on Late Libyan Egypt," *JEA* 72 (1986) 198-201.

<sup>8</sup> *Ibid.*, 200.

<sup>9</sup> *Ibid.*, 201.

## Leahy

In 1989, Leahy presented arguments building on the former views of Klaus Baer,<sup>10</sup> and K.H. Priese,<sup>11</sup> that the 23rd Dynasty as given by Manetho was *not a collateral* line founded by Pedubast I in the eighth year of Shoshenq III of the 22nd Dynasty (based on Nile Level Text 24), but was a continuation of the 22nd Dynasty.<sup>12</sup> Manetho names four kings to the 23rd Dynasty in the version of Africanus: Pedubast, Osorkon, Psammus, and Zet. Leahy seeks to identify this Pedubast with a Sehetipibenre Pedubast who is conventionally identified with Pedubast II of the 7th century BCE, and places him after Shoshenq V in the 22nd Dynasty. Leahy then identifies the Osorkon with Osorkon IV as successor of Pedubast II, but usually regarded as Osorkon III—second king of the Tanite 23rd Dynasty. (Compare with Table 35.2).

Leahy then describes Psammus as “an ephemeral successor of Osorkon IV,” and Zet “should be regarded as an ‘irrelevant interpolation’.”<sup>13</sup> By placing Manetho’s Tanite 23rd Dynasty after the 22nd, Leahy clears the way for a *Theban* 23rd Dynasty to be contemporary with the latter part of the 22nd Dynasty. Leahy then assigns to a hypothetical *Theban* 23rd Dynasty the kings that *Manetho* assigned to the 23rd *Tanite* Dynasty; that is, Pedubast I and Osorkon III followed by Psammus and Zet. This is the *same list* that Leahy has already used for the continuation of the 22nd Dynasty by attributing to Pedubast and Osorkon a different identity.

Leahy and Kitchen both have Pedubast I, Shoshenq IV (now known as Shoshenq VI), Osorkon III, Takeloth III, and Rudamun for their respective 23rd Dynasties, but Kitchen has Iuput II for its last king, while Leahy sees Iuput II as a Delta king and does not assign him to his Theban 23rd Dynasty,<sup>14</sup> thus agreeing with the suggestion of P.A. and J.A. Spencer, as noted above.<sup>15</sup>

## Aston

More support for Leahy came from David Aston’s 1989 article presenting his argument for an Upper Egyptian 23rd Dynasty. The main point of Aston’s article is the removal of Takeloth II from the 22nd Dynasty to become the *founder* of a 23rd *Theban* dynasty. Aston does not explain why Manetho would put Takeloth II in the 22nd Dynasty if he did not belong there, or why Pedubast would be identified as the first king of the 23rd Dynasty if he were preceded by Takeloth II.

Ignoring Manetho’s testimony, Aston argues that family relationships indicate that Takeloth II should be dated about 25 years later than the dates Kitchen gives him: from ca. 850–825 BCE down to ca. 825–800 BCE.<sup>16</sup> In order to down-date Takeloth II, Aston takes Takeloth out of the 22nd Dynasty to head a “Theban” 23rd Dynasty and makes Pedubast I, the leader of another supposed faction, appear in Takeloth II’s 11th year to become the second king of the dynasty. Pedubast’s accession is dated to Shoshenq III’s eighth year (from Nile Level Text [NLT] 24 equating Shoshenq III’s 12th year [22nd Dynasty] with Pedubast’s fifth) in 827 BCE. Pedubast I, allocated 25 years, dies about 10 years after Takeloth II.

<sup>10</sup> K. Baer, “The Libyan and Nubian Kings of Egypt: Notes on the Chronologies of Dynasties XXII to XXVI,” *JNES* 32 (1973) 4-25.

<sup>11</sup> K.H. Priese, “Der Beginn der kuschitischen Herrschaft in Agypten,” *ZÄS* 98 (1970) 16-32.

<sup>12</sup> Leahy, “Appendix: The Twenty-third Dynasty,” 177-200.

<sup>13</sup> *Ibid.*, 189.

<sup>14</sup> *Ibid.*, 185-86.

<sup>15</sup> Spencer and Spencer, “Notes on Late Libyan Egypt,” 198-201.

<sup>16</sup> Aston, “Takeloth II...Theban Dynasty,” 142-43.

Aston next places Iuput I as king with his accession in Pedubast I's 15th year (from NLT 26 with year 2 equated with Pedubast's year 16) and the successor of the rival reign of Takeloth II, but with an unknown number of years.<sup>17</sup> Aston identifies Shoshenq Meriamun with year four on a roof slab of the Khons Temple at Karnak, with Shoshenq IV (now VI),<sup>18</sup> whom he suggests as a possible successor of Pedubast I but, nevertheless, leaves him out of the dynasty. Aston continues the dynasty with Osorkon III, Takeloth III, Rudamun (with an unsubstantiated 19 years to make him king of the Wadi Gasus inscription),<sup>19</sup> and a king Iny.

This Iny Si-ese Meryamun is attested with a year five on a roof slab of the Temple of Khons near that of Shoshenq IV/VI's. Presuming him to be a Theban king because of the epithet Si-ese, Aston includes him in the 23rd Dynasty with five sole-reign years.<sup>20</sup>

For the final king, Aston replaces Kitchen's Iuput II with Peftjauawybast, son-in-law of Rudamun (married to his daughter, Irbastwedjanefu B). Peftjauawybast was king of Heracleopolis (Middle Egypt) at the time of Piye's invasion, and assumed to be a better candidate for a *Theban* king than Iuput II, king of Leontopolis *of the Delta*.

### Aston and Taylor

In 1990, Aston and Taylor explain Peftjauawybast's inclusion as king on the premise that, "Since Thebes was already under the control of Piye by ca. 728 B.C.E. the Theban 23rd Dynasty probably shifted its base from Thebes to Heracleopolis sometime before that date,"<sup>21</sup> that is, before Piye's invasion in his 20th year.

Peftjauawybast's loyalty to Piye in the invasion, and the adoption of Piye's daughter, Amenirdis, by Rudamun's sister Shepenwepet I in Piye's 12th year, as on the Wadi Gasus inscription, gives reason for them to think that Peftjauawybast was the last king of the 23rd Dynasty who, with his forebears, held "influential positions at Thebes under the Kushites."<sup>22</sup> In this scenario, a *hypothetical* Theban 23rd Dynasty appears to be given further legitimacy by the proposal that toward the end of the dynasty it moved its base from Thebes to Heracleopolis, an assumption made in order to include Peftjauawybast, not Iuput II, as the last king of the dynasty.

The chronology, as given by Aston for the 23rd Dynasty, is shown in Table 35.3,<sup>23</sup> where Pedubast I's fifth year, equated with Shoshenq III's 12th year as on NLT No. 24, is calculated by Aston to be the dates 823 or 818 BCE.<sup>24</sup> This provides the date for Takeloth II's accession in ca. 838/833 BCE.<sup>25</sup>

**Table 35.3: Aston's chronology for the 23rd Theban Dynasty**

King	Dates BCE	Years reigned
Takeloth II	ca. 838/33–812/807	26
Pedubast I	ca. 827/22–802/797	25 with overlap
Iuput I	ca. 812/807–?	Not known

<sup>17</sup> See on Iuputy below, p. 27, given 12 years as his highest attested.

<sup>18</sup> Aston, "Takeloth II...Theban Dynasty," 151-53. Aston does not agree with Leahy who regards Shoshenq VI as a phantom, (Leahy, "Appendix: The Twenty-third Dynasty," 183).

<sup>19</sup> *Ibid.*, 153.

<sup>20</sup> *Ibid.*, 152-53.

<sup>21</sup> D.A. Aston and J.H. Taylor, "The Family of Takeloth III and the 'Theban' Twenty-third Dynasty," *Libya and Egypt c. 1300-750BC*, 147.

<sup>22</sup> *Ibid.*, 147.

<sup>23</sup> Aston, "Takeloth II...Theban Dynasty," 150-151 and 153.

<sup>24</sup> *Ibid.*, table p. 148.

<sup>25</sup> These dates were subsequently updated by 2006, as seen in Broekman, "Once Again the Reign of Takeloth II," 246.

Osorkon III	ca. 796/791–768/763	28
Takeloth III	ca. 773/768–766/761	7
Rudamun	ca. 766/761–747/742	19
Iny	ca. 747/742–742/737	5
Peftjauawybast	ca. 742/737–732/727	10

### Ramifications of the Aston and Taylor proposals

The removal of Takeloth II from his traditional place in the 22nd Dynasty to a so-far hypothetical 23rd ‘Theban’ Dynasty has ramifications.

1. Osorkon II is now succeeded by Shoshenq III not Takeloth II.
2. The “gap” in the chronology left by Takeloth’s removal had to be filled, so Aston assigns another 15–20 years to the preceding reign of Osorkon II in addition to the 30 or so already allocated to him, to give him 40–45 years.<sup>26</sup> Kitchen, at this time, gave only 24–25 to Osorkon II. Aston gives six arguments for a longer reign than Kitchen allows. These are based, for example, on the number of generations of the “Fourth Prophets of Amun,” the family tree of the High Priests of Ptah at Memphis, the large number of High Priests of Amun, and indications that Osorkon II outlived his three known adult sons.<sup>27</sup> None of these arguments is decisive in giving Osorkon II a reign of 40–45 years, though a reign of 30-plus years is quite feasible.
3. Takeloth II’s son, crown prince Osorkon whose tenure as HPA is recorded in *The Chronicle of Prince Osorkon* as beginning in Takeloth II’s 11th year, is also reported as serving down to the 29th year of Shoshenq III, with a reappearance in Shoshenq’s 39th (and last) year.<sup>28</sup>

However, in the surviving portions of the list there is a gap in the *Chronicle*’s tabulation of Prince Osorkon’s benefactions between the 24th year of Takeloth II (column 7) and the 22nd year of Shoshenq III (column 12). Aston proposes that the “gap of over twenty years between Prince Osorkon’s two periods of activity,”<sup>29</sup> is not actually a gap but indicates that, “Shoshenq III acceded to the throne in Tanis, at the earliest, only three years after Takeloth II became King in the south. (That is, Year 22 of Sheshonq immediately following Takeloth’s highest known year date of 25.)”<sup>30</sup> So apart from the first three years of Takeloth II’s reign, the two kings were contemporary for the length of Takeloth II’s (presumed) 25-year reign.

Consequently, Aston must propose that Prince Osorkon/Osorkon B’s years as HPA were numbered first by Takeloth II’s reign of the 23rd Dynasty for years 11–24, then when his father died, by Shoshenq III’s reign of the 22nd Dynasty for years 22–39. Aston calls this “a matter of administrative convenience.”<sup>31</sup> If, as Kitchen has always proposed, Takeloth II had instead been succeeded by Shoshenq III, all of Osorkon B’s years as HPA would have been numbered by the two consecutive 22nd Dynasty kings, which is more feasible.

4. The supposed 22 years concurrent in the reigns of Takeloth II and Shoshenq III, with Prince Osorkon becoming HPA in Takeloth II’s 11th year (which is Shoshenq III’s eighth year), means that for Prince Osorkon’s first 15 years as HPA both kings were reigning concurrently, then from the 23rd to 39th year of Shoshenq III,

<sup>26</sup> Aston, “Takeloth II...Theban Dynasty,” 148.

<sup>27</sup> *Ibid.*, 145-48.

<sup>28</sup> Ricardo A. Caminos, *The Chronicle of Prince Osorkon* (Rome: Pontificium Institutum Biblicum, 1958) 124, 128.

<sup>29</sup> Aston, “Takeloth II...Theban Dynasty,” 143.

<sup>30</sup> *Ibid.*, 143.

<sup>31</sup> *Ibid.*, 150.



Osorkon officiated for another 16 years (see Table 35.4). Osorkon's tenure of office as HPA amounts to just 31 years (8th to 39th years of Shoshenq III).

5. The presumed concurrency of the two kings, Takeloth II and Shoshenq III, suggests two main scenarios to Aston. One: Takeloth II can be seen as a rival of Pedubast I for control of Thebes. Nile Level Text No. 24 equates Shoshenq III's year 12 with Pedubast I's year five, so Pedubast became king of the 23rd Dynasty in Shoshenq III's eighth year. According to Aston's chronology this is also Takeloth II's 11th year. He sees this as significant because the *Chronicle* records a rebellion in Takeloth II's 11th year. Aston proposes that Pedubast, "in proclaiming himself king in opposition to Takeloth II, fomented the Theban rebellion that Osorkon B set out to conquer."<sup>32</sup> The rivalry is presumed to have continued until Takeloth II died. Aston does not produce any inscriptional evidence to support such a scenario, where, instead of having one Theban (or Upper Egyptian) 23rd Dynasty, there are two rival factions. The situation is represented in Table 35.4.<sup>33</sup>

**Table 35.4: Aston's correlation of Takeloth II, Shoshenq III, Pedubast I, and Prince Osorkon as High Priest of Amun (HPA)**

23rd Dynasty	Rival 23rd Dynasty	22nd Dynasty
	Takeloth II	
	1	
	2	Shoshenq III
	3	1
	4	2
	5	3
	6	4
	8	5
	9	6
Pedubast I	10	7
1	11 (Osorkon HPA)	8 (Osorkon HPA)
2	12	9
3	13	10
4	14	11
5	15	12
6	16	13
7	17	14
8	18	15
9	19	16
10	20	17
11	21	18
12	22	19
13	23	20
14	24	21
15	25	22
16	Iuput I's second year?	23
17	?	24
18	?	25
19	?	26
20	?	27
21	?	28
22	?	29
23	?	30
24		31
25		32
Shoshenq VI		33
1		34
2		35
3		36

<sup>32</sup> Ibid., 149.

<sup>33</sup> Compiled from Broekman, "Once Again the Reign of Takeloth II," 251.

4		37
5		38
6		39
Osorkon III 1		Shoshenq IV 1
2		2

6. The second scenario posited by the concurrent rule of the three kings, and the supposed shortening of (Prince) Osorkon B's tenure as HPA, is the assumption that Prince Osorkon became Osorkon III of the 23rd Dynasty. In the 39th year of Shoshenq III, Prince Osorkon and his brother General Bakenptah of Heracleopolis claimed that they had overthrown all who had fought against them.<sup>34</sup>

This has been interpreted to mean that they overthrew and killed the king of Thebes, at that time Shoshenq VI. This 39th year is also seen as the last year of Shoshenq III's reign (deduced from NLTs) after which Prince Osorkon is heard of no more.

Consequently, two new kings ascended the throne of the 22nd and 23rd Dynasties, respectively, within a short span of time. The new king of the 23rd Dynasty to succeed Shoshenq VI was an Osorkon who had also been an HPA, as recorded on a donation stela at Tehna.<sup>35</sup>

Aston brings up the old idea that Osorkon III was none other than Prince Osorkon. Prince Osorkon's supposed tenure of office as High Priest amounting to 31 years means that if he became HPA at an age of about 20, in the 11th year of Takeloth II, after 31 years he would be only 51 years old. However, Osorkon III, as king of the 23rd Dynasty reigned 28–29 years, so on Aston's chronology, Prince Osorkon died at about 80.

In Kitchen's chronology, in which Takeloth II's 25 years and Shoshenq III's 39 years are consecutive, the figures for Prince Osorkon are: 20 + 15 (11th to 25th year of Takeloth II) + 39 (Shoshenq III's reign) = 74 + 28/29 (Osorkon III's reign) = 102/103 years. Aston's age for Osorkon III at demise is plausible, whereas Kitchen's is less likely. In the latter instance, Prince Osorkon cannot have become Osorkon III and reigned a further 28 years, so they must be two different people. The religio-political situation at the time, as proposed by Kitchen, in which the Thebans hated Prince Osorkon, and would not have accepted him as king after the (assumed) murder of Shoshenq VI, also makes the identification of the two being one person highly dubious.

7. Aston supposes that Prince Osorkon became Osorkon III, which makes Takeloth II the father of Osorkon III, and the grandfather of Takeloth III and Rudamun. In an analysis of the above, and supposing that Takeloth II reigned 25 years, he would have died in the 22/23rd regnal year of Shoshenq III whom Prince Osorkon was serving as HPA (22nd Dynasty). Prince Osorkon did not succeed his father, as might be expected. Instead Iuput I is suggested as Takeloth II's successor in the *Theban* 23rd Dynasty. Prince Osorkon remained loyal HPA committed to the 22nd Dynasty until the 39th year of Shoshenq III's reign.

If Prince Osorkon had pretensions to the throne of the 23rd Dynasty he did not act on them before his father died, nor when Pedubast I of the *supposed rival faction* died 10 years later, succeeded by Shoshenq VI. (Broekman, in 2005, identified from his analysis of NLT No. 25 a Usimare Meriamun Shoshenq with a year six.<sup>36</sup> He rearranged

<sup>34</sup> Caminos, Chronicle of Prince Osorkon, 180.

<sup>35</sup> Aston, "Takeloth II...Theban Dynasty," 150 citing Leahy, "Appendix: The Twenty-third Dynasty," 192.

<sup>36</sup> G.P.F. Broekman, "The Nile Level Records of the Twenty-second and Twenty-third Dynasties in Karnak: A Reconsideration of their Chronological Order," *JEA* 88 (2002) 173, 174.

Aston's 1989 chronology to insert Shoshenq VI between Pedubast I and Osorkon III).<sup>37</sup> Thus Pedubast I, with a supposed co-regent (Iuput I) and Shoshenq VI intervene with their rival faction between the death of Takeloth II and before his supposed son Osorkon III. Only when Shoshenq VI died, about six or seven years later, possibly at the instigation of Shoshenq III and Prince Osorkon, and perpetrated by the latter's brother and army general Bakenptah, did Prince Osorkon supposedly claim the throne of the Theban 23rd Dynasty as successor and king of the rival faction, when he could have been, with a little patience, the successor of Shoshenq III who had already had a long reign, and to whose dynasty he belonged.

Even if Prince Osorkon and Bakenptah were responsible for the death of Shoshenq VI, it does not imply or seem reasonable that Prince Osorkon planned to succeed him, as Kitchen later points out. In Kitchen's chronology, Takeloth II is followed by Shoshenq III, possibly a brother, both men having Prince Osorkon as HPA.

In Shoshenq III's 39th year, after bragging about defeating their enemies at Thebes, Shoshenq III dies and Prince Osorkon is heard of no more. The throne of the 23rd Dynasty is filled by a former HPA, Osorkon, to become Osorkon III. Was there a counter attack from the 23rd Dynasty headed by the new king Osorkon III, in which Shoshenq III and Prince Osorkon were both killed? Shoshenq III was succeeded by Shoshenq IV.

The above ramifications are some of the results of taking Takeloth II out of the 22nd Dynasty.

#### **Rohl and Dodson—"New King Shoshenq IV"**

A completely different contribution to the chronology of the period was first suggested in 1985 by David Rohl,<sup>38</sup> and elaborated by Aidan Dodson in 1993,<sup>39</sup> in which they identify the "new" king, Shoshenq IV. His full name, Hedjkheperre Setepenre Shoshenq Meryamun Si-Bast Netjerheqaon, inscribed on a canopic jar, was found in the tomb of Shoshenq III.<sup>40</sup> A donation stela of a chief of the Libu, Niumataped, was dated to the 10th year of the reign of Hedjkheperre Shoshenq, seen to be the same person as the Niumataped who was in office in the eighth year of Shoshenq V on another stela.<sup>41</sup>

Thus a new Shoshenq, successor to Shoshenq III, has been accepted by most scholars as Shoshenq IV and the previous Shoshenq IV of the 23rd Dynasty is now the aforementioned Shoshenq VI. Shoshenq IV is now generally attributed 13 years of the 52 years formerly assigned just to Shoshenq III, leaving the latter with 39 years—this being his highest known regnal year found on NLT No. 22.

Dodson's compilation of the 22nd Dynasty includes Shoshenq IV as successor of Shoshenq III, but he follows Aston's chronology in deleting Takeloth II. He also inserts Sehetipibenre Pedubast (II) between Shoshenq V and Osorkon IV,<sup>42</sup> as do Leahy and Aston.

<sup>37</sup> Idem, "Reign of Takeloth II," tables pp. 25, 35.

<sup>38</sup> In *Society for Interdisciplinary Studies Workshop 6:2* (1985); *Chronology and Catastrophism Workshop 1986: 1*, 17-18 n. 2, cited by A. Dodson in "A New King Shoshenq, Confirmed?" *GM 137* (1993) 53 n. 5.

<sup>39</sup> Dodson, "New King Shoshenq?" 53-58.

<sup>40</sup> Ibid., 54; idem, *The Canopic Equipment of the Kings of Egypt*, (London and New York: Kegan Paul, 1994) 93.

<sup>41</sup> Idem, "New King Shoshenq?" 53-58.

<sup>42</sup> Ibid., 58.

### Jansen-Winkel—Osorkon's Father is Takeloth I

In another area, Karl Jansen-Winkel made a significant contribution in 1987 in identifying Osorkon II's father as Hedjkheperre Setepenre Takeloth Meriamun; that is, Takeloth I,<sup>43</sup> whose prenomen was previously assigned to Takeloth II, Osorkon II's son. They are now differentiated by the nomen epithet "Si-Ese" attached to the name of Takeloth II and possibly by a variant spelling of the name.<sup>44</sup> The epithet "God, Ruler of Thebes" (*ntr-hq3-W3st*) added to his throne name has led some scholars to view this as an added argument for Takeloth II heading a Theban 23rd Dynasty.<sup>45</sup>

Jansen-Winkel's article in 1995 supported Aston's chronology in accepting two rival factions in the 23rd Dynasty, one led by Takeloth II and the other by Pedubast I, each with their own High Priests.<sup>46</sup>

### Von Beckerath

In 1995, Jürgen von Beckerath also gave his support to Aston's chronology in removing Takeloth II from the 22nd Dynasty. He then identifies the "Takelothis," named by Manetho via Africanus, as the sixth king of the dynasty as Takeloth I with 13 years. Manetho's "Takelothis" was previously regarded as Takeloth II, although most scholars assumed him to have 25 regnal years. The "three other kings" that Africanus refers to between Osorkon (No. 3) and Takeloth (No. 6) are then interpreted by von Beckerath to mean that three kings come between Osorkon I and Takeloth I, not, as previously, between Osorkon I and Takeloth II. Takeloth II is no longer viewed in this dynasty. Von Beckerath also follows Leahy's lead in adding, after the end of the 22nd Dynasty, Pedubast II and Osorkon IV as 23rd Dynasty kings, with Iuput II as their contemporary.<sup>47</sup>

### Kitchen's Response

The discussion continued with Kitchen responding to the above changes to traditional understandings. In his 1996 edition of *TIP*, he added a preface to the 1986 book. Kitchen agrees with the insertion of the new Shoshenq IV after Shoshenq III as proposed first by Rohl, and then Dodson.<sup>48</sup>

However, Kitchen completely rejected the idea that Takeloth II should be removed out of the 22nd Dynasty to head a Theban 23rd Dynasty.<sup>49</sup> Nor did he accept the extension of Osorkon II's reign by 15–20 years, asserting that 24 years was ample time to accommodate the High Priests known to have officiated during Osorkon II's reign.<sup>50</sup>

Kitchen describes as "wildly improbable" the insertion of a Sehetepibenre Pedubast into the 22nd Dynasty, pointing out that this prenomen is not used by 22nd Dynasty kings, but by kings of the 7th century BCE.<sup>51</sup> He recognizes Manetho's

<sup>43</sup> K. Jansen-Winkel, "Thronname und Begräbnis Takeloths I" *VA* 3 (1987) 253-58. See also Kitchen, *TIP*, xxii-xxiii.

<sup>44</sup> *Ibid.*, 257; Kitchen, *TIP*, xxiii.

<sup>45</sup> Aston, "Takeloth II...Theban Dynasty," 142.

<sup>46</sup> Jansen-Winkel, "Historische," 129-149.

<sup>47</sup> Von Beckerath, "Beiträge," 7-8.

<sup>48</sup> Kitchen, *TIP*, xxv-xxvi.

<sup>49</sup> *Ibid.*, xxiv, xxxii.

<sup>50</sup> *Ibid.*, xxv.

<sup>51</sup> *Ibid.*, xxviii; xxxi-xxxii. See also idem, "Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I) The Historical Chronology of Ancient Egypt, a Current Assessment," *SCIEM II* (2000), 40.

Pedubast as Usimare Pedubast, founder of the 23rd Tanite Dynasty, though he says its capital was not Tanis—its actual location remains “a matter for investigation.”<sup>52</sup>

He disdains the idea that Prince Osorkon became Osorkon III. He points out that the Thebans had rebelled and Osorkon and his brother Bakenptah had overthrown “all who had fought against them” in Shoshenq III’s 39th year, and would never have forgiven and accepted “the murderous old rogue” as their king.<sup>53</sup>

### Muhs on Epithets

A short article by Brian Muhs, in 1998, expanded on the use of the epithets “son of Isis” and “son of Bastet.”<sup>54</sup> He notes, firstly, that kings of the Third Intermediate Period, having identical cartouche names, can be distinguished from each other by their different epithets, as, for example, Hedjkheperre Setepenre Meryamun Takeloth without the epithet referring to Takeloth I, and with the epithet “son of Isis” referring to Takeloth II, and Usimare Setepenamun Meryamun Osorkon “son of Bastet” referring to Osorkon II, and with the epithet “son of Isis” referring to Osorkon III. These distinctions, using the epithets, seem to be deliberate.<sup>55</sup>

Secondly, Muhs notes:

According to the reconstruction of the Twenty-second and Twenty-third Dynasties proposed by several scholars, the epithet ‘son of Isis’ was used primarily by kings of the Theban Twenty-third Dynasty, namely Takeloth II, Osorkon III, Takeloth III and Iny, whose monuments and authority were concentrated in Upper Egypt, while the epithet “son of Bastet” was used primarily by kings of the later Twenty-second Dynasty, namely Osorkon II, Sheshonq III, Pami and Sheshonq V, whose monuments and authority were concentrated in Lower Egypt.

Furthermore, Muhs states: “Correlations between the epithets, the dynasties and the primary deities of their hometowns given by Manetho ... suggest that the reconstruction ... proposed by Baer, Spencer and Spencer, Aston, Leahy and Taylor ... is substantially more correct than Kitchen’s reconstruction.”<sup>56</sup> He writes:

Pedubast I used the epithet “son of Bastet” four times ... and “son of Isis” just once on Karnak Nile Level Text 24 [suggesting] the possibility that Pedubast I was somehow related to the Twenty-second Dynasty,<sup>57</sup> [and that] Iuput II used the epithet “son of Bastet” three times ... which suggests the possibility that Iuput II was also somehow related to the Twenty-second Dynasty, perhaps even as the immediate successor of Shoshenq V.

The main objection to placing Iuput II in the Twenty-second Dynasty is that the Piankhy stela locates him in Taanu and Taremu, the latter being perhaps Tell el-Muqdam, whereas the sites most closely connected with the Twenty-second Dynasty were Tanis and Bubastis.<sup>58</sup>

On the other hand, Iuput II is noted as having a year 21 credited to him by king Smendes of Mendes on a donation stela, and that he submitted to Piye in his invasion of Egypt as on Piye’s Victory stela, suggesting to Muhs a possible 22nd Dynasty

<sup>52</sup> Ibid., xxviii-xxix.

<sup>53</sup> Ibid., xxxi.

<sup>54</sup> B. Muhs, “Partisan Royal Epithets in the late Third Intermediate Period and the Dynastic Affiliations of Pedubast I and Iuput II,” *JEA* 84 (1998) 221.

<sup>55</sup> Ibid.

<sup>56</sup> Ibid.

<sup>57</sup> Ibid., 222.

<sup>58</sup> Ibid., 223.

affiliation.<sup>59</sup> From this we note that Takeloth II is associated with the Theban 23rd Dynasty not only on the proposal of the scholars named above, but also because he has the epithet “son of Isis”; whereas, 22nd Dynasty kings usually used the epithet “son of Bastet.” However, Muhs points out some exceptions to what seems to be the normal practice.<sup>60</sup>

### **Jansen-Winklen on Bickel et al. Regarding Pimay**

A discovery of a different kind published in 1998 by Susanne Bickel, Marc Gabolde, and Pierre Tallet,<sup>61</sup> concerns the regnal years of Pimay or Pami successor to Shoshenq IV of the 22nd Dynasty. (It is not clear whether Pimay is the same person as Pami.) Inscribed on a reused stone wall block at Heliopolis, recording donations made yearly by Pami to various gods, a year seven can be clearly seen and a brief year eight is possible in the erased section.<sup>62</sup> In 2006, Jansen-Winkeln writes, “For this king Pami, the years 2, 4, 5, and 6 are documented; from the structure of the text on his ‘annals’ in Heliopolis, the presence of the years 3 and 7 can be deduced ... However the assumption of a mere 6–7 years is not really certain.”<sup>63</sup>

Previously, the highest known regnal year for Pimay was year six of a votive stela.<sup>64</sup> Therefore, one year, if not two or more, can be credited to Pimay/Pami’s reign.

### **Frame and Redford on Shabataka/Shebitku**

A contention arose from an article by Grant Frame published in 1999,<sup>65</sup> along with another by Donald B. Redford,<sup>66</sup> concerning the Assyrian inscription found at Tang-i Var in Iran, which says that Shabataka (that is, Shebitku) king or ruler of Melluha (Nubia) extradited Iamani of Ashdod back to Sargon in the latter’s 16th year, dateable to 706 BCE. Six years earlier, in 712, Iamani had rebelled against Assyrian forces and sought refuge with Shabako in Nubia. But, when Shabako died, Shebitku sought to appease the Assyrians and sent Iamani back to Sargon. Sargon subsequently died in battle in the following year in 705 BCE.<sup>67</sup>

Until 1999, most scholars dated Shebitku’s accession from 702 to 690, but the new inscription raises Shebitku’s accession by four years, and consequently those for the preceding reigns of Shabako and Piye, affecting the synchronization of other reigns in the 22nd, 23rd, and 24th Dynasties.

Kitchen responded to this situation in 2000 as an Addendum<sup>68</sup> to a paper previously published in 1996.<sup>69</sup> He refuted Shebitku’s accession in 706 BCE, claiming

<sup>59</sup> Ibid.

<sup>60</sup> Ibid., 222.

<sup>61</sup> S. Bickel, M. Gabolde, Pierre Tallet, “Des annals héliopolitaines de la troisième période Intermédiaire,” *BIFAO* 98 (1998) 31-56.

<sup>62</sup> See “Pami,” <http://en.wikipedia.org/wiki/Pami>

<sup>63</sup> Jansen-Winkeln, “Third Intermediate Period,” 245.

<sup>64</sup> Kitchen, *TIP*, 103 §83.

<sup>65</sup> G. Frame, “The Inscription of Sargon II at Tang-i Var,” *Orientalia* 68 (1999) 31-57.

<sup>66</sup> D.B. Redford, “A Note on the Chronology of Dynasty 25 and the Inscription of Sargon II at Tang-i Var,” *Orientalia* 68 (1999) 58-60. See also D. Kahn, “The Inscription of Sargon II at Tang-i Var and the Chronology of Dynasty 25,” *Orientalia* 70 (2001) 1-18.

<sup>67</sup> D. Kahn, “Taharqa, King of Kush and the Assyrians,” *JSSEA* 31 (2004) 109 [109-128].

<sup>68</sup> Kitchen, “Regnal and Genealogical Data,” *SCIEM II* (2000) 50-51.

<sup>69</sup> Idem, “The Historical Chronology of Ancient Egypt, a Current Assessment,” *Acta Archaeologica* 67 (1996): 1-13. This article was largely a response to a final chapter entitled “Appendix 1: Egyptian Chronology” in Sturt W. Manning’s book, *A Test of Time – The Volcano of Thera and the Chronology and History of the Aegean and East Mediterranean in the Mid Second Millennium BC* (Oxford: Oxbow Books,

that the Assyrian word *sharru* referred to one who was ruler of Nubia and not king of Egypt at the time. Therefore, Shebitku was Shabako's *de facto* viceroy.

Alternatively, he conceded that if the correct date was 706 BCE, the four extra years could be accommodated by subtracting a year from, for example, Takeloth I and Osorkon I, and two years from Osorkon IV.<sup>70</sup> But he preferred the first option, and reiterated these arguments in 2002, and again in 2006, 2007, and 2009.<sup>71</sup>

### Broekman on Nile Level Texts, “Si-Ese,” and “King X”

The chronology of the 22nd and 23rd Dynasties received new impetus with the publication of Gerard Broekman's article in 2002 analyzing the NLTs at Karnak.<sup>72</sup> He observed that the NLTs Nos. 16–21 form a chronological unit and name the High Priest (where legible) but do not give the king's name (as on other NLTs), only his regnal year at the time of the recorded flood level. Broekman suggests that these texts belong to Takeloth I, and possibly his predecessor Shoshenq II who are otherwise not represented among the texts.<sup>73</sup> The implications for chronology are discussed below.

Perhaps Broekman's main contribution concerns NLTs Nos. 3 and 45. He proposed that the king's name on NLT No. 3 could be read as Hedjkheperre Setepenre Shoshenq Si-Ese Meriamun.<sup>74</sup> Hitherto, this name had been attributed to Shoshenq I, but that was now untenable because of the orthography of the word *h<sup>c</sup>pj* (Hapi) used for “the Nile Flood” which Broekman demonstrated applied only to kings reigning after Shoshenq III. Also, the nomen epithet “Si-Ese” (“son of Isis”) was usually associated with kings of the 23rd Dynasty, not the 22nd. NLT No. 3 seemed to indicate a “new” king Shoshenq. This text showed a year five. Next to it is NLT No. 45, which Broekman observes has the same structure as No. 3 but with the name of the king illegible; however, it had a year number that could be 17, 18, or 25.

Broekman suggested that NLT 45 may also have named the same king as that of text No 3, the new Shoshenq, and been inscribed sometime after because of its position on the left side of No. 3 (writing being done from right to left). Furthermore, a king with regnal years 17, 18, or 25 could not fit into the 22nd Dynasty, but could be placed at the end of the 23rd Dynasty where a 19th year of an unnamed king coincided with Piye's 12th year as recorded on the Wadi Gasus inscription in which Shepenupet I, daughter of Osorkon III, adopted Piye's sister Amenirdis as God's wife of Amun.<sup>75</sup>

If the king of the “19th year” reigned another eight years to his 27th year, then he would be the king of the 23rd Dynasty who was reigning in Piye's 20th year when the latter invaded Egypt and brought its kings into submission. The high year numbers of NLT No. 45 make the “owner,” dubbed “King X,” a distinct possibility as the last king of the 23rd Dynasty. In Kitchen's chronology, the last king of the 23rd Dynasty is presumed to be Iuput II, and in Aston's chronology, Peftjauawybast, kings of Lower and Middle Egypt, respectively, who submitted to Piye. Broekman follows Aston's

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1999) 367-413. Manning sought to raise the dates of the Egyptian Chronology, but was opposed by Kitchen.

<sup>70</sup> Idem, “Regnal and Genealogical Data,” 50-51.

<sup>71</sup> Idem, “Ancient Egyptian Chronology for Aegeanists,” *Mediterranean Archaeology and Archaeometry* 2 (2002) 6; idem, “Strengths and Weaknesses,” 294; idem, “Egyptian and Related Chronologies—Look, no Sciences, No Pots!” in *SCIEM II* (2007) 166 §6; idem, “Overview of Fact & Fiction,” 162-64 §§4-8.

<sup>72</sup> Broekman, “Nile Level Records,” 163-78.

<sup>73</sup> Ibid., 164, 168-69, 170, 173.

<sup>74</sup> Ibid., 169, 176-78.

<sup>75</sup> Kitchen, *TIP*, 359-60 §321.

chronology in assigning Takeloth II to the 23rd Theban Dynasty, thus making Shoshenq III the successor of Osorkon II.<sup>76</sup>

### **Jaquet-Gordon on Iuputy (Iuput I)**

A volume published by the Oriental Institute of the University of Chicago in 2003, authored by Helen Jaquet-Gordon, is dedicated to the graffiti on the roof slabs of the Khonsu Temple at Karnak.<sup>77</sup> Of interest are three hieratic inscriptions (Graffiti Nos. 244 and 245A-B) engraved by the same person over a period of three years. On the earliest inscription, No. 244, the name of a king Iuputy is written without title and not surrounded by a cartouche, but presumed to be Iuput I. He is given a “Year nine, third month of summer.”<sup>78</sup> In the second inscription, No. 245A, the king is given a “Year nine, second month of summer, day two,” indicating this inscription was incised a month earlier than the one above. In the third inscription “Year 12” is the highest attested. The last two inscriptions do not give the king’s name but Jaquet-Gordon is confident that they refer also to Iuput I.<sup>79</sup> If these do indeed belong to Iuput I, they add to our sparse knowledge, for he is otherwise only known from NLT No. 26 in which his year two equates with Pedubast (I’s) year 16, these connecting to Shoshenq III’s 23rd regnal year.

### **Payraudeau, Kaper, and Demarée on Takelot III**

In another area, in 2004, Frederic Payraudeau argued from four lines of evidence from the Papyrus Berlin 3048 that a year 14 referring to Takelot Si-Ese Meryamun should be applied to Takelot III not II to whom it had been previously attributed.<sup>80</sup>

Until then only a year seven for Takeloth III was known from a graffito on the roof of the Temple of Khons.<sup>81</sup> In 2005, Olaf Kaper and Robert Demarée published a report of a discovery made by U.S. excavators from the University of Columbia in February of that year.<sup>82</sup> They recorded that a stela from the ruins of a temple in the western part of the Dakhla Oasis recorded a year 13 of a king’s reign. It is now conclusively identified as belonging to Takeloth III. In 2008, Payraudeau accepted the evidence of the 13 years for Takeloth III and attributed the 14 years to Takeloth II.<sup>83</sup> The assigning of 13 years to Takeloth III means that chronologies formerly giving him seven years have to be changed.

### **Perdu on Tefnakht II**

A paper published in 2004, written by Olivier Perdu,<sup>84</sup> argues that Shepsesre Tefnakht attested on an Athens Donation stela with a year eight and identified by Kitchen as Tefnakht [I] who submitted to Piye in the latter’s 20th year,<sup>85</sup> should instead

<sup>76</sup> Broekman, “Nile Level Records,” 175.

<sup>77</sup> H. Jaquet-Gordon, *The Graffiti on the Khonsu Temple Roof at Karnak: A Manifestation of Personal Piety* (The Temple of Khonsu, Vol. 3; Oriental Institute Publications Vol. 123; Chicago, IL: Oriental Institute of the University of Chicago, 2003).

<sup>78</sup> *Ibid.*, 84.

<sup>79</sup> *Ibid.*, 85.

<sup>80</sup> Frédéric Payraudeau, “Le règne de Takélot III et les débuts de la domination Koushite,” *GM* 198 (2004) 79-90.

<sup>81</sup> Kitchen, *TIP*, 357 §319; 534 §437.

<sup>82</sup> O. Kaper and R. Demarée, “A Donation Stela in the Name of Takeloth III from Amheida, Dakhleh Oasis,” *JEOL* 39 (2005) 19-37. See [http://en.wikipedia.org/wiki/Takelot\\_III](http://en.wikipedia.org/wiki/Takelot_III)

<sup>83</sup> F. Payraudeau, “Takeloth III: Considerations on Old and New Documents,” *Libyan Period*, 291-96.

<sup>84</sup> O. Perdu, “La Chefferie de Sébennytos de Piankhy à Psammétique Ier,” *Rd’É* 55 (2004) 95-111 cited at “Tefnakht,” <http://en.wikipedia.org/wiki/Tefnakht>

<sup>85</sup> Kitchen, *TIP*, 139-43 §§112-114; see also 145-47 §§117-18.



be identified with Tefnakht II. Perdu notes that a recently discovered stela from the second year of Necho I of the 26th Dynasty is similar in style, text, and format with the Athens stela, demonstrating that Shepsesre Tefnakht was contemporary with Necho I, and therefore could not be Tefnakht I, founder of the 24th Dynasty.

Purdu's identification had previously been made by Klaus Baer agreeing with Priese<sup>86</sup> that Shepsesre Tefnakht must be Tefnakht II, whom he identifies as the son of Bocchoris, and with Manetho's Stephinates of the 26th Saïs Dynasty, where he is given a reign of seven years.<sup>87</sup>

### **Kahn Contends**

This identification is contrary to that previously made by D. Kahn in 1999 when he noted that of the two stelae mentioning Shepsesre Tefnakht, the first—the Athens stela—states that Shepsesre Tefnakht donated land in the vicinity of Saïs. But the other—in the Michailides collection—reports that he donated land in the eastern Delta, about nine kilometres northeast of Bubastis. Kahn says this indicates an expansion from Saïs in the west to the eastern borders of Egypt without a withdrawal of the Kushites.<sup>88</sup>

Therefore, he says, the Kushites and the Saïtic rule could not “fit together into the same time period” and Shepsesre Tefnakht ought to be identified with Tefnakht I, not Tefnakht II. Furthermore, other scholars note that the epigraphic style of the stelae and temple wall reliefs of Tefnakht are in use in the early 25th Nubian Dynasty, and in Tefnakht I's “Chief of the Ma” donation stela of Shoshenq V's year 38, and therefore, Shepsesre Tefnakht could refer to Tefnakht I.<sup>89</sup> If the Athens stela with year eight belongs to Tefnakht I, the regnal years of Stephinates/Tefnakht II are not now attested.

### **Broekman Favors Aston**

In 2005, Broekman elaborated on the different chronologies of Kitchen and Aston, finding in favor of Aston.<sup>90</sup> The decisive factor for him seems to be that because Aston has removed Takeloth II (with his presumed 25 years) from the 22nd Dynasty there is now space to accommodate a long reign for Osorkon II (Usimare Setapenamun).

Broekman has demonstrated that the Year 29 on NLT No. 14 belongs to Osorkon II, particularly because the orthography used for the “Nile Flood” epithet *h<sup>c</sup>pj* indicates a king who reigned before Shoshenq III. Broekman adjusts Osorkon II's reign of 40–45 years given by Aston, to 34 years.<sup>91</sup> The lack of any NLT attributable to Takeloth II's presumed reign of 25 years, and the presumed gap in *The Chronicle of Prince Osorkon* between the year 25 of Takeloth II followed by year 22 of Shoshenq III (what looks like a gap of 22 years between them) can be resolved, writes Broekman, by telescoping the years of Takeloth II and Shoshenq III together.<sup>92</sup>

On the other hand, Kitchen identifies Usimare Setapenamun on NLT No. 14 as Osorkon III, not II, because he can give only 24 years to the latter, having retained Takeloth II's (supposed) 25 years in the 22nd Dynasty.<sup>93</sup> His chronology cannot accommodate another six years beyond what he has already assigned to its other kings. Kitchen's and Aston's chronologies of the 22nd Dynasty begin in 945 BCE with

<sup>86</sup> Priese, “Beginn der kuschitischen Herrschaft,” 19-21.

<sup>87</sup> Baer, “Libyan and Nubian Kings, 23-24.

<sup>88</sup> D. Kahn, “Did Tefnakhte I Rule as King?” *GM* 173 (1999) 123-25.

<sup>89</sup> “Tefnakht II,” [http://en.wikipedia.org/wiki/Tefnakht\\_II](http://en.wikipedia.org/wiki/Tefnakht_II)

<sup>90</sup> Broekman, “Reign of Takeloth II,” 21-35.

<sup>91</sup> *Ibid.*, 25.

<sup>92</sup> *Ibid.*, 30.

<sup>93</sup> Kitchen, *TIP*, xxv; Broekman, “Reign of Takeloth II,” 31.

Shoshenq I's accession, and end with Osorkon IV's last year: 715/713 BCE in Kitchen's chronology, and 720/715 BCE in Aston's.<sup>94</sup> Thus, both cover approximately the same time-span. Broekman prefers Aston's chronology, which overlaps the reigns of Takeloth II and Pedubast I and gives space for a longer reign to Osorkon II.

### Broekman on Shoshenq VII

Another article by Broekman, published in 2005, aimed "to find out how closely his [Shoshenq VII's] chronological position might be determined";<sup>95</sup> that is, within the 23rd Dynasty. Broekman's upper limit for Shoshenq VII is the end of the reign of Osorkon III. His lower limit takes into account the synchronism between King X's 19th year and Piye's 12th year as noted on the Wadi Gasus inscription when Piye's sister, Amenirdis, was adopted.

After the adoption, and the death of King X, datelines were always written in the name of Piye. Therefore, Broekman proposes that, "The Wadi Gasus king X was the very last Upper Egyptian king to be mentioned in official Theban documents. Shoshenq VII then either must be identical with that king or he should be inserted between Takeloth III and King X."<sup>96</sup> Broekman discusses the identification of King X from among four candidates: Rudamun, Shoshenq VII, Peftjauawybast (Peftiauawibast), and Nimlot.<sup>97</sup> He eliminates Rudamun, and Nimlot, and Aston's Peftjauawybast in favor of his own candidate, Shoshenq VII.<sup>98</sup> Shoshenq VII, that is, Hedjkheperre Setepenre Shoshenq Si-Ese Meriamun on NLT No. 3, was assigned the numbering VIa at the Libyan Period conference held in Leiden in 2007.<sup>99</sup>

### Support for Shoshenq VII

Further support for Shoshenq VII is found in connection with an Iny Si-Ese Meriamun, mentioned in a graffito (No. 146 previously No. 11) on a roof slab of the Khons temple with a fifth regnal year and the date of II *šmw* 10. This graffito was carved by a certain Djedioh B. On a nearby slab is a graffito (No. 145, previously No. 10) of a Djedioh A, the presumed grandfather of Djedioh B, which mentions a Shoshenq Meriamun with a fourth regnal year and the date II *šmw* 26.<sup>100</sup> Usually identified with Shoshenq VI, Broekman identifies this king with Shoshenq VII, because he positions Djedioh B contemporary with the Piye's reign in the latter part of the 23rd Dynasty and not two generations earlier in the times of Djedioh A and Shoshenq VI.<sup>101</sup>

This position for Shoshenq VII reinforces Broekman's proposal that the Shoshenq named on NLT No. 3 and the king with the illegible name on NLT No. 45 with years 17, 18, or 25 refer to Shoshenq VII, making it probable that the unnamed king of the Wadi Gasus inscription with the 19th year refers to Shoshenq VII also.<sup>102</sup>

Broekman's chronology (following Aston's) gives to Shoshenq VII 19–24 years and the dates 759–741/735 BCE, indicating that Shoshenq VII's 19th year, equated with Piye's 12th year, fell in 741 BCE. In Broekman's adjustment of Kitchen's chronology

<sup>94</sup> This is according to Broekman's representation of Aston's chronology ("Reign of Takeloth II," table p. 25).

<sup>95</sup> G.P.F. Broekman, "The Chronological Position of King Shoshenq Mentioned in Nile Level Record No. 3 on the Quay Wall of the Great Temple of Amun at Karnak," *SAK* 33 (2005) 75-89. Quote from p. 76.

<sup>96</sup> *Ibid.*, 79.

<sup>97</sup> *Ibid.*, 81-83.

<sup>98</sup> *Ibid.*, 82, 88.

<sup>99</sup> O. Kaper, "The Libyan Period in Egypt" *EA* 32 (2008) 38-39.

<sup>100</sup> Broekman, "Chronological Position," 83; Jacquet-Gordon, *Graffiti on the Khonsu Temple*, 55.

<sup>101</sup> *Ibid.*, 83-84.

<sup>102</sup> *Ibid.*, 86-89.

(approved by Kitchen) he positions Shoshenq VII between Rudamun and Iuput II (its last king), with the 19 years for Shoshenq VII's reign falling in 755-736, thus the latter date is Piye's 12th year.

In order to insert Shoshenq VII's 19 years into Kitchen's chronology, Iuput II's previously given 34-39 years (754-720/715 BCE) is reduced to 21 years (736-715 BCE).<sup>103</sup> Consequently, Piye's invasion of Egypt in his 20th year falls in 728, which equates with Iuput II's eighth year.<sup>104</sup> Iuput II reigns a further 13 years till 715, giving him 21 years, his highest attested.<sup>105</sup>

### SCIEM 2005

Papers from Kitchen<sup>106</sup> and Broekman<sup>107</sup> were presented in absentia at the SCIEM 2005 Egypt and Time Workshop held from 30 June to 2 July in Vienna, and published in 2006. The first part of Broekman's paper consists of extracts from his 2005 article, "The Reign of Takeloth II, a Controversial Matter," commented on above. The second part is a response to Kitchen's article presented at the workshop, starting from Kitchen's §10<sup>108</sup> where Kitchen sought to show again why his scheme of chronology is fully satisfactory, and on the other hand, making concessions to his chronology to provide an alternative.

The following are some of the more relevant points pertinent to our discussion from these papers.

### Dead-reckoning

Kitchen continues to dead-reckon the years of the 22nd Dynasty kings, incorporating the dates afforded to the Assyrian Eponym Canon for the reign of Shalmaneser III of Assyria to gain dates for Ahab of Judah and Jehu of Israel to supply a date of 945 BCE for the beginning of the 22nd Dynasty.<sup>109</sup> This date is also used by Broekman in his representation of Aston's chronology.<sup>110</sup>

### Gaps Assumed

Broekman assumes there is a "gap" in the NLTs where they should have recorded the reign of Takeloth II had he reigned the (assumed) 25 years. Kitchen points out that there are 22 years not recorded between year six and year 28 of Osorkon III, and a 26-year gap between year nine of Taharqa and year 10 of Psamtek I (26th Dynasty), and a 26-year gap between year six of Shoshenq I and year 12 of Osorkon I.<sup>111</sup> (This last example assumes a reign of 21 years for Shoshenq I. Had he reigned longer, then the "gap" would be extended by the corresponding amount.)

### Are Prince Osorkon and King Osorkon III the Same Person?

Kitchen retains Takeloth II with 25 years in the 22nd Dynasty between Osorkon II and Shoshenq III and reiterates previous arguments against identifying Prince Osorkon with Osorkon III. His main points are: (i) the 71-year age required for Prince Osorkon in

<sup>103</sup> Kitchen, "Regnal and Genealogical data," table p. 50.

<sup>104</sup> Broekman, "Chronological Position," table p. 88.

<sup>105</sup> Kitchen, *TIP*, 580 §519.

<sup>106</sup> Idem, "Strengths and Weaknesses," 293-308.

<sup>107</sup> Broekman, "Once Again the Reign of Takeloth II," 245-56.

<sup>108</sup> §10 indicates Kitchen's 1996 Preface to his Second Edition of *TIP*.

<sup>109</sup> Kitchen, "Strengths and Weaknesses," 295-96.

<sup>110</sup> Broekman, "Once Again the Reign of Takeloth II," table p. 246.

<sup>111</sup> Kitchen, "Strengths and Weaknesses," 298-99.

the 39th year of Shoshenq III is not unrealistic; (ii) Prince Osorkon's long-standing enmity with the 23rd Dynasty precludes him being accepted as king of the 23rd Dynasty; (iii) evidence is lacking that Takeloth II was buried at Thebes; and (iv) Kitchen's own belief that the epithet Si-ese proves nothing about the location of kings before the reign of Osorkon III and onwards, nor about the location of Takeloth II who had this epithet.<sup>112</sup>

Broekman counters by continuing to maintain that the 23rd Dynasty had two rival branches: one founded by Takeloth II, and the other by Pedubast I—and it was only the latter branch that Prince Osorkon shunned, not the Takelothid branch.<sup>113</sup> Furthermore, he maintains the civil war was not between Osorkon and the Thebans, but between Prince Osorkon and Harsiese B (HPA), with the Thebans playing only an inferior part. In this scenario, nothing prohibits “identifying Prince Osorkon with king Osorkon III, all the more as the mother of each of them is named Ka(ro)mama.”<sup>114</sup>

### Generation Jumping

In 2005, Broekman argued that Kitchen's chronology required a large number of individuals who lived to a very old age to cover the span of time required. Broekman says, “We have generation jumps occurring contemporaneously in three different families ... too many to be credible.”<sup>115</sup> But in Aston's chronology, generations of people of average ages are all that are required to cover the span of time, which to Broekman was “much more realistic.”<sup>116</sup>

Kitchen responded, in 2006, that the children of siblings may marry at very different ages and have children born many years apart, especially those of large families. Thinking that the whole idea of a “generation jump” is “somehow abnormal” is itself a major conceptual error.<sup>117</sup>

### Pedubast II

Kitchen maintains that the title/style of Sehetepibenre Pedubast [II] does not belong in the later 22nd Dynasty between Shoshenq V and Osorkon IV (where Leahy/Aston/Broekman put him), but it belongs to Pedubast II the ruler of Tanis in the late 7th century BCE. He challenges Aston's proposal that Pedubast II be given 10 years followed by Osorkon IV with 20 years, because the Apis bull, which was inducted in the 37th year of Shoshenq V and died in the fifth or sixth year of Bakenranef/Bocchoris in 715, would have lived from 745 to 715—a span of over 30 years. “No way!!” says Kitchen.<sup>118</sup>

### Kitchen's Options A and B

Kitchen updated his previous chronologies of the 22nd and 23rd Dynasties given in 1986<sup>119</sup> and 2000,<sup>120</sup> to provide two options, A and B, for each dynasty (see Tables 35.5 and 35.6).<sup>121</sup>

<sup>112</sup> Ibid., 298.

<sup>113</sup> Broekman, “Once Again the Reign of Takeloth II,” 249.

<sup>114</sup> Ibid.

<sup>115</sup> Idem, “Reign of Takeloth II,” 27.

<sup>116</sup> Ibid.

<sup>117</sup> Kitchen, “Strengths and Weaknesses,” 299.

<sup>118</sup> Ibid.

<sup>119</sup> Kitchen, *TIP*, table p. 467.

<sup>120</sup> Idem, “Regnal and Genealogical Data,” table p. 50.

<sup>121</sup> Idem, “Strengths and Weaknesses,” 308. For a fuller presentation see tables on pp. 304-07.

**Table 35.5: Kitchen's revised chronology for the 22nd Dynasty (2006): Options A & B**

King	Option A		Option B	
	Years reigned	Dates BCE	Years reigned	Dates BCE
Shoshenq I	21	945–924	21	945–924
Osorkon I	34	924–890	34	924–890
(Shoshenq II c/r)	(2?)	(c. 892/891)	(2?)	(c. 892/891)
Takeloth I	13	890–877	13	890–877
Osorkon II	25*	877–852	30*	
Harsiese A	–	(c. 865)	--	(c. 865)
Takeloth II	25	852–827	25	847–822
Shoshenq III (part c/r in Option B)	39	827–788	39	829–790
Shoshenq IV	10*	788–778	12*	790–778
Pimay	6	778–772	6	778–772
Shoshenq V	37	772–735	37	772–735
Osorkon IV	20	735–715	20	735–715

\*= changes between the options; c/r = co-regency.

**Table 35.6: Kitchen's revised chronology for the 23rd Dynasty (2006): Options A & B**

King	Option A		Option B	
	Years reigned	Dates BCE	Years reigned	Dates BCE
Pedubast I	25	820–795	25	822–797
(Iuput I, c/r)	(2?)	(c. 806/805)	(2?)	(c. 808/807)
Shoshenq VI	6	795–789	6	797–791
Osorkon III	28	789–761	28	791–763
Takeloth III, part c/r	7	766–759	7	768–761
Rudamun	3+*	759–756	5	761–756
	As in Option B		As in Option A	
Shoshenq VII	20	756–736	20	756–736
Iuput II	21	736–715	21	736–715

\*= changes between the options; c/r = co-regency.

The changes to the chronology were necessary for two basic reasons: (i) the update of Osorkon II's 25 years in Option A to 30 years in Option B; and (ii) the inclusion of Shoshenq VII as second-to-last king of the 23rd Dynasty in both options. These also necessitated further changes to the reigns and dates of other kings.

In reconstructing his chronology Kitchen had to keep several things in mind:

- (1) the commencement of the 22nd Dynasty in 945 BCE;
- (2) the synchronism between Shoshenq III's 12th year and Pedubast I's fifth year (NLT No. 24) equating Shoshenq III's eighth year with Pedubast I's first;
- (3) an Apis bull that was installed in the 28th year of Shoshenq III died in the second year of Pimay after 26 years, indicating a reign of 39/40 years for Shoshenq III and 12/13 for his successor, Shoshenq IV, with another bull installed in the 37th year of Shoshenq V, which died in the fifth year of Bocchoris (24th Dynasty) and buried in his sixth year, equated with the second year of Shabako of the 25th Dynasty;
- (4) the 12th year of Piye of the 25th Dynasty had to equate with the 19th year of a king of the 23rd Dynasty, now identified as Shoshenq VII, fixing this sequence of rulers; and finally,
- (5) the 22nd Dynasty was understood to end in 715 BCE with the final appearance of Osorkon IV the previous year, 716 BCE, when he ([U]shilkanni of Assyrian records) had paid tribute to Sargon II, understood to be the second year of Shabako's reconquest of Egypt (first as king *of Egypt*).

Making this a difficult exercise was the constraint of only 230 years between the fixed points of 945 and 715 BCE in the 22nd Dynasty, and that from the fifth year of Shoshenq III the 23rd Dynasty had the same number of years down to its assumed end also in 715 BCE, which was also the last year of the 24th Dynasty. Therefore, the chronologies of the 22nd, 23rd, 24th, and 25th Dynasties are inter-related and have to be correlated to concur with each other.

In the 23rd Dynasty, Shoshenq VII had to be inserted between Rudamun and Iuput II, as the latter is understood by Kitchen to be the last king of the Dynasty. Shoshenq VII's insertion was possible by splitting the 34/39 year reign of Iuput II to give him only 21 years, his highest attested.<sup>122</sup> Iuput II's reign started in 736 and ended in 715 BCE to coincide with the end of the 22nd Dynasty date of Osorkon IV's last year on the assumption that this was Shabako's first year as king of Egypt and the second year since his accession in Nubia.<sup>123</sup>

The 19th year of Shoshenq VII's prior reign had to be the same year as Piye's 12th year (Wadi Gasus inscription) attributed to either 738 or 737 BCE by Kitchen from his reconstruction of the 25th Dynasty. Therefore, Shoshenq VII's 19th year is dated to 738/737 BCE, and his 20th year and Iuput II's first year is the following year in 736 BCE.<sup>124</sup> Shoshenq VII's accession year is then 756, *two years earlier* than what used to be the accession year for Iuput II when attributed 34/39 years beginning in 754 BCE.

In Option A, the preceding kings from Pedubast I down to Rudamun have the same years attributed to them as in 2000, but with the insertion of Shoshenq VII, Pedubast I's reign is now updated with his reign beginning two years earlier, 820 instead of the former 818 BCE. This means that in the 22nd Dynasty, Shoshenq III's first year has to be updated two years, (so that his eighth equals Pedubast's first)—therefore, from 825 to 827—affecting dates before and after it. In 2000, Kitchen gave 15 years to Osorkon IV (730–715) but with the updating of Shoshenq III, and the last year of Shoshenq V in 735 BCE, he gave Osorkon IV 20 years (735–715),<sup>125</sup> thus an increase of five years.

Between the accession of Shoshenq III in 827 BCE and the final year of Osorkon IV in 715, there are 112 years, made up of Shoshenq III 39, Shoshenq IV 10, Pimay 6, Shoshenq V 37, and Osorkon IV 20. As Kitchen has previously noted in *TIP*, “We know from the records of the Apis-burials at Memphis that 52 years elapsed from the accession of Shoshenq III to that of Pimay.”<sup>126</sup> An Apis bull that was installed in year 28 of Shoshenq III was buried 26 years later in the second year of Pimay as recorded on the Serapeum stela.<sup>127</sup>

These 26 years depend on Shoshenq III having a 39 or 40-year reign followed by Shoshenq IV having 12 or 13 years. Shoshenq III's highest attested year is his 39th on NLT No. 22 and further analysis demonstrates that 39 and 13 are the correct number of regnal years for each. In Option A, the 28th year of Shoshenq III is either 800/799 BCE and the second year of Pimay is 778/777, showing, at most, 23 years, not 26 years. Three of Shoshenq IV's 13 years have been deleted leaving him with only 10, because the increase of 5 years to the reign of Osorkon IV has to be offset elsewhere in the dynasty, and 3 have been omitted here. The remaining 2 excess years have been deleted in the

<sup>122</sup> Smendes V, son of Harnakht B of Mendes, dates to year 21 of Iuput II (Kitchen, *TIP*, 580 §519).

<sup>123</sup> Kitchen, “Strengths and Weaknesses,” 293, 297, 299.

<sup>124</sup> The one-year difference comes from the variation in Kitchen's tables shown in his Excursus I and Excursus II (“Strengths and Weaknesses,” tables 307, 308).

<sup>125</sup> Kitchen, “Strengths and Weaknesses,” 294-95, 299, 301, tables 307, 308.

<sup>126</sup> Idem, *TIP*, xxvi §Y.

<sup>127</sup> *Ibid.*, 102 §82, 193 §155 and n. 22; idem, “Strengths and Weaknesses,” 294.

dynasty by reducing (rounding down) Osorkon I's 35 years to 34, and Takeloth I's 15 years to 13—the latter offset 1 year by the *addition* of an extra year to the reign of Osorkon II, from 24 years (in 2000) to 25 years. Thus, the updating of 2 years in the 22nd Dynasty, along with the increase of 5 years to the reign of Osorkon IV, has caused problems in containing the extra years in the 22nd Dynasty and reconciling it with the 23rd Dynasty.

In Option B, Kitchen concedes that Broekman's analysis of NLT No. 14 with a year 29 and version two for "the Nile flood" could refer to Osorkon II. Furthermore, the relief inscription giving Osorkon II a jubilee in his 22nd year, is now seen by Kitchen as a slip in transcribing from the hieratic numbers where a third "ten-sign" was damaged and now seen as two vertical strokes.<sup>128</sup> Thus, in Option B, Kitchen attributes 30 years to Osorkon II, assuming he "probably died in his 31st year,"<sup>129</sup> updated from his 25th year in Option A (24 years in 2000<sup>130</sup>), causing an increase of 5 years to Osorkon II's reign from a previous 24 years in 2000 and 25 years in Option A.

Option B also has the addition of the 5 years to the reign of Osorkon IV. In this presentation, Shoshenq IV is given 12 years not 10 years (as in Option A), which updates Shoshenq III's accession to the year 829 BCE so that his fifth and Pedubast I's first year are in 822—the latter being 2 years earlier than in Option A. So there are 7 years more in Option B than in Option A, and there is 1 year—not 3—omitted in Shoshenq IV's reign.

The kings preceding Osorkon II have the same years and dates in Option B as in Option A, which means that all the years for the dynasty between 945 and 730 BCE are accounted for. Consequently, Kitchen attributes an unattested co-regency/overlap of seven years to Takeloth II and Shoshenq III starting in Takeloth II's 19th year (of an assumed 25 years) falling in 829/828 BCE. He proposes that Pedubast I "used his role at this funeral [Takeloth II's] to claim to succeed him alongside Shoshenq III. The latter may not have approved; hence Pedubast moved out of Tanis, and set up court elsewhere (probably at Leontopolis)."<sup>131</sup>

However, Kitchen needs to explain why Shoshenq III would have become full co-regent in Takeloth II's 19th year. He appeals to the political situation of the time, in which in year 15 of Takeloth II, "a cataclysm of revolt ... burst upon the land ... the years 15–19 probably saw the Thebans in danger of taking over the entire Nile valley south of Memphis."<sup>132</sup> He proposes that Shoshenq took control of the armed forces, stopped the opposition, negotiated peace, and assumed full co-regency with Takeloth II for nearly eight years until the latter died.<sup>133</sup> The overlap of Shoshenq III with Takeloth II also allows a reduction in the age of Prince Osorkon in the 39th year of Shoshenq III, after which he is not heard of again, so that instead of dying at about the age of 71, he dies about 62/66 years old instead, which is considered to be more realistic.<sup>134</sup>

<sup>128</sup> Idem, "Strengths and Weaknesses," 301. This suggestion was made by E.F. Wente in 1976 in a review of Kitchen's 1st edition of *TIP* in 1973. See review of *The Third Intermediate Period in Egypt (1100-650 B.C.)*, in *JNES* 35 (1976) 278.

<sup>129</sup> *Ibid.*, 301.

<sup>130</sup> Idem, "Regnal and Genealogical Data," 50.

<sup>131</sup> Idem, "Strengths and Weaknesses," 300.

<sup>132</sup> *Ibid.*, 301.

<sup>133</sup> *Ibid.* The actual overlap is 7 years not 8; 8 is mentioned because Takeloth II is attributed 26 years (table p. 305) whereas elsewhere Kitchen gives to him only 25 years. The 26th year of Takeloth may then be equated with the eighth year of Shoshenq III and the first year of Pedubast I, making the accession of Pedubast on the death of Takeloth II appear feasible.

<sup>134</sup> *Ibid.*, 301, 297-98.

### Broekman Responds Contradicting Kitchen

Broekman's response is to compare Aston's chronology of the 22nd Dynasty with Kitchen's new revised chronology. Broekman notes that in Option B Shoshenq II becomes co-regent in Takeloth II's 18th or 19th year, which means that Takeloth II's 25th and final year concurs with Shoshenq III's eighth year when Pedubast I founded the 23rd Dynasty.<sup>135</sup> According to NLT No. 26, Pedubast I's 16th year was Iuput I's second year, giving the following equation: Shoshenq III's 22nd = Pedubast I's 15th = Iuput I's first as co-regent. In Kitchen's chronology, Broekman can find no explanation for Iuput I becoming co-regent in Pedubast's 15th year.<sup>136</sup> On the other hand, using Aston's chronology, Broekman notes that Iuput I's first year equates with the 15th year of Pedubast I corresponding to the 25th (and presumed final) year of Takeloth II's reign. Therefore, it seems that upon the death of Takeloth II, Iuput I became his successor, who, in Aston's chronology, is presumed to have headed a faction in competition with one led by Pedubast for supremacy of the 23rd Dynasty.

The correlation of the 22nd and 23rd Dynasties as proposed by Broekman from Aston's chronology, previously given in 2005,<sup>137</sup> and updated in 2006,<sup>138</sup> is shown in Table 35.7 and Table 35.8, and can be compared with Kitchen's above (Tables 35.5 and 35.6).

**Table 35.7: Aston's Chronology for the 22nd Dynasty as supplied by Broekman**

King	Years reigned	Dates BCE
Shoshenq I	21	945–924
Osorkon I	35	924–889
Takeloth I	15	889–874
Osorkon II	34	874–840
Shoshenq III	39	840–801
Shoshenq IV	13	801–788
Pimay	6	788–782
Shoshenq V	37	782–745
Pedubast II	10	745–735
Osorkon IV	15–19	735–720/715

**Table 35.8: Aston's Chronology for the Theban 23rd Dynasty as supplied by Broekman**

King	Years reigned	Dates BCE
Takeloth II	25	843–818
Pedubast I	25	832–807
Iuput I	--?	817–?
Shoshenq VI	6	807–801
Osorkon III	28	801–773
Takeloth III	7	778–771
Rudamun	12	771–759
Shoshenq VII	18–24	759–741/735

While no known inscription indicates that Takeloth II was alive during the reign of Pedubast I or that of Shoshenq III, Broekman weaves this scenario into *The Chronicle of Prince Osorkon*, supposing that it was Iuput I's acceptance by both Prince Osorkon and his adversaries as a candidate to succeed Takeloth II that led to a temporary reconciliation of both parties and the return of Prince Osorkon as HPA to Thebes.<sup>139</sup>

<sup>135</sup> Broekman, "Once Again the Reign of Takeloth II," table p. 252.

<sup>136</sup> *Ibid.*, 251.

<sup>137</sup> *Idem*, "The Reign of Takeloth II," 25, 35.

<sup>138</sup> *Idem*, "Once Again the Reign of Takeloth II," 246, 251.

<sup>139</sup> Broekman, "Once Again the Reign of Takeloth II," 253.



Based on Aston's chronology and his interpretation of it, Broekman writes:

The historical developments outlined above, from the death of Takeloth II until the end of the reign of Shoshenq III, start from a realistic explanation for Iuput I succeeding Takeloth II, and are perfectly in accord with the monumental evidence, notably the sequence of events recorded in the *Chronicle of Prince Osorkon* and the political situation reflected in it ... The accession of Takeloth II preceding the death of Osorkon II by three years can perfectly be explained, as well as Pedubast I taking royal style in Takeloth II's 11th year ... This chronological reconstruction ... is grounded purely on a historical basis, real political situations and realistic circumstances, as advocated by Kitchen, without anything contradicting it.<sup>140</sup>

None of Broekman's speculations are credible if Kitchen's insistence is correct that there was no Theban 23rd Dynasty.

### **Takeloth III's 14th year**

Not commented on by Kitchen or Broekman but seen in their tables, is the attribution of just seven years to Takeloth III: five as co-regent with his father Osorkon III, and two sole-reign years.<sup>141</sup> This does not take into account the findings of a year 13 of Takeloth III seen in 2005 by the excavation team from the Columbia University at the Dakhla Oasis, published by Kaper and Demarée, noted above. Thus, all of Kitchen's efforts to reconcile the 22nd Dynasty with the 23rd Dynasty after the inclusion of Shoshenq VII, in which he gives only two full-reign years to Takeloth III, founders on the omission of the extra years now attributable to Takeloth III.

### **Pimay's Seven or Eight Years**

Kitchen and Broekman also fail to comment on the year seven and possible year eight of Pimay/Pami on the reused block from Heliopolis, known since its publication in 1998 and noted above. Both scholars continue to give Pimay just six years.<sup>142</sup>

### **Shebitku Extradites Iamani in 706 BCE**

The Tang-i Var inscription relates that Shebitku of Melluha (Nubia) extradited Iamani of Ashdod back to Sargon II, a date that scholars set from Assyrian records at 706 BCE.

But Kitchen still insists, in 2006, that Shebitku's reign started in 702 and not 706. He says Shebitku was ruler of Kush *not* Egypt because *sharru* was the term for a Kushite ruler, not for a king of Egypt. So, in 706, Shebitku was Shabako's deputy, or ruler of Kush. Kitchen supports this by pointing out that the vast territory of Kush (or Nubia) and Egypt required a king plus his deputy to oversee the domain.<sup>143</sup> Kitchen now provides Shebitku with 13 years as ruler of Kush as the deputy of Shabako, before becoming king himself of Egypt in 702 BCE. Table 35.9 also shows that while Shebitku ruled as king over Egypt, Taharqa was ruler in Kush, before becoming king of Egypt in 690. There is a precedent in this, in that Taharqa was summoned by his brother, Shebitku, to join the Egyptian and Nubian armies to fight Assyria in Palestine in 701, when Taharqa could not yet have been king of Egypt. Taharqa is cited in 2 Kgs 19:9 as if he is the head of the Ethiopian army.

<sup>140</sup> Ibid., 254.

<sup>141</sup> Kitchen, "Strengths and Weaknesses," 306, 308; Broekman, "Once Again the Reign of Takeloth II," 245.

<sup>142</sup> Ibid., 306, 308; Broekman, "Once Again the Reign of Takeloth II," 246.

<sup>143</sup> Ibid., 293-94. Capitalization his.

In Table 35.9 Kitchen gives the chronology for the 25th Dynasty kings from Piye to Taharqa in Egypt, attributing prior reigns to Shebitku and Taharqa in Kush/Nubia.<sup>144</sup>

**Table 35.9: 25th Nubian Dynasty according to Kitchen (2006)**

Dates BCE	Rulers in (N) Egypt	Years reigned	Adjoint rulers in Kush
749–716	Pi(ank)y (Kush & Thebaid)	33	
716–702	Shabako (715ff. in Egypt)	14	Shebitku (715–702)
702–690	Shebitku	12	Taharqa
690–664	Taharqa	26	(X, then Tantamani? x/y to 664)

Kitchen reckons that Shabako came north in 715 BCE just after Osorkon IV (the “Shilkanni” of Assyrian records) had sent gifts to Sargon II of Assyria in 716. He equates 716 with Piye’s last year and 715 with Osorkon IV’s final year.<sup>145</sup> Since Shabako has a regnal year 15 attributed to him on the British Museum cube statue 24429 of a certain Ity,<sup>146</sup> Shabako’s reign, if assumed to be just over 14 years, would begin in 716 and end in 702 when Shebitku’s would begin.

In Kitchen’s chronology, it is impossible for Shebitku to be ruling as king of Egypt in 706.<sup>147</sup> On the other hand, as noted above, Frame and Kahn date Shebitku as king of Egypt in 706 with a 16-year reign ending in 690. If Shabako had 14–15 prior years, then his accession ought to have been in 721/720 at the end of Piye’s reign. There are two ways to interpret the Tangi-i Var inscription, depending on whether one recognizes Shebitku as king of Egypt, or only of Nubia, in 706 BCE.

### Length of the 24th Dynasty?

Also tied up in the dating of Piye, Shabako, and Shebitku, is the length of the 24th Dynasty. In 2006, Kitchen gives the following table for the 24th Dynasty kings, Tefnakht and Bakenranef/Bocchoris (see Table 35.10).<sup>148</sup>

**Table 35.10: 24th Dynasty kings, Tefnakht and Bakenranef/Bocchoris, according to Kitchen**

Dates BCE	24th Saïte Dynasty	Years reigned
728–720	Tefnakht	8
720–715	Bakenranef/Bocchoris	5

Based on the information from Piye’s Victory stela, it is generally understood that the 24th Dynasty was founded by Tefnakht after Piye (Piankhy) returned to Kush in his 20th year. In Kitchen’s chronology, Piye’s 20th year invasion of Egypt occurred ca. 730–728 BCE.<sup>149</sup> Using the year 728 as the presumed year when Tefnakht’s assumes kingship over the 24th Dynasty, and giving him eight years, Kitchen ends Tefnakht’s reign in 720. Then Bocchoris begins to reign.

Six years later, Shabako, in his second year, killed Bocchoris, dated to 715 BCE, when Shabako became *king of Egypt*.<sup>150</sup> In this scenario, Kitchen assigns the eight years on the Athens stela of a Shepsesre Tefnakht to Tefnakht I, but that has now been challenged by Perdu as belonging to Tefnakht II not Tefnakht I, noted above. If Perdu is correct, Tefnakht I’s regnal years are not attested.

<sup>144</sup> Ibid., 308.

<sup>145</sup> Idem, *TIP*, 143–44 §115.

<sup>146</sup> Ibid., 153 §125.

<sup>147</sup> Idem, “Strengths and Weaknesses,” 293–94; 308.

<sup>148</sup> Ibid., table on 308.

<sup>149</sup> Ibid., 294, table on 308.

<sup>150</sup> Ibid., table p. 308.

This has consequences for the chronology of the 24th and 25th Dynasties, which are particularly crucial in dating Shabako and Shebitku, and their correlation with the 22nd and 23rd Dynasties. However, Kitchen continues to give Tefnakht I eight years in 2006. Broekman's 2006 article does not extend to a discussion of the 24th Dynasty kings.

### Ancient Egyptian Chronology

In 2006, *Ancient Egyptian Chronology* appeared with chapters written by various Egyptologists and other specialists in related fields.<sup>151</sup> As with other Egyptian chronologies, the reliability of the Assyrian Eponym Canon is assumed and Shoshenq I's accession is dated to ca. 945 BCE by most scholars on the basis of dead-reckoning. However, Krauss has amended the date by claiming that a *weresh* (*wrš*) feast designating a lunar month and/or a lunar day, possibly day one, falls within the first five days of a lunar month. Thus, he seeks a lunar match for the date of IV *pṛt* 25 for the fifth year of Shoshenq I and finds it has to fall in 939 giving an accession date of 943 BCE.<sup>152</sup> Furthermore, Krauss and Warburton write:

The traditional date of 945 BC for Shoshenq I's accession rests on a combination of Biblical and Egyptological information. There is, however, no basis for the projected Biblical dates, as no contemporary archaeological or epigraphical evidence provides any support for the generation counts in the Old Testament.<sup>153</sup>

Thus they seek to *down-date* the 945 BCE date. But their arguments are just as applicable to an *up-date* for the commencement of the 22nd Dynasty. They wish to follow Aston's chronology in assuming parallel dynasties under Takeloth II (Theban) and Shoshenq III (Memphite). They understand that lunar dates for the first month of Shomu yield dates of 845 for Shoshenq II, 841 for Shoshenq III, and 834 for Pedubast I. The chronology of the rival Theban 23rd Dynasty under Pedubast I (supposedly an enemy to Takeloth II and Iuput I as the presumed successor of Takeloth II)<sup>154</sup> remains open, as does the Lower Egyptian 23rd Dynasty, assumed to follow the 22nd Dynasty.<sup>155</sup>

In another area, Jansen-Winkel omits reference to the year 13 referring to Takeloth III, found by the team from the University of Columbia on a stela from a temple in the Dakhla Oasis. Jansen-Winkel also writes: "It is highly probable that the Nile level record no. 45 does *not* belong to Shoshenq VII ... there does not remain any time for a year 17/19/25 of a sovereign in Thebes before the Nubians after Osorkon III"<sup>156</sup> (emphasis his).

He attributes only the year five of NLT No. 3 to Shoshenq VII.<sup>157</sup> Rejecting Kitchen's explanation that Shebitku was a viceroy of Shabako when Iamani was extradited back to Sargon II, Jansen-Winkel dates Shebitku's accession to no later than 706 BCE. He dates Shabako's prior 14- to 15-year reign to 722–721 with 720 as the latest date, and his second year, and Bocchoris's sixth, is placed ca. 720 (721–719).<sup>158</sup> He finds the reign of Piye uncertain, especially the date for his campaign into Egypt in

<sup>151</sup> *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006); abbreviated as *AEC*.

<sup>152</sup> Krauss, "Lunar Dates," *AEC*, 411-12; idem, "Das *wrš*-datum aus jahr 5 von Shoshenq [I]," *DE* 62 (2005) 43-48.

<sup>153</sup> Krauss and Warburton, "Conclusions," *AEC*, 474.

<sup>154</sup> Jansen-Winkel, "Third Intermediate Period," 248-49.

<sup>155</sup> Krauss and Warburton, "Conclusions," 473.

<sup>156</sup> Jansen-Winkel, "Third Intermediate Period," 255 n. 147.

<sup>157</sup> *Ibid.*, 255, 256.

<sup>158</sup> *Ibid.*, 258-61.

his 20th year, compounded by the year eight recorded on the Athens stela for a Tefnakhte Shepsesre, whom he prefers to identify with Tefnakht I not Tefnakht II. He sets Piye's campaign to between 734 and 726 BCE and his accession ca. 753–745 BCE.<sup>159</sup> In conclusion, he asserts, referring to the Third Intermediate Period as a whole, "The highest known dates for these kings does not leave significant gaps. The general framework of the chronology of this age is certain."<sup>160</sup>

Notwithstanding the last comment, the complexities of the above discussion show there are real problems in knowing the chronology of the 22nd, 23rd, 24th, and 25th Dynasties. Generally, the problems can be attributed to the fact that there are few certain reigns for the kings. "Dead-reckoning" from the highest *known* regnal years has led to a minimum chronology, so that when extra years are found the collective reigns of the 22nd Dynasty cannot fit between the dates of 945 and 715 BCE—the latter date being also assigned to the end of the 23rd and 24th Dynasties.

If the 22nd Dynasty was longer, Osorkon II could be assigned 30 or more years and Takeloth II's regnal years could also be contained within the 22nd Dynasty (contrary to Aston) without having to be overlapped with Shoshenq III (Kitchen, Option B). In the 23rd Dynasty, Takeloth III could be assigned *13 sole-reign* years and not five co-regent years with his father, Osorkon III, followed by two sole-reign years. Shoshenq VII's possible years 17, 18, or 25 on NLT No. 45 would not be excluded due to lack of space to accommodate his reign. The same applies to other kings whose reigns have not yet been discussed. Those mentioned above have received the most attention in recent times.

This chapter has described the fluidity of opinion and the methods employed within the assumed dating constraints of this period of Egyptian chronology. My approach in chapters 36 to 39 will be to identify firm anchor points and to reconstruct the chronology from documented evidence in the 22nd to 25th Dynasties enlightened by the fact that the 22nd Dynasty commenced with Shoshenq I in 998/997 BCE, not 945 BCE, as demonstrated in preceding chapters.

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<sup>159</sup> Ibid., 262-63.

<sup>160</sup> Ibid., 264.

## Chapter 36

### Framing the 22nd Dynasty

This chapter and the next are devoted to the 22nd Dynasty. This chapter reflects Manetho's framework; the following chapter completes the reconstruction.

Shoshenq I is the first 22nd Dynasty king. He began his reign with a five-year co-regency with Psusennes II. The Dynasty has distinctives that aid its construction. Manetho's records for the 22nd Dynasty have suffered damage and loss in transmission, so only 3 of its 11 kings (9 according to Manetho) are named. Nevertheless, the information it contains is a valuable aid to chronology.<sup>1</sup> Nile Level Texts found on the quay wall of the temple of Amun at Karnak record the maximum height of the Nile in various kings' regnal years. The analyses of these texts help define the length of some rulers' reigns. Lunar dates taken from records of inductions of priests at Amun festivals, and the enthronement of two Apis bulls also assist. Lunar dates from the 23rd and 25th Dynasties and important synchronisms between the 22nd, 23rd, 24th, and 25th Dynasties anchor the reigns of eight kings. The invasion of the Nubian king, Piye, in his 20th year, causing the submission of Egypt's kings and "kinglets," brought the 22nd, 23rd, and 24th Dynasties virtually to an end.

In earlier years, Heqakheperre Shoshenq was known as Shoshenq II, and Hedjkheperre Shoshenq Siese was known as Shoshenq VII. The numbering of Shoshenq Iib, Shoshenq Iic, and Shoshenq VIa does not imply acceptance of their existence by all scholars.

#### Kings of the 22nd Dynasty

The order of the kings of the 22nd Dynasty, as recognized by most scholars at the present time, are shown in Table 36.1 (early period) and Table 36.2 (later period). Because Manetho has totals for the early and later periods, a line in the table for this *framework figure* is provided. In keeping with my method, lunar anchor periods or year periods are noted.

**Table 36.1: Early period of 22nd Dynasty kings with anchor points**

King	Regnal years	Dates reigned	Lunar anchor points or year periods BCE
Shoshenq I			Yr 2, Shoshenq I "justified" at feast III <i>3ht</i> 14; new moon III <i>3ht</i> 13 in 996. Yr 5, <i>wereh</i> feast IV <i>prr</i> 25; new moon IV <i>prr</i> 20 in 994
Osorkon I			Yr 1 bequests beginning on I <i>šmw</i> 7 is new moon in 957 (and lasting 3 yrs 3 mths and 16 days till Yr 4 on IV <i>šmw</i> 25). Yr 3 induction of Hor, II <i>3ht</i> 14; new moon II <i>3ht</i> 11, 954
Shoshenq Iia			NLT 16 appears to give him 5 yrs
Takeloth I			Serapeum stela with 14 yrs and NLT 18 with 13 or 14 yrs is probably his
Osorkon II			125 years (emended from Manetho's subtotal [1]25 ends in 872, last year of Osorkon II's reign
<b>Manetho Total</b>			

NLT = Nile Level Texts.

<sup>1</sup> These are found in *Manetho* (trans. W.G. Waddell; Loeb Classical Library 350; London: William Heinemann Ltd. and Cambridge, MA: Harvard University Press, 1940).

**Table 36.2: Later period of 22nd Dynasty kings with anchor points**

King	Regnal years	Dates reigned	Lunar anchor points or year periods BCE
Takeloth II			Starts to reign 125 years after 997. 11th yr, Amun feast new moon on I <i>šmw</i> 11 in 860
Shoshenq III			Yr 28 installation of Apis bull in Yr 28 on II <i>3ht</i> 1 date of full moon in 810. This Apis bull died after 26 years in the second yr of Pimay in 784. Yr 39 Amun feast on I <i>šmw</i> 26 on third day after new moon on I <i>šmw</i> 24 in 800
Shoshenq IV			None known. A Yr 10 attested
Pami or Pimay			In second yr, 785/784, Apis bull died that was installed 26 years earlier in 28th yr of Shoshenq III in 810
Shoshenq V			Yr 12 installation of Apis bull on IV <i>prt</i> 4 full moon date in 769
Osorkon IV			Present at Leontopolis at invasion of Egypt in Piye's 20th year in 730. End of dynasty in 730 is 142 years from Takeloth's accession in 872, and 267 years from beginning of dynasty in 998/997
<b>Manetho Total</b>			

The previous chapter canvassed the various opinions and problems with this list. Some year periods were taken into account, but not all. Relevant lunar anchor points have not figured to the extent they should have in the discussion of most Egyptologists in recent decades. Our procedure will encompass all available evidence.

### “New” Kings Named Shoshenq

Several “new” kings with the name Shoshenq have been identified, besides those already well known, raising questions where they might fit into the chronology. An international conference held in Leiden in 2007 to discuss the “Libyan Period” agreed upon a temporary numbering system for these kings who are distinguishable by their prenomens.

**Table 36.3: Numbering of 22nd Dynasty kings according to prenomens**

Prenomen	Identifying King number
Hedjkheperre Shoshenq	Shoshenq I
Hegakheperre Shoshenq	Shoshenq IIa
Tutkheperre Shoshenq	Shoshenq IIb
Maakheperre Shoshenq	Shoshenq IIc
Usermaatre Shoshenq Sibast	Shoshenq III
Hedjkheperre Shoshenq Sibast	Shoshenq IV
Aakheperre Shoshenq	Shoshenq V

**Table 36.4: King names from 23rd Dynasty (or the so-called “Upper Egyptian collateral line”)**

Prenomen	Identifying King number
Usermaatre Meryamun Shoshenq	Shoshenq VI
Hedjkheperre Shoshenq Siese	Shoshenq VIa <sup>2</sup>

### Manetho's Lists of the 22nd Dynasty Kings

Africanus attributes nine kings to the 22nd Dynasty, whereas Eusebius and the Armenian give only the three names found in all three lists.<sup>3</sup> They are set out in Table 36.5.<sup>4</sup>

<sup>2</sup> O. Kaper, “The Libyan Period in Egypt,” *EA* 32 (2008) 38-39. The proceedings were published in *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009).

<sup>3</sup> *Manetho*, 158-61.

**Table 36.5: The nine kings of Bubastus in the 22nd Dynasty (fragment 60 [from Syncellus] according to Africanus)**

Number	Kings and no. of years reigned
1	Sesônchis, for 21 yr
2	Osorthôn, for 15 yr
3, 4, 5	Three other kings, for 25 [29] yr
6	Takelôthis, for 13 yr
7, 8, 9	Three other kings, for 42 yr
	<b>Total: 120 yr</b>

Table 36.6 shows the two versions of 22nd Dynasty kings from Eusebius (fragment 61a [from Syncellus] and the Armenian (the latter fragment 61b).

**Table 36.6: The three kings of Bubastus in the 22nd Dynasty (via Syncellus: according to Eusebius [fragment 61a], and the Armenian [fragment 61b])**

Number	Kings and no. of years reigned
1	Sesônchôsis, for 21 yr
2	Osorthôn, for 15 yr
3	Takelôthis, for 13 yr
	<b>Total: 49 yr</b>

The two shorter versions have deleted the two references to “three other kings” for kings three, four, and five; and seven, eight, and nine. The totals, 120 and 49 years, respectively, are secondary additions gained from adding up the numbers. Presumably, the original list once recorded all the kings’ names and their regnal years. Africanus has the best preserved copy.

The first two kings, Sesônchis and Osorthôn, are recognizable as Shoshenq I and Osorkon I. Then the list appears to indicate that kings three, four, and five reigned collectively for 25 [29] years.<sup>5</sup> Then king no. 6, Takelothis, is identified as Takeloth II, followed by kings seven, eight, and nine, who apparently reigned collectively for 42 years.

Referring to this list in 1986, Kitchen wrote, “The surviving text of Manetho’s Epitome very quickly passes from closest accuracy [in the 21st Dynasty] into a state of corruption and over-abbreviation. The one indisputable datum is the first given: 21 years for Shoshenq I, directly comparable with the Year 21 of his Silsila stela ordering the works at Karnak that were never finished.”<sup>6</sup>

Kitchen then presents a table comparing the kings and reigns he assigns to the 22nd Dynasty, and gives his interpretation of Manetho’s figures. He suggests that the total for the first “three other kings” could be emended from 29 to 49 years and the second entry of “three other kings for 42 years” is “totally corrupt, because the irreducible minimum is 95 years.”<sup>7</sup> He asserts, “It is clear that (except for Shoshenq I) the surviving text of Manetho does not begin to do justice to the 22nd Dynasty as it is now known to us.”<sup>8</sup>

<sup>4</sup> *The Book of Sothis* is found in *Manetho*. It also gives the three kings. See further explanation later in this chapter, pp. 523ff.

<sup>5</sup> The [29] has been inserted to bring the total to the stated 120 years, which otherwise amounts to only 116 years.

<sup>6</sup> K.A. Kitchen, *The Third Intermediate Period in Egypt (1100–650 BC)*, (3rd edition, 1986, Warminster: Aris & Phillips Ltd.) 450 §418.

<sup>7</sup> *Ibid.*, 450 §418.

<sup>8</sup> *Ibid.*

### “Three Other Kings” Convey Regnal Data

Allowing for transmission error, the numbers can be explained quite plausibly, and provide very important data in the establishment of the chronology for the 22nd Dynasty. It becomes obvious that Manetho’s twice given “three other kings” for a total of 25 and 42 years, respectively, are insufficient to represent the regnal years for kings three to five and seven to nine. For example, in *TIP*, Kitchen assigned 24–25 years to Osorkon II,<sup>9</sup> and his reign takes up the 25 years assigned to the “three other kings,” leaving no years available for kings three and four. This indicates that the numbers as they are now, are too low. They must have been greater once. If the two numbers are added they amount to 67 years.

According to our analysis, the 22nd Dynasty began in 997 BCE. Kitchen, in 2006, proposed the dates 730–728 for Piye’s 20th year invasion of Egypt.<sup>10</sup> If the dynasty ended in 730, there were 267 years to the 22nd Dynasty, which gives us a clue as to the correct numbers for the twice-stated “three other kings.”

These have wrongly been interpreted to refer to just the kings whose names and regnal years have not been preserved, when originally the years must have referred to *sub-totals for two halves of the dynasty*. The emended subtotals provided for the 22nd Dynasty indicates it was divided into two periods; its first lasting for [1]25 years and its second for [1]42 years, giving 267 years and the dates 997–872 BCE and 872–730 BCE, respectively.

Manetho regarded the first king of the second period as a Takelothis, who can be identified with Takeloth II, son and successor of Osorkon II, the latter recognized as the last king of the first period. The disruption to the dynasty at about the time of the reigns of Osorkon II and Takeloth II is supported by the politico–religious situation known to have arisen between the ruling family in Tanis in the north, and the priests of Amun at Thebes in the south, as related in *The Chronicle of Prince Osorkon*.<sup>11</sup>

Referring to fragmentation during the 22nd Dynasty, Kitchen wrote in 1996:

The first real crack appears when Harsiese obtains a shadow-kingship at Thebes under Osorkon II. Theban disenchantment grew apace under the regime of Takeloth II and Prince Osorkon, leading first to the emergence of rival Theban-based high priests. Shoshenq III proved unable to retain a unified monarchy. A probable sibling Pedubast I split off; founding what Manetho calls the 23rd Dynasty.<sup>12</sup>

The 23rd Dynasty coexisted with the 22nd Dynasty until they both came to an end with the invasion of the 25th Dynasty king, Piye, ca. 730 BCE. Manetho’s numbers for the 22nd Dynasty can be credibly understood when the correct figures of 125 years and 142 years are reinstated, giving 267 years to the dynasty

### Nile Level Texts

During the 22nd to 26th Dynasties, the height of the Nile flood was recorded at Thebes in various years of most of the kings’ reigns. These records, known as the Nile Level Texts, were engraved on the quay wall of the temple of Amun at Karnak covering a distance of about eight meters. The majority of the texts give the name of the king and his regnal year, though one group of texts omits the king and gives the name of the High Priest instead. Sometimes the name of another concurrently reigning king of another

<sup>9</sup> Ibid., 108 §87; idem, “The Strengths and Weaknesses of Egyptian Chronology – A Reconsideration,” *Ä und L* 16 (2006) 297-300.

<sup>10</sup> Idem, “Strengths and Weaknesses,” 294, 296, 297, 301.

<sup>11</sup> See Ricardo A. Caminos, *The Chronicle of Prince Osorkon* (Rome: Pontificium Institutum Biblicum, 1958) 172-80.

<sup>12</sup> Kitchen, *TIP* (3rd ed.), xxxii-xxxiii.



dynasty is given, providing an important synchronism. A few times, the name of the king's mother, as well as various other items of information, are added. Some kings have more than one text.

The texts of the 22nd and 23rd Dynasties number from 1 to 29 and from 43 to 45, and are to the left of the engravings for the 25th and 26th Dynasties numbering from 30 to 42 inscribed on the right-hand section of the wall. The latter are more extensive in their details.

The Nile Level Texts were published briefly by Georges Legrain in 1896, giving a diagram of their positioning on the quay wall and a commentary on the texts.<sup>13</sup> Many of the texts were damaged and in various stages of illegibility, especially Nos. 15 and 44, which are known only from Legrain's publication, but their place on the quay wall is not recorded.<sup>14</sup>

In 1953, Jürgen von Beckerath visited the quay and re-collated the texts. He discovered that Legrain's arrangements of the texts were not numbered in their historical order.<sup>15</sup> Von Beckerath gives a commentary on the texts and a hieroglyphic representation of each.<sup>16</sup>

In 2002, Gerard Broekman provided a full analysis of the texts of the 22nd and 23rd Dynasties, including their position on the quay wall, their orthography, their structure, a commentary on the individual texts focusing on the chronological issues, a presentation of the hieroglyphic inscriptions arranged in groups, and his conclusions.<sup>17</sup>

He noted that consecutive numbers do not necessarily indicate chronological continuity, nor does proximity, though there is a general recognition that texts belonging to one king may have been loosely grouped together, with the texts of later kings sometimes coming between them. It is not known why the Nile Level Texts were engraved in some years and not others.<sup>18</sup>

### Two Versions of "Nile Flood"

A particularly important point concerns the orthography. As Broekman explains, the structure of the Nile Level Texts show two different versions for the words *p3 h<sup>c</sup> pj* "the Nile flood" appearing at the beginning of each text.<sup>19</sup> Version One has three alternative hieroglyphic renderings for the word *h<sup>c</sup> pj*, distinct from Version Two written only one way. Broekman concluded that texts having Version One belong to kings who reigned before the 39th year of Shoshenq III, at which time the texts change from Version One to Version Two.<sup>20</sup> The only exception is Text No. 5 giving year three of

<sup>13</sup> J. von Beckerath, "The Nile Level Records at Karnak and their Importance for the History of the Libyan Period (Dynasties XXII and XXIII)," *JARCE* 5 (1966) 43-55; G. Legrain, "Textes graves sur le quai de Karnak," *ZÄS* 34 (1896) 111-21.

<sup>14</sup> G.P.F. Broekman, "The Nile Level Records of the Twenty-Second and Twenty-Third Dynasties in Karnak: A Reconsideration of their Chronological Order," *JEA* 88 (2002) 163, 174. Von Beckerath could not find Nos. 15 and 44 on the quay wall, but he found traces of inscriptions that he could not identify ("Nile Level Records," 43 n. 9).

<sup>15</sup> Von Beckerath, "Nile Level Records," 43.

<sup>16</sup> *Ibid.*, 49-55.

<sup>17</sup> Broekman, "Nile Level Records," 165.

<sup>18</sup> *Ibid.*, 181.

<sup>19</sup> *Ibid.*, 166.

<sup>20</sup> Kitchen says the difference in spellings of *Hapi* "may be the product of varying scribes, rather than chronological fashions; hence they are not definitive proof without other evidence" ("Strengths and Weaknesses," 299).

Osorkon III, rendered in Version One.<sup>21</sup> He suggests that this can probably be accounted for by the transitional nature of the orthography at this time.<sup>22</sup>

The kings named and represented by Version One are Shoshenq I (No. 1), Osorkon I (No. 2) and Osorkon II (Nos. 8, 9, 11, 12, and 14). Also reigning before Shoshenq III were Shoshenq IIa, (questionable Shoshenq IIb and IIc), Takeloth I and Takeloth II, but these kings' names do not appear. However, there are some texts that do not name the king but do give the name of the High Priest, while some texts are illegible, and these kings may have been represented by these texts.

Broekman notes that from the time of Osorkon II the kings' names became more complex with the optional addition of *Si Ese* to the names of the kings of Upper Egypt, which was subsequently extended to add the epithet *Netjerheqawast* (God, ruler of Thebes), whereas kings of Lower Egypt added *Si-Bast* and the epithet *Netjerheqaon* (God, ruler of Heliopolis).

Broekman regards *Si Ese* and *Si-Bast* as indicative of dynastic affiliation when the 22nd and 23rd Dynasties coexisted, and the epithets also indicating the additional "place of origin of the objects on which they occur."<sup>23</sup> These distinctions are used by Broekman in seeking to identify kings who used the same prenomen and nomen. While Broekman favors the idea of a Theban 23rd Dynasty using the epithet Si-Ese, Kitchen argues that the epithet does not indicate that there was a 23rd Dynasty headed by Takeloth II residing at Thebes.<sup>24</sup> In 2009, Kitchen asserted that "Son of Isis" was used for new rulers in Leontopolis, and that it corresponded to the "Si-Bast" epithets used by their "cousins" in Bubastis and Tanis, arguing again that the epithet did not indicate a Theban 23rd Dynasty.<sup>25</sup> This difference of view affects the subsequent analysis of the Nile Level Texts.

A schematic diagram of the position of the texts on the quay wall is provided below (Figure 36.1) as presented by Broekman. The approximate length of the texts is indicated by the distances between the square brackets. The different writings of the numbers indicate the several groups in which the texts are clustered in Broekman's paper:<sup>26</sup>

<sup>21</sup> Broekman notes Nile Level Text No. 3 with Version Two, previously thought to belong to Shoshenq I, but now that the significance of Version Two has been observed, combined with other criteria, he now attributes this text to Shoshenq II ("Nile Level Records," 164, 167, 169, 174-78). See further discussion below.

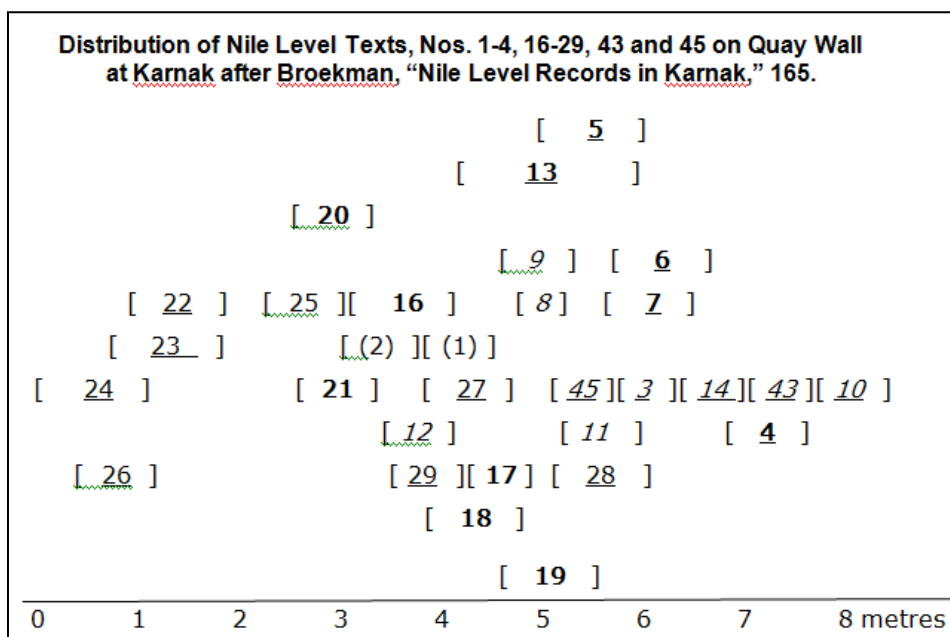
<sup>22</sup> *Ibid.*, 167.

<sup>23</sup> *Ibid.*, 168.

<sup>24</sup> In 2006, Kitchen argued that, "The epithet Si-Ese (even as studied by Muhs) proves *absolutely nothing* about the location of kings or dynasties," noting that it can belong to kings of both the 22nd and 23rd Dynasties. (Emphasis his). ("Strengths and Weaknesses," 298). The reference to Muhs is: Brian Muhs, "Partisan Royal Epithets in the late Third Intermediate Period and the Dynastic Affiliations of Pedubast I and Iuput II," *JEA* 84 (1998) 220-23.

<sup>25</sup> Kitchen, "The Third Intermediate Period: An Overview of Fact & Fiction," in G.P.F. Broekman, R.J. Demarée, O.E. Kaper (ed.), *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (Leiden: Nederlands Instituut voor het Nabije Oosten (2009), 176; see also 199.

<sup>26</sup> Broekman, "Nile Level Records," 165.



**Figure 36.1:** Distribution of the Nile Level Texts.

**KEY:**

(Between rounded brackets): the earliest texts;

**Bold:** the sons of Osorkon I;

*Italics:* the texts of Osorkon II;

Underlined: the time of Shoshenq III and *The Chronicle of Prince Osorkon*;

**Bold, underlined:** the texts of Osorkon III and his son Takeloth III;

*Italics, underlined:* the remaining texts.

Table 36.7 and Table 36.8 give a summary of the information provided by Broekman,<sup>27</sup> and is arranged in a chronological format within the 22nd and 23rd Dynasties to give greater clarity to some issues discussed below.

**Table 36.7: Nile Level Text (NLT) data for the 22nd Dynasty, according to Broekman**

Order and identification of kings	King named	No. of NLT	Regnal year	Version of <i>hapi</i> "Nile Flood"	HP/other comment
1. Shoshenq I	Hedjkheperre Setepenre Shoshenq Meryamun = Shoshenq I	1	6	1	1 & 2 have identical structure; 2 cartouches, prenomen & nomen shown
2. Osorkon I	Sekhemkheperre Setepenre Osorkon Meryamun = Osorkon I	2	12	1	See above
3. Shoshenq IIa	Name not given. [Reign of Shoshenq II?]	16	5	1	HP Iuwelot, son of Osorkon [I]
	Name not given. [Reign of Shoshenq II or Takeloth I?]	20	Not legible		HP not legible, wish for eternal life added to the name of King Osorkon
	Name not given. [Reign of Shoshenq II or Takeloth I?]	21	Not legible	Not legible	HP not legible
4. Takeloth I	Name not given. [Reign of Takeloth I?]	17	8	1	HP Smendes III, son of Osorkon
	Name not given. [Probably reign of Takeloth I]	18	13 or 14	1	HP Smendes III, son of Osorkon
	Name not given. [Reign of Takeloth I?]	19	Not legible	1	HP Smendes III, son of Osorkon

<sup>27</sup> Ibid., 163-78.

5. Osorkon II	Osorkon II	8	12	1	Nos. 8, 9, 11, 12 are one unit; 2 cartouches, prenomen & nomen shown
	Osorkon II	9	12	1	Possibly correcting Nile level of No. 8
	Osorkon II	11	21	1	As above
	Osorkon II	12	22	1	As above
	Usimare Setapenamun = Osorkon II	14	29	1	First use of prenomen Usimare Setapenamun; only one cartouche
	Unknown	15	Not legible	Not legible	2 cartouches; nothing legible. Short text
6. [Takeloth II]	[Takeloth II's reign coming between Osorkon II and Shoshenq III not represented by NLTs unless on now illegible texts, e.g. No. 15]	[?]			
7. Shoshenq III	Shoshenq III	23	6	1	HP Harsiese B
	Shoshenq III / Pedubast [I]	24	Shq. 12 / Ped. 5	1	HP Harsiese B
	Shoshenq [III]	22	39	2	HP Osorkon (Prince Osorkon)

HP = High Priest; Ped. = Pedubast; Shq. = Shoshenq.

**Table 36.8: Nile Level Texts (NLT) data for the 23rd Dynasty, according to Broekman**

Order and identification of kings	King named	No. of NLT	Regnal year	Version of <i>hapi</i> "Nile Flood"	HP/other comment
1. Pedubast	Pedubast [I] / Iuput [I]	26	Ped. 16 = Iu. 2	1	2 kings, no HP named
	Pedubast [I]	28	Ped. 18	1	HP Harsiese B
	Pedubast [I]	27	Ped. 19	1	HP Harsiese B
	Shoshenq [III] / Pedubast [I]	29	Ped. 23	1	HP Takeloth
2. Shoshenq VI	Usimare Meryamun Shoshenq Meryamun = Shoshenq VI	44	Not legible	Not legible	A HP's name illegible. Text most closely resembles No. 25
	Usimare Meryamun Shoshenq Meryamun = Shoshenq VI	25	6	1	HP Takeloth
3. Osorkon III	Usimare Setapenamun Osorkon Meri amun Si-Ese = Osorkon III	5	3	1	Osorkon's mother in cartouche. "Whose mother is the Chief Queen [...]" <sup>28</sup> Wish for eternal life follows name of king Osorkon
	Usimare Osorkon [III] (no epithet)	6	5	2	Nos. 6 & 7 have same structure, and "Whose mother was the Chief Queen Kamama Meryt-mut." <sup>29</sup> Is in cartouche. Similar structure to No. 5
	Usimare Osorkon [III] (no epithet)	7	6	2	See No. 6
4. Takeloth III	Osorkon <i>Si-Ese Netjerheqawast</i> (god, ruler of Thebes) and Takeloth <i>Si-Ese Netjerheqawasat</i>	13	Osk's Year 28 = Tak's Year 5	2	5-year co-regency indicated by synchronism
	Takeloth Meryamun Si-Ese = Takeloth III	4	6	2	"Whose mother is Tentsai" <sup>30</sup>
	Usimare Meryamun	10	5, 6, 13	2	One cartouche; same structure

<sup>28</sup> Kitchen, *TIP*, 92 §73.

<sup>29</sup> *Ibid.*, 93 §74.

<sup>30</sup> *Ibid.*, 95 §76.

	= Takeloth III?		or 14		as Nos. 4 & 43
5. Rudamun	Meryamun	43	3	2	1 cartouche; 1 nomen
6. Shoshenq VIIa	Hedjkheperre Setepenre Shoshenq Si-Ese Meryamun = Shoshenq VIIa [SAK 33, p. 75–76]	3	5	2	Two cartouches, prenomen & nomen; same structure as No. 45
	Meryamun (in nomen cartouche): Shoshenq VII?	45	17, 18 or 25	2	Same structure as No. 3, but no part of prenomen is legible

HP = High Priest; Iu = Iuput; Osk = Osorkon; Ped = Pedubast; Tak = Takeloth.

## 22nd Dynasty Kings

Manetho identifies the 22nd Dynasty rulers as kings of Bubastus (Bubastis). These Delta kings were of Libyan descent, said to be descendants of people captured by Ramesses II and III.<sup>31</sup> The genealogy of a Memphite priest named Pasenhor found on a stela from the Serapeum, lists the following sequence of kings: Shoshenq I, Osorkon I, Takelot I, and Osorkon II,<sup>32</sup> which helps to confirm the order of these kings of the early period known from other sources, though it does not include Shoshenq IIa.

### Shoshenq I (Hedjkheperre Setepenre Shoshenq Meryamun)

Shoshenq I was discussed in chapter 34 relative to the reign of Psusennes II. Shoshenq I's father was Nimlot [A], brother to Osorkon the Elder, third-to-last king of the 21st Dynasty, and his mother was Tentshepeh [A].<sup>33</sup> Shoshenq's wife, Karomama, bore him his first son, Osorkon (to become Osorkon I).<sup>34</sup> Osorkon married Psusennes II's daughter, Maätkare.<sup>35</sup>

Psusennes II had no heir, so Shoshenq I, after a five-year co-regency, succeeded him to become the first king of the 22nd Dynasty. The Larger Dakhla Stela dates a land-register dispute to the 19th year of Psusennes II as well as a *weresh* festival date on IV *pri* 25 in the fifth year of Shoshenq I, referred to earlier. These both date to the year 994, so Shoshenq I's first year dates to 997 BCE (see the fuller explanation in chapter 34 pages 477–480, and note the explanation of dates below the following table).

Shoshenq I's second regnal year also has a date in the Karnak Priestly Annals fragment No. 4, noted in the previous reference in chapter 34, which begins a paragraph with the notation: "Regnal Year 2, 3rd month of Akhet, day 17, of the Great chief of the Mā, Shoshe(n)q, justified".<sup>36</sup> The date of III *3ht* 13 in Shoshenq I's second regnal year coincides with a new moon day, seen in Casperson's Table 36.9 for the year –995 (996 BCE). The date of III *3ht* 14 falling on the day of conjunction is likely to be the day that the Egyptians recognized as the first day of the lunar month. (It is not unusual for the Egyptian date to fall on the day of conjunction rather than on the previous day of the new moon—as determined by the computer computations).

<sup>31</sup> Ibid., 244–45 §206, 285 §239.

<sup>32</sup> Ibid., 105–106 §85, Table 19 p. 488; Jansen-Winkel, "Third Intermediate Period," in *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 236–37.

<sup>33</sup> For family connections see Kitchen, *TIP*, 111–16 §90.

<sup>34</sup> Ibid., 541 §445.

<sup>35</sup> Ibid., 60–61 §49.

<sup>36</sup> Ibid., 288 §242.

**Table 36.9: Shoshenq I's second year –995 (new moon listing for –995)**

Tanis; Lat. 31.0, Long. 31.8; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-995	6	11	-995	6	2	1787	2	14	1	9:27	5:04	175	5:04	73	5:03	4
-995	7	11	-995	7	2	1787	<b>3</b>	<b>14</b>	3	1:07	4:59	158	4:59	<b>70</b>	4:59	-7
-995	8	9	-995	7	31	1787	4	13	4	17:11	5:11	240	5:11	143	5:12	55
-995	9	8	-995	8	30	1787	5	13	6	8:47	5:35	215	5:36	119	5:37	21

DoW = day of week; ToD = time of day.

Available information makes no mention of a new moon on III *3ht* 17, but as an auspicious occasion for Shoshenq I when he was “justified,” it would be appropriate for a feast falling over five days to include the day of a new moon. It is consistent with the date of III *prr* 10 + x for the 13th year of Psusennes II on November 8 in –998, and the *weresh* feast date in Shoshenq I's fifth year on IV *prr* 25 in –993, which equates to 19 December, falling five days after a new moon on the 20th.<sup>37</sup>

Since Shoshenq I's second year date fell in 996, his first year had to begin sometime before III *3ht* 17, which equates to 14 July in 997 BCE. However, the beginning of his fifth year includes the *weresh* feast date on IV *prr* 25 or 19 December in –993 (994 BCE) placing his first year in –997/996 (998/997 BCE).

The dating data means that the accession of Shoshenq I took place before IV *prr* 25, the latter equating to 20 December in 998 BCE. I return to this when discussing the accession of Osorkon I, below, where it seems that Shoshenq I's co-regency started fairly late in the year 998 BCE, possibly on the anniversary of Psusennes II's own accession. With Shoshenq I's accession occurring late in 998 BCE, and most of his first year falling in 997, the 125 years of the early period of the 22nd Dynasty (the [1]25 years of Manetho) must have ended in 872 BCE.

The following 142 years for the later period would have ended in 730 BCE, a date associated with the invasion of the Nubian king, Piye, in his 20th year, when the Egyptian kings submitted to him. Therefore, the dates for Shoshenq I's first five years as co-regent with Psusennes II are established for the beginning of the 22nd Dynasty.

### The Length of Shoshenq I's Reign

Shoshenq I has the distinction of being the first king to have a Nile flood height recorded in his reign on the Karnak temple quay wall, but it refers only to his regnal year six so of no help in determining his reign length. His tomb has never been found, nor his mummy, so his age at death cannot be estimated.

Manetho's list of the 22nd Dynasty has a Sesonch(os)is with a reign of 21 years as its first king, understood to be Shoshenq I. Kitchen equates Shoshenq I's plundering of Jerusalem's temple and palace in his 20th regnal year with Rehoboam of Judah's fifth year (1 Kgs 14:25–26; 2 Chr 12:1–12). This synchronism is proven correct.

Returning to Egypt in his 21st year, Shoshenq celebrated his victory by commissioning imposing works at Karnak, especially his great triumphal relief.<sup>38</sup> It is engraved on the outer wall of a gateway known as the Bubastite Portal, in the south-east corner of Shoshenq I's enclosure at Karnak.<sup>39</sup> It has a list of 50 cities of Judah and Israel including Megiddo,<sup>40</sup> but Jerusalem is not mentioned in its extant part. Jerusalem might

<sup>37</sup> Kitchen dismisses this date as having any reference to a new moon (“Overview of Fact & Fiction,” 167). See Casperson's Table 34.9, ch. 34, p. 479.

<sup>38</sup> Kitchen, *TIP*, 75-76 §60, 301-02 §260.

<sup>39</sup> I.E.S. Edwards, “Egypt from the Twenty-Second Dynasty to the Twenty-Fourth Dynasty,” *CAH*, 545.

<sup>40</sup> T.P. Harrison, “The Battleground,” *BAR* 29/6 (2003) 30.

have been named in the original text in the badly damaged Row IV. Or, because Jerusalem was not conquered it was not included in the list.<sup>41</sup>

The campaign is further attested by a scene at El-Hiba,<sup>42</sup> another stela at Karnak,<sup>43</sup> and a stela from Megiddo.<sup>44</sup> Referring to Manetho's list of 22nd Dynasty kings, Kitchen writes, "The one indisputable datum is the first given: 21 years for Shoshenq I, directly comparable with the Year 21 of his Silsila stela ordering the works at Karnak that were never finished."<sup>45</sup> Since the length of Shoshenq I's reign is disputed,<sup>46</sup> none of the kings have indisputable regnal years! How long Shoshenq I reigned *after* his return from Judah and Israel in his 20th year remains to be known.

### Kitchen & Wentz Dispute

Kitchen writes:

Late in Year 21 ... work began in the sandstone quarries at Gebel Silsila ... at Karnak, before Pylon II of the great temple of Amun, a vast court with later colonnades was duly built ... along the south face of Pylon II, was engraven the huge formal triumph-scene of the king smiting his Palestinian foes before Amun ... Above all this, a long rhetorical text ... vaunted the king's prowess in appropriately traditional terms—but Amun also compliments Shoshenq on his great building project ... Next to this famed scene and list ... the great gateway now known as the "Bubastite Gate" was built ... engraved in large-scale and highly competent work ... no pharaoh had wrought in Karnak on this vast scale for almost four centuries. Then, suddenly, Shoshenq died. His works were left practically all unfinished, his wishes for jubilee-festivals unfulfilled, and all his grandiose schemes died with him."<sup>47</sup>

Kitchen's announcement of Shoshenq's sudden death was challenged. In reviewing the 1973 edition of *TIP* in 1976, Edward Wentz questioned the 21 years as the length of Shoshenq I's reign on the basis of the works at Karnak. He writes,

If one examines the masonry of the Bubastite court, he finds that it is all well dressed with the exception of stones just adjacent to the existing first pylon. Similarly the west wall of the repository temple of Sethos II, just behind the first pylon, shows very rough masonry. Such coarse masonry in the court and on the repository temple is certainly not the original masonry, and consequently one is not justified in concluding that Shoshenq I left the construction of the court incomplete.<sup>48</sup>

Wentz suggests that a first pylon collapsed due to poor foundations and that it is the replacement pylon with its rough masonry that is unfinished.<sup>49</sup> But Kitchen reaffirmed the incomplete state of Shoshenq I's buildings in a 2001 article. He says:

The great triumph-scene was the only part to be completed (or nearly so, depending on one's interpretation of its kingly figure); the Bubastite Gate was completely built, but

<sup>41</sup> Kitchen, *TIP*, 298 §255 n. 298; idem, "Ancient Egyptian Chronology for Aegeanists" in *MAA* Vol. 2, No. 2 (2002) 7-8.

<sup>42</sup> *Ibid.*, 302 §260; idem, "Ancient Egyptian," 7.

<sup>43</sup> *Ibid.*, "Ancient Egyptian," 7.

<sup>44</sup> *Ibid.*, *TIP*, 299 §257 and nn. 302, 303; idem, "Ancient Egyptian," 7.

<sup>45</sup> *Ibid.*, 450 §418, cf. 73-76 §§58-60, 301-02 §260. Kitchen also writes, "... there is no reason to believe that he [Shoshenq I] reigned beyond his incomplete 22nd year" (73 §58).

<sup>46</sup> E.F. Wentz in a review of Kitchen's 1st edition of *The Third Intermediate Period in Egypt (1100-650 B.C.)* in *JNES* 35 (1976) 276-77.

<sup>47</sup> Kitchen, *TIP*, 301-02 §260. See also, Edwards, *CAH III/I* (1982), 544-45.

<sup>48</sup> Wentz, "Review of *TIP*," 277.

<sup>49</sup> *Ibid.*, 277.

only slightly decorated and inscribed; the long colonnades of the court were merely built in the rough, and (at the king's death) left rough and never completed.<sup>50</sup>

### Jubilee Evidence

The length of Shoshenq I's reign was also questioned by Wentz due to the Gebel es-Silsileh inscription (no. 100) which, in addition to the record that the quarrying for Shoshenq I's buildings at Karnak began in Shoshenq I's 21st year, it also has an inscription that indicates that the Karnak court was built to celebrate a jubilee.

On the west pilaster of the Bubastite portal, an inscription reads, "*sp tpy whm hb-sd*," which Wentz translates as, "First occasion and *repetition* of the jubilee"<sup>51</sup> (emphasis added). Wentz continues: "Earlier instances of this expression, as distinct from *sp tpy (n) hb-sd*, 'First occasion of the jubilee,' indicate that a king had already celebrated one jubilee and *was about to celebrate his second*" (emphasis added). Kitchen translates the words similarly as: "first occasion of repeating the jubilee-festival" to which he adds the remainder, "may there be made for him many more, like Rē forever." The phrase is also repeated on the architrave.<sup>52</sup> Kitchen wrote, in 1986, that this formula "does not indicate a second jubilee—in contrast to the proper and well-authenticated formula, *whm hbw sd*; rather it is merely an anticipatory formula, without any historical value,"<sup>53</sup> so disagreeing with Wentz's interpretation.

But, reinforcing his argument, Wentz referred to the priest Nakhtefmut's mummy found at the Ramesseum having a bandage with a year 33 and another bandage having a year three. He says that these should be attributed to Shoshenq I rather than Osorkon I. He writes, "Since a reference to a second jubilee of Shoshenq I is found on the Bubastite portal and since *The Book of Sothis* gives him a reign of thirty-four years, might not one assign the Year 33 bandage on Nakhtefmut's mummy to Shoshenq I and the Year 3 bandage to Osorkon I?"<sup>54</sup>

Wentz then suggests that the year three bandage might indicate a co-regency between Shoshenq I and Osorkon I and that it "might explain the scenes of Osorkon I on a pilaster of the Bubastite portal that complement those of Shoshenq I. Beneath Osorkon I's scenes one reads [*whm*] *hbw-[s]d*, 'Repetition of jubilees'."

Wentz interprets the lack of space to account for what he assumes is an aberrant formula because of the absence, he says, of "either *sp tpy* alone or *sp tpy whm* which on monuments regularly introduce the formulas designating the first and second jubilees respectively." He suspects that "it is merely a wish that he [Osorkon I] may celebrate many jubilees after the manner of his father and co-regent".<sup>55</sup> Wentz attributes to Osorkon I a reign of 12 years, because a year 12 is the highest attested for him,<sup>56</sup> and assigns 34 years to the reign of Shoshenq I.<sup>57</sup>

Kitchen, responded in 1986:

Furthermore, the tag [*whm*] *hbw-[s]d* apparently applied to Osorkon I ... is the known specific formula that is actually used for real second jubilees! This is so for Amenophis III and especially Ramesses II.<sup>58</sup> ... As a first jubilee would fall in Year 30, and a second

<sup>50</sup> K.A. Kitchen, "The Shoshenqs of Egypt and Palestine," *JSOT* 93 (2001) 8.

<sup>51</sup> Wentz, "Review of *TIP*," 277.

<sup>52</sup> Kitchen, *TIP*, 302 §260 n. 322.

<sup>53</sup> *Ibid.*, 544 §451.

<sup>54</sup> Wentz, "Review of *TIP*," 277. The 34 years given in *The Book of Sothis* is found in *Manetho*, 246-47.

<sup>55</sup> *Ibid.*, 277.

<sup>56</sup> A reference to year 12 found on Nile Level Text 2.

<sup>57</sup> Wentz, "Review of *TIP*," 278.

<sup>58</sup> Kitchen, *TIP*, 544 §451.



jubilee in Year 33 or 34, this would imply a minimal reign of 32/33 years for Osorkon I, exactly in accord with the Year 33 bandage, with Manetho's 35 years (emended from erroneous 15), and with a group of other indications for a relatively long reign of Osorkon I.<sup>59</sup>

Nakhtefmut's mummy with the bandage having the "Year 33 Second *Heb Sed*" inscription, also had a bracelet that bore the prenomen *Sekhemkheperre*, by which one assumes that the year 33 refers to Osorkon I, and not to Shoshenq I whose prenomen is *Hedjkheperre*. Thus it is almost certain that Osorkon I reigned for at least 33 years.

However, scholars have recently pointed out that the year three on the separate bandage may have been re-used (as was the practice) and have no bearing on any coregency with his successor.<sup>60</sup>

The allocation of the year 33 on the bandage to Osorkon I, does not, however, mean that the reference to the *second* jubilee on the Bubastite portal cannot refer to a reign of Shoshenq I of at least 33/34 years, as the bandage and the portal have no connection with each other. Indeed, my chronology shows that Shoshenq had a jubilee and its repetition attested by the Bubastite portal, and so did Osorkon I attested by the bandage. This is a possibility that neither Kitchen's nor Wente's incorrectly shortened chronology would have suggested to them.

*The Book of Sothis*,<sup>61</sup> referred to above by Wente, gives a list of 86 ancient Egyptian kings in a very confused order with many kings missing and others unidentifiable from those named in Manetho's lists. Manetho also includes dynasties for which no specific names or years of kings are now recorded.

Names preceding No. 60 in *The Book of Sothis* have some similarities to those of earlier dynasties, especially Manetho's 18th, 19th, and 20th Dynasties. Wente has suggested that Shoshenq I might be the king Susakeim who was given 34 years. He is listed as No. 62.

### ***The Book of Sothis***

In the list from *The Book of Sothis* below, Nos. 59, 60, and 61 are listed as the second, third, and fourth kings of the first Dynasty by Eusebius and the Armenian with names and regnal years as shown in Figure 36.2, although Africanus gives them alternative years: Athothis 57 years, Kenkenes 31 years, and Uenephes 23 years. These are preceded by Menes the first king in Manetho's 1st Dynasty.

<sup>59</sup> Ibid., 544 §451, see 110-11 §89.

<sup>60</sup> "Sheshonk II," [http://en.wikipedia.org/wiki/Sheshonk\\_II](http://en.wikipedia.org/wiki/Sheshonk_II)

<sup>61</sup> Found at the end of Manetho's *Aegyptiaca* translated by Waddell. (1940).

<b>List of Kings in <i>The Book of Sothis</i></b>		
59. Athothis, also called Phusanus, 28 years. In his reign earthquakes occurred in Egypt, although previously unknown there.		} 1st Dynasty
60. Cencenes, 39 years		
61. Uennephis, 42 years		
62. Susakeim, 34 years. This king brought up Libyans, Ethiopians, and Trôglodytes before Jerusalem.		
63. Psuenus, 25 years	Psusennes I	} 21st Dynasty
64. Ammenophis, 9 years	Amenemope	
65. Nephecheres, 6 years	Amenemnisu	
66. Saites, 15 years	Psusennes II?	
67. Psinaches, 9 years	Siamun?	
68. Petubastes, 44 years	Pedubast I	} 23rd Dynasty
69. Osorthon, 9 years	Osorkon III	
70. Psammus, 10 years	"Psammus"	
71. Concharis, 21 years	Shoshenq I	} 22nd Dynasty
72. Osorthon, 15 years	Osorkon I	
73. Tacalophis, 13 years	Takecloth II	
74. Bocchoris, 44 years This king made laws for the Egyptians: in his time report has it that a lamb spoke.	Bocchoris	} 24th Dynasty
75. Sabacon, and Ethiopian, 12 years This king, taking Bocchoris captive, burned him alive.	Shabako	
76. Sebechon, 12 years	Shebitku	} 25th Dynasty
77. Taraces, 20 years	Taharqa	
78. Amaes, 38 years	Ammeris	
79. Stephinathes, 27 years	Stephinates	} 26th Dynasty
80. Nechepsus, 13 years	Nechepsos	
81. Nechao, 8 years	Necho I	
82. Psammetichus, 14 years	Psammetichus I	
83. Nechao II. (Pharaoh), 9 years	Necho II	
84. Psamuthes the Second, also called Psammetichus, 17 years	Psammetichus II	
85 Uaphris, 34 years	Hophra	
86. Amosis, 50 years	Amassis	

Figure 36.2: List of kings in *The Book of Sothis*.

But in *The Book of Sothis*, Athothis is preceded by a Thuoris, probably indicating a juncture between the 58 names that precede Athothis, Athothis himself, and the kings that succeed him. In Manetho's lists, the fifth king is not *Susakeim*, but a king called *Usaphaidos* or *Usaphais* with 20 years. This could be a badly transmitted name of the same man, both having a common "usa." Has an "S" dropped out from the name in the latter two? However, *Susakeim* is given 34 years not 20 years. If *Susakeim* is not to be identified as belonging to the 1st Dynasty, might he then belong to the next set of kings as listed in *The Book of Sothis* beginning with No. 63: *Psuenus*?

The right-hand dynastic allocations have been added. Analysing the list, it may be seen that Nos. 63–67 refer to some of the kings of the 21st Dynasty, Nos. 68–70 to the 23rd Dynasty, Nos. 71–73 to the 22nd Dynasty (where *Concharis* may be seen as *Shoshenq* phonetically spelled backwards), No. 74 to the 24th Dynasty, Nos. 75–77 to the 25th Dynasty, and Nos. 78–86 to the 26th Dynasty. A possible explanation for the order of the dynasties might be that they were written down from a list with two columns

across the page, and then copied down vertically from the first column (say 21st and 23rd Dynasties) before returning to the top to copy down the second column (say 22nd and 24th Dynasties). Then the 25th and 26th Dynasties were copied onto another page. Since these are the last two dynasties given, whether they were across the page or down the page, they would have been copied consecutively.

### **Nothing to Identify Susakeim with Shoshenq**

While these kings do not represent all the kings of the dynasties, their names allow them to be attributed to a dynasty. If Susakeim was another name for Shoshenq I he is not expected to be placed before the name of Psusennes who was the second king of the 21st Dynasty, but in position No. 71, as the first king of the 22nd Dynasty, a position now occupied by Concharis, who appears as Shoshenq I spelt backwards (phonetically).

This identification is supported by the fact that he is given the same 21 years as “Sesonchis/Sesonchosis” of the 22nd Dynasty by Manetho and followed by Osorthon (Osorkon) with 15 years, and Tacalophis (Takeloth) with 13 years. In a chronological order, the 22nd Dynasty kings, Nos. 71–73, should have been placed between the 21st and 23rd Dynasty kings, Nos. 63–67. But this would still not place Susakeim next to the other 22nd Dynasty kings. The added note, “This king brought up Libyans, Ethiopians, and Trôglodytes before Jerusalem,”<sup>62</sup> appears to be referring to 2 Chr 12:3, which speaks of Shoshenq (Shishak) bringing with him from Egypt to Jerusalem “Libyans, Sukkiim and Ethiopians.”<sup>63</sup>

However, this is almost certainly a secondary addition as are various other annotations found in Manetho’s lists and one that has been transmitted to *The Book of Sothis*.<sup>64</sup> There is nothing to identify Susakeim with Shoshenq I of the 22nd Dynasty. Equating these two kings or their 34 regnal years is highly dubious.

The accession of Shoshenq I’s son and successor, Osorkon I, must be anchored before the length of Shoshenq I’s reign can be finally determined.

### **Osorkon I (Sekhemkheperre Setepenre Osorkon Meryamun)**

Osorthon, the second king of Manetho’s list, is there attributed 15 regnal years. He is identified by scholars as Osorkon I, eldest son of Shoshenq I and his wife Karomama, as indicated on the Serapeum stela of the Memphite priest Pasenhor B.<sup>65</sup> The stela notes Tashedkhons as the mother of Takeloth I, but Osorkon I’s principal wife, Maatkare, is not mentioned, nor is her assumed son, Shoshenq IIa.

Osorkon I’s highest known regnal year is year 12 on Nile Level Text No. 2 (situated to the left of Shoshenq I’s Nile Level Text). Kitchen discusses four lines of evidence for a reign for Osorkon I longer than 12 or 15 years.

Firstly, Kitchen assigns the 33 years noted on the bandage of the priest Nakhtefmut to Osorkon I because the mummy also has braces with a *menat*-tab with the name of Osorkon Sekhemkheperre on it. Kitchen writes, “This Year 33 suggests a minimum reign of 32 years and that Manetho’s figure should indeed be taken as a corruption of 15 from 35 years.”<sup>66</sup>

<sup>62</sup> Ibid., 246-47.

<sup>63</sup> For the equivalences in Egyptian see Kitchen, *TIP*, 295 §253 and nn. 290, 291, 292.

<sup>64</sup> Note No. 74 in *Manetho’s* list (Fig. 36.2), “in his reign a lamb spoke”! *Manetho*, 165, 167. That is not to imply that all annotations are not original. No. 75 recording that Bocchoris was burnt alive by Sabacon (Shabako) may be historical.

<sup>65</sup> Kitchen, *TIP*, 106 §85, 292 §249.

<sup>66</sup> Ibid., 110 §89; see Wentz, “Review of *TIP*,” 277.

Secondly, Kitchen notes that Iuwelot, son of Osorkon I, and brother to Shoshenq IIa, was but a youth in year 10 of Osorkon's reign, but had become a High Priest, army commander, and governor of southern Upper Egypt in year five of Takelot I's reign. Therefore, Iuwelot would more likely have been appointed to this responsible position when he was 40 rather than 20, indicating a longer reign for Osorkon I than Manetho's 15 years.

Thirdly, the bandage of year three on the mummy of Nakhtefmut along with the bandage of year 33 led Kitchen to suggest a three-year co-regency of Osorkon I and Shoshenq IIa. On the assumption that Shoshenq IIa was only co-regent and predeceased his assumed father Osorkon I aged in his 50s—judging from the apparent age of his mummy<sup>67</sup>—Kitchen surmises that, “Osorkon I died aged about 70 or more,”<sup>68</sup> suggesting a longer not a shorter reign for Osorkon I.

Finally, Kitchen argues that the series of Third and Fourth prophets of Amun, “is only easily accommodated within a long reign of Osorkon I, and would border on the unrealistic if crammed into a 15-year reign for that king.”<sup>69</sup> So Kitchen argues for attributing to Shoshenq I 21 regnal years and to Osorkon I 35 years emended from Manetho's 15 years. But Wentz wanted to attribute [*whm*] *hbw-[s]d*, the “repetition of jubilees” formula under a scene of Osorkon I on a pillar of the Bubastite portal, to an anticipatory formula, because there was no room for the full formula used for first and second jubilees. He sees this as aberrant, and attributes it to a co-regency between Shoshenq I and Osorkon I with the latter hoping to celebrate “many jubilees after the manner of his father and co-regent who was celebrating his second jubilee.”<sup>70</sup>

But Kitchen writes, “The tag [*whm*] *hbw sd* apparently applied to Osorkon I ... is the known specific formula that is actually used for real second jubilees!”<sup>71</sup> Yet Kitchen can attribute the formula for Shoshenq I, *sp tpy whm hb-sd* “First occasion and repetition of the jubilee” as an anticipatory wish, having “no independent historical value,” and says it does not indicate a second jubilee!<sup>72</sup> This is patently contradictory.

It seems that the words alone cannot resolve whether these are celebratory or anticipatory wishes. The interpretation depends on the bias and assumptions of the individual. Kitchen wanted to assign only 21 years to Shoshenq I and 35 years to Osorkon I, whereas Wentz wanted to assign 34 years to Shoshenq I and only 12 years to Osorkon I.

Neither scholar can attribute a jubilee to *both* kings because this would put Shoshenq's accession before the date of 945 BCE (Kitchen) and 948 BCE (Wentz)<sup>73</sup> and destroy the synchronism with Rehoboam's fifth year, which they date to 925 BCE and 928 BCE, respectively. Yet, that is a consequence of their incorrectly perceived term of the early period of the 22nd Dynasty and their erroneous date of Rehoboam's fifth year, which is properly dated to 977 BCE.

Kitchen's arguments for a long reign of Osorkon I of 35 years is 20 years longer than the 15 years given him by Manetho, intimating that the latter number is damaged. Egyptian numerals are usually written in two rows in a single line of writing and are read from right to left.

<sup>67</sup> D.E. Derry, “Notes on the Remains of Shashanq,” *ASAÉ* 39 (1939) 549-51.

<sup>68</sup> Kitchen, *TIP*, 111 §89.

<sup>69</sup> *Ibid.*, 111 §89.

<sup>70</sup> Wentz, “Review of *TIP*,” 277.

<sup>71</sup> Kitchen, *TIP*, 544 §451.

<sup>72</sup> *Ibid.*, 544 §451.

<sup>73</sup> Wentz, “Review of *TIP*,” 276.

Applying this practice, 15 and 35 would appear in hieroglyphics as shown in Figure 36.3.



Figure 36.3: Hieroglyphics of 15 and 35.

If the two ten-signs (arches) on the right are broken away, miscopied, or so damaged as to be illegible, the number 15 remains. This may have happened to the number for Osorkon I's regnal years as seen by Manetho when recording the dynastic lists from their original display.

If Osorkon I's years can be increased by 20 as claimed by Kitchen, then cannot Shoshenq I's years be increased also to accommodate the arguments for a longer reign than 21 years put forward by Wentz? Supposing that Shoshenq I's regnal years were also deficient by two ten-signs, the number would originally have been written as 41 (see Figure 36.4).



Figure 36.4: Hieroglyphics of 41 using two additional ten-signs.

When the two ten-signs were lost, only | ∩∩ would remain: the number 21. Manetho's list provides one other example of regnal years: the 13 attributed to Takeloth II, first ruler of the later period of the 22nd Dynasty. Kitchen assigned 25 years to Takeloth II, his Year 24 noted in *The Chronicle of Prince Osorkon*.<sup>74</sup> But using the same application as above, it cannot be seen how 25 could become 13 by eliminating two ten-signs, but it could become 13 if the original number was 33 (see Figure 36.5).



Figure 36.5: Hieroglyphics of 33.

Thus, 33 could have become ||| ∩ (13). From the examples of Osorkon I and Takeloth II who could be demonstrated to have reigned past 15 and 13 years, respectively, the same may be applied to Shoshenq I.

Reinstating two ten-signs to Shoshenq I would give him 41 regnal years, a quite plausible total. Kitchen noted that "Late in Year 21 ... work began in the sandstone quarries at Gebel Silsila," and that "no pharaoh had wrought in Karnak on this vast scale for almost four centuries." However, he presumes that Shoshenq I died the following year.<sup>75</sup> Is it not far more credible that the vast amount of construction took place over some 20 years (when it hadn't been achieved in the previous 400 years) than to think it all took place in *less* than a year? From the above discussion it is feasible to attribute 35 regnal years to Osorkon I, but confirmation is needed.

### Priestly Inductions at New Moon

The recently discovered Block Karnak 94, CL 2149 mentions the date of I šmw 13 either in year 11 or year three of Psusennes II. The favored date is year three, because it exactly matches the date of a new moon on that date for the induction of the priest Nesankhefenmaat.

On the same block is a date for the second and third year of a king whose name is damaged but identified as Osorkon I. It refers to an induction of Hor, the son of

<sup>74</sup> Kitchen, *TIP*, 107 §86.

<sup>75</sup> See n. 47 above. See also, idem, "Strengths and Weaknesses," 296.

Nesankhefenmaat, into the priesthood on II *3ht* 14. Other similar inductions, already mentioned, fall within five days of a new moon, which implies that this date also comes within five days of a lunar Day One. If Shoshenq I reigned 41 years from 997/996 BCE, his reign would end and Osorkon I's begin ca. 958/957 BCE (depending on the length of Shoshenq I's final year), and his third year ca. 955/954 BCE (–954/–953). Casperson provides Table 36.10 for –953.

**Table 36.10: Osorkon I's third year –953 (new moon listing for –953)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–953	4	29	–953	4	20	1829	1	11	3	18:56	5:40	238	5:39	121	5:39	52
<b>–953</b>	<b>5</b>	<b>29</b>	–953	5	20	1829	<b>2</b>	<b>11</b>	5	8:10	5:21	204	5:21	110	5:20	<b>35</b>
–953	6	27	–953	6	18	1829	3	10	6	19:29	5:11	288	5:11	171	5:11	78

DoW = day of week; ToD = time of day.

In –953 (954 BCE) there was a new moon on II *3ht* 11. That date infers that the induction of Hor took place three days later, at the *end* of Osorkon I's third year. If it had been at the *beginning*, his first year would have begun in the year 956 BCE, which would create a gap of about one year between the end of the 41st year of Shoshenq I ending in 958 or 957 BCE (again depending on the length of his final year). A date of I–IV *prt* in Shoshenq I's first year is about as early as it could be, while keeping IV *prt* 25 in his fifth year.

#### Dates Correlated for Psusennes II, Shoshenq, and Osorkon I

Psusennes II's 14th year cannot end earlier than III *prt* 10–19 because his 13th year included those dates for the induction of Nesankhefenmaat. Psusennes II's 14th year, if beginning soon after III *prt* 10–19, would begin his 15th year at about the same time as Shoshenq I's first year, which has to begin before IV *prt* 25. Therefore, the accession of Shoshenq I is close to the end of Psusennes II's 14th year, and one can speculate that Shoshenq I began his co-regency on the accession date of Psusennes II about the beginning of IV *prt*.

#### Osorkon I's Accession in 957 BCE and Shoshenq I's Length of Reign

Returning to the reign of Osorkon I, the *very latest date* for his third year would be II *3ht* 14, the date of the induction of Hor, after which his fourth year would begin on II *3ht* 15. Therefore, his accession could not be *earlier* than II *3ht* 15 just over three years previously in 957 BCE. Our foregoing analysis indicates that the accession of Shoshenq I likely took place in IV *prt* before day 25 the latter equating to 20 December in 998 BCE. Most of Shoshenq I's first year occurred over 997, and his 20th year in 977 was the same as Rehoboam of Judah's fifth year.

Shoshenq I's 41st year would have ended in III *or* IV *prt*, but his reign did not end until Osorkon I's accession after III *3ht* 14, thus Shoshenq I reigned about six months of his 42nd year. This would round down to 41 years.<sup>76</sup> Beginning to reign possibly in the latter half of III *prt* down to sometime before IV *prt* 25, would equate to mid-November to late December. Shoshenq I may be assigned the years 998/997 to 957 BCE.

#### Corroboration of Osorkon I's Accession Year from Bubastis

The accession year of Osorkon I is further confirmed by a list of his donations at

<sup>76</sup> The various 21st and 34th years proposed by scholars for Shoshenq I's reign do not accommodate a date of II *3ht* 14 being near a new moon date on the above timeframe.

Bubastis. Redford, seeking to illustrate that regnal years were counted from a king's accession date and not from the beginning of the year in the New Kingdom, writes:

This text reviews the list of royal bequests “which H. M. gave to all the temples and shrines of the gods in Upper and Lower Egypt from regnal year 1, first month <shomu> day 9 [sic]<sup>77</sup> to regnal year 1, fourth month of <shomu>, day 25, making 3 years, 3 months and 16 days.”<sup>78</sup>

These bequests were made up of “handsome gifts of gold and silver vessels and furnishings upon the temples of the major deities of Egypt” as reported by Kitchen.<sup>79</sup> Of particular interest here is the date I *šmw* 9 for his first year. This year fell in –957 according to our date for Osorkon I's third year in 954 BCE. Table 36.11 provides Casperson's lunar table for the year –956.

**Table 36.11: Osorkon I's first year –956 (new moon listing from –956 to –955)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2		–1		0	
–956	11	24	–956	11	15	1826	8	10	6	9:32	6:37	202	6:38	104	6:38	9
<b>–956</b>	<b>12</b>	<b>24</b>	–956	12	15	1826	<b>9</b>	<b>10</b>	1	5:27	6:49	172	6:49	<b>72</b>	6:49	<b>–19</b>
–955	1	22	–955	1	13	1826	10	9	2	23:60	6:45	276	6:44	127	6:44	31

DoW = day of week; ToD = time of day.

In –956, the new moon fell on I *šmw* 9, precisely the date given for the start of the bestowal of the precious gifts, probably indicating that it was the beginning of an Amun *Tepi Shomu* feast, and the bestowal went on for 3 years, 3 months, and 16 days—a magnificent start to Osorkon I's reign!

Presumably, the date was chosen because it was the beginning of a lunar month, or the day of the new moon. As noted, the date falls after II *šht* 15 of the year –956, possibly about seven months into his first regnal year. The coincidence of this date falling on –956 (957 BCE) determined to be Osorkon I's first year after Shoshenq I's reign of 41 years lends further credence to the length of the latter's reign.

### Osorkon Reigned 35 Years

Earlier evidence has supported the fact that Osorkon I achieved a 30-year reign marked by a Jubilee, and also the 3 or 4 more years that are recognized by a repetition of the Jubilee. It is almost certain that Osorkon I reigned for at least 33 years, and my chronology proposes the number as 35 years.

One might object that the priestly office of Hor's father, Nesankhefenmaat, beginning in the third (not 11th) year of the reign of Psusennes II in 1008 would extend his incumbency down to 954 BCE, or an unlikely lengthy period of 54 years. Nesankhefenmaat might have been quite young when inducted. That may be borne out by the pontificate of his father, Nesamun, who was inducted into office in the reign of Siamun (Block Karnak 94, CL 2149). In the Karnak Priestly Annals, the father of Nesankhefenmaat is named as Hori. If Nesamun is the same person as Hori, then his induction took place in Siamun's 17th year in 1012. Preceding Hori's/Nesamun's induction his father, Nespaneferhor, was inducted in year two of Osorchor the Elder in 1035. From these dates we learn that Nespaneferhor officiated from 1035 to 1012 BCE

<sup>77</sup> Redford points out that the copy reads “7,” citing H. Gauthier, *Le Livre des rois III* (Cairo, 1914) 325 and n. 1. See the following footnote.

<sup>78</sup> D.B. Redford, “Sais and the Kushite Invasions of the Eighth Century B.C.,” *JARCE* 22 (1985) 5. See also Kitchen, *TIP*, 303 §262 and n. 326.

<sup>79</sup> Kitchen, *TIP*, 303 §262.



for 23 years, Hori/Nesamun from 1012 to 1008 BCE for 4 years, and Nesankhefenmaat from 1008 to 954 BCE for 54 years.

The very short pontificate of Hori/Nesamun compared with the preceding 24 years and the succeeding 54 years indicates that two generations cover the latter two pontificates. The short pontificate of Hori/Nesamun is offset by the long one of Nesankhefenmaat implying that the latter must have taken over the duties when he was relatively young. Attributing to Nesankhefenmaat a pontificate of 54 years is not a real problem.

Shoshenq I's reign contributed 41 years to the first division of the 22nd Dynasty, from 998/997 to 957 BCE, leaving 84 of the 125 years to be distributed to the remaining kings. Of these, Osorkon I can be attributed 35 years, 957–922 BCE, leaving 49–50 years down to the date of 872 BCE.

### **Shoshenq IIa (Heqakheperre Setepenre Shoshenq Meryamun)**

Shoshenq IIa is not mentioned in Manetho's list of the 22nd Dynasty kings, nor is he named on the Pasenhor stela genealogy. However, he is generally identified as the first of the "three other kings" referred to by Africanus. Yet issues of his identity have been controversial, and due to recency, are reported, unfortunately, at some length.

At Tanis in 1939, Pierre Montet discovered, in the antechamber of the tomb of Psusennes I—the only unviolated tomb of the 21st Dynasty—the mummy of a Shoshenq Heqakheperre in a silver coffin with a falcon's head. Examination by Douglas Derry of the Cairo Museum's Anatomy Department in 1939 showed evidence of rootlets in the leg bones of the mummy having penetrated through the damaged end of the coffin, suggesting that it had been moved from a waterlogged original burial site, and reburied in Psusennes I's tomb.

The king had a severe head injury indicating that he died of massive infection. He was judged to be in his 50s at death.<sup>80</sup> As evidence of the coffin's reburial, Dodson confirmed that the coffin had suffered damage through "rough handling in antiquity."<sup>81</sup> In the funerary equipment were jewelry and priceless pectorals, including one of Shoshenq I before he became king, that is, "The great Chief of the Ma, Chief of Chiefs, Shoshenq," and a couple of bracelets naming Shoshenq I as king. But the tomb did not have any object naming Osorkon I.<sup>82</sup> Some scholars consider this strange if Shoshenq II was the son of Osorkon I. So some suggest that he may have been the son of Shoshenq I.<sup>83</sup> That would make him a brother or half-brother to Osorkon I. Kitchen identified this Shoshenq Heqakheperre as the High Priest of Amun (HPA), Shoshenq C, son of Osorkon I and his wife Maätkare B, the daughter of Psusennes II.<sup>84</sup> In this case, Shoshenq Heqakheperre would have been the half-brother of Takeloth I who was also the son of Osorkon I—by his second wife, Tashedkhons.

Kitchen notes that Shoshenq C used a cartouche while still High Priest, indicating expectations to the throne.<sup>85</sup> From the inscription on the rear of the statue of the god Bes, he says it was dedicated by the High Priest Harsiese to his father High Priest Shoshenq C. Kitchen notes that Harsiese merely called himself "son of the pontiff and army-chief," and Kitchen uses this designation to support his claim that Shoshenq Hekakheperre (IIa)

<sup>80</sup> Derry, "Notes on the Remains," 549-51.

<sup>81</sup> A. Dodson, *The Canopic Equipment Of The Kings Of Egypt* (London: Kegan Paul, 1994) 89.

<sup>82</sup> Kitchen, *TIP*, 117-8 §93.

<sup>83</sup> J. Dunn, "Sheshonq II and the Treasure trove of his Burial,"

<http://www.touregypt.net/featurestories/sheshonqii.htm>

<sup>84</sup> Kitchen, *TIP*, 117-20 §§93-4, 195 §157, 306 §265, 545 §452.

<sup>85</sup> *Ibid.*, 119 §94, 307 §265.



was *only a co-regent* with his father;<sup>86</sup> whereas, if his father had been king, he would have called himself the son of the king.<sup>87</sup> (Harsiese, the High Priest of Amun, is identified as Harsiese B to distinguish him from Takeloth I's son, known as Harsiese A, who later became king of Thebes, while Osorkon II reigned in Tanis.)

Kitchen also sides with the views of several earlier scholars (Montet, Driorton, and Vandier) in assuming that Shoshenq II predeceased his father,<sup>88</sup> and therefore could only have been co-regent, never sole-reign king.<sup>89</sup> He also claims that had Shoshenq II ruled as sole-reign king he would not have been succeeded by Takeloth I, his half-brother, but by his son Harsiese.<sup>90</sup> Kitchen continued to maintain this position in 2009.

Broekman gave cogent reasons in 2000 and 2001 why Shoshenq Heqakheperre should be identified with the HPA Shoshenq C, son of Osorkon and Maätikare B<sup>91</sup> (thus agreeing with Kitchen). For example, Shoshenq's unique prenomen, Heqakheperre, is based on the model of kings using original names at the beginning of the 22nd Dynasty, and not after the reign of Takeloth I when previously used names were adopted.<sup>92</sup> Furthermore, in the funeral equipment of Shoshenq Heqakheperre were found items such as bracelets and a pectoral belonging to Shoshenq I and none that could be dated later.<sup>93</sup>

Broekman observes that Shoshenq II, as son of Osorkon I of the 22nd Dynasty and Maätikare, his mother, of the 21st Dynasty, was in a strong position to succeed his father as king, the female line being considered very important. Broekman writes, "Especially during the 21st dynasty the high ranking ladies played a significant role and the maternal line greatly influenced the succession in the leading positions."<sup>94</sup> He had no need to trace his descent back a further generation to Psusennes II to prove his claim to kingship.<sup>95</sup>

Significantly, in 2001, Broekman pointed out that seven inscriptions describe the HPA Shoshenq C as the son of King Osorkon I. Three of them include the name of the mother of HPA Shoshenq, Maätikare. Two of them name her as daughter of king Psusennes II.<sup>96</sup> It would be extremely unusual for a Shoshenq and a Maätikare to have

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<sup>86</sup> In 1975, Helen Jacquet-Gordon questioned Kitchen's attribution of Shoshenq II as the king portrayed on the Bes statue as the co-regent of Osorkon I, because she noted that the *1st prophet* (High Priest) Harsiese could only have officiated either while his father was co-regent or after he had died since they couldn't both be 1st prophet at the same time. Since he did not call his father king in the Bes statue, only 1st prophet, she said it indicated Shoshenq held no pretensions to the throne and could not have become King Heqakheperre Shoshenq (H. Jacquet-Gordon, "Review of K.A. Kitchen's 'The Third Intermediate Period in Egypt(1100-650 BC)'," *Bibliotheca Orientalis* 32 [1975] 359). But, in 1995, Karl Jansen-Winkeln showed that Jacquet-Gordon had misread the Bes inscription, pointing out that it refers to the HPA Shoshenq and his son the *prophet* of Amun, Harsiese ("Historische Probleme der 3. Zwischenzeit," *JEA* 81 [1995] 130, 132). Since the inscription appears to have been dedicated while Shoshenq was High Priest, Shoshenq HPA could have become king later (G.P.F. Broekman, "Shoshenq Maäkheperre and Shoshenq Heqakheperre," *GM* 176 [2000] 39).

<sup>87</sup> Kitchen, *TIP*, 119 §94.

<sup>88</sup> *Ibid.*, 119 §94, n. 170.

<sup>89</sup> *Idem*, "Overview of Fact & Fiction," 165.

<sup>90</sup> *Idem*, *TIP*, 119-20 §94.

<sup>91</sup> Broekman, "Shoshenq Maäkheperre," 39-46; *idem*, "Once More Shoshenq Heqakheperre," *GM* 181 (2001) 27-37.

<sup>92</sup> *Ibid.*, 40; *idem*, "Once More Shoshenq," 29.

<sup>93</sup> *Idem*, "Once More Shoshenq," 29.

<sup>94</sup> *Ibid.*, 29.

<sup>95</sup> *Idem*, "Shoshenq Maäkheperre and Shoshenq Heqakheperre," 39-46; *idem*, "Once More Shoshenq," 28-29.

<sup>96</sup> *Idem*, "Once More Shoshenq," 28.

two sons called Shoshenq, so the conclusion is that HPA Shoshenq C is Shoshenq Heqakheperre (Shoshenq II).

Broekman's analysis of *shabtis* attributable to Shoshenq Heqakheperre compared with others buried in tombs at Tanis, indicate Shoshenq Heqakheperre lived in the early part of the 22nd Dynasty, not in the latter part (noted above). Shoshenq Heqakheperre's silver coffin was found reburied in the tomb of Psusennes I (NRT III)<sup>97</sup> on a platform in the vestibule with mummies and funerary equipment of two other coffins that had decayed except for their bronze parts, suggesting that the mummies were of royal blood.<sup>98</sup>

Yoyotte had identified them as Siamun on the left of Shoshenq Heqakheperre, and Psusennes II on the right.<sup>99</sup> Unlike tombs of the 18th to 20th Dynasties made only for one king, the tombs of the 21st Dynasty were family tombs.<sup>100</sup> In the reburial of Shoshenq II he was placed with four kings of the 21st Dynasty: Psusennes I, Amenemope, Siamun (whose descent is uncertain),<sup>101</sup> and Psusennes II; all of Psusennes I's dynastic successors except Osorkor the Elder, who may have been buried in a new cemetery.<sup>102</sup>

Shoshenq Heqakheperre's reburial in a family tomb resembles the mummies buried later in the family tomb of Osorkon II at Tanis (NRT I), in which also were laid to rest Takeloth I (Osorkon II's father), and Osorkon II's son, Harnakht HPA. Dodson suggests that the 21st and 22nd Dynasty kings down to Takeloth I had previously been in a new cemetery—location unknown—and that Osorkon II, perhaps to save them from groundwater problems, had them removed to Tanis, where he kept Shoshenq II with his 21st Dynasty predecessors, and his (Osorkon II's) own family of the 22nd Dynasty not connected to the 21st Dynasty, in his own family tomb.<sup>103</sup>

Shoshenq II's reburial with 21st Dynasty kings reinforces his claim to the throne through his presumed mother Maätkare, and also through his presumed father Osorkon I, and also as grandson of Shoshenq I. Thus Shoshenq II's burial in the anteroom of Psusennes I's tomb is consistent with him being the HPA, son of Osorkon I and Maätkare, daughter of Psusennes II.

Broekman concludes that Shoshenq Heqakheperre succeeded Osorkon I, his father. After the deep wound to his head from which he appears to have died, Shoshenq II was succeeded by Takeloth I, his (presumed) half-brother, son of Osorkon I by his lesser wife, Tashedkhons. This conclusion accords with Kitchen's position.

### **Maäkheperre Setepenre Shoshenq Meryamun**

Scholars' discussions about the identity of Shoshenq Heqakheperre did not rest with Kitchen's identity of him as the HPA Shoshenq C, son of Osorkon I and Maätkare, but also involved the identity of a king whose name was mentioned on an inscription on the back of the Cairo statue CG 42192. The statue had earlier been used by Thutmose III.

<sup>97</sup> The Royal Tombs at Tanis are designated as NRT-I to VII. The discoveries were reported in a series of volumes entitled *La nécropole royale de Tanis* by Jean Pierre Marie Montet. Volume 1 was published in 1947.

<sup>98</sup> Cited by Broekman, "Once More Shoshenq," 34, from J. Yoyotte, *Tanis, L'or des pharaons* (Paris: AFAA, 1987) 48.

<sup>99</sup> Broekman, "Once More Shoshenq," 34.

<sup>100</sup> *Ibid.*, 31-32.

<sup>101</sup> *Ibid.*, 33, 34.

<sup>102</sup> *Ibid.*, 34; citing Dodson, "Some Notes Concerning the Royal Tombs at Tanis," *Cd'É* 63/126 (1988) 229.

<sup>103</sup> *Ibid.*, 33; Dodson, "Some Notes," 231.

It speaks of a king who was begotten by a king of Upper and Lower Egypt, named Tyetkheperre Setepenre Hor-Pasbakhaenniut Meryamun; that is, Psusennes II.

Broekman translates:

... (a work made by the lord of) the strength, lord of accomplishing benefactions (?), whom Amun himself had chosen, Maäkheperre Setepenre, son of Re from his own flesh, beloved by him, lord of Appearances Shoshenq Meryamun, which his majesty made as a monument for his father Amun (?) (after having renewed) its name on the one who has begotten him, the king of Upper and Lower Egypt, lord of the two lands, lord of the ritual, Tyetkheperre Setepenre, the son of Re, lord of appearances Hor-Pasebakhaenniut Meryamun, to whom may be given all live [*sic*], stability and dominion and all health, forever like Re (?).<sup>104</sup>

This inscription makes clear that Maäkheperre laid claim to the throne by being chosen by Amun and *begotten of Psusennes II*. Prior to 1990, this Shoshenq had been identified as Shoshenq I, but then Malte Römer pointed out that the king named is Shoshenq Maäkheperre spelt with a Maä feather, not Shoshenq Hedjkheperre (Shoshenq I) written with a Hedj, white crown sign, which for him eliminated Shoshenq I—more so because he was not a son of Psusennes II.<sup>105</sup>

Römer concluded that Heqakheperre found in the tomb of Psusennes II was the same as Maäkheperre of the Cairo statue CG 42192, though he had to assume that there had been an error in the writing of the name Maäkheperre and Heqakheperre (the latter having a heqa scepter sign).<sup>106</sup> Subsequently, however, because it was thought improbable that the names had been incorrectly inscribed, especially unlikely on the tomb of a king, various scholars concluded that Shoshenq Heqakheperre and Shoshenq Maäkheperre were different individuals, and a new king Shoshenq Maäkheperre should be recognized. His father was assumed to be the HPA Shoshenq C son of Osorkon I and Maätkare B,<sup>107</sup> having Psusennes II as his maternal grandfather.

This identification meant that Shoshenq *Heqakheperre* could not also be the son of Osorkon I and Maätkare B as Kitchen had proposed, as it would mean that the couple had two sons both named Shoshenq, which was improbable. The fact that no items belonging to Osorkon I had been found in the tomb of Shoshenq Heqakheperre (who was assumed to have predeceased and been buried by his father—according to Kitchen's assertion that Shoshenq II was co-regent with Osorkon I), was cited as evidence that Hekakheperre was not the son of Osorkon I,<sup>108</sup> but possibly the son of Shoshenq I since near his tomb was found a pectoral of the great chief of the Ma, Shoshenq A, before he became king, as well as a bracelet naming Shoshenq after he became king. Since kings were often buried with objects belonging to their parents, it is proposed by some scholars (e.g. Jansen-Winkel<sup>109</sup>) that Shoshenq Hekakheperre was a son of Shoshenq I. This identification meant a position had to be found for him in the early 22nd Dynasty where his unique prenomen Heqakheperre indicated he belonged, because after Takeloth I there was no originality in throne names.<sup>110</sup>

<sup>104</sup> Idem, "Shoshenq Maäkheperre," 39.

<sup>105</sup> M. Römer, "Varia zu Psusennes II und zur 21. Dynastie," *GM* 114 (1990) 96.

<sup>106</sup> Ibid., 96; cited by Broekman, "Shoshenq Maäkheperre," 39-40.

<sup>107</sup> J. von Beckerath, "Zur Rückeninschrift der Statuette Kairo CG 42192," *Orientalia* 63 (1994) 84-87. In a postscript, he notes the possibility of Shoshenq Heqakheperre and Shoshenq Maäkheperre being different kings; Jansen-Winkel, "Historische," 145-48; N. Dautzenberg, "Bemerkungen zu Schoschenq II., Takeloth II. und Pedubastis II," *GM* 144 (1995) 21-22.

<sup>108</sup> "Sheshonk II," [http://en.wikipedia.org/wiki/Shoshenq\\_II](http://en.wikipedia.org/wiki/Shoshenq_II)

<sup>109</sup> Jansen-Winkel, "Third Intermediate Period," 237.

<sup>110</sup> Dautzenberg, "Bemerkungen," 21-22.

Jürgen von Beckerath suggested that if Maäkheperre is not the same as Heqakheperre, then Heqakheperre might be the son of Takeloth I having a short reign before that of Osorkon II.<sup>111</sup> Scholars who don't identify Shoshenq Heqakheperre as being the son of HPA Shoshenq C, and son of Osorkon I, place him two generations later as a person whose lineage and right to the throne is unknown.

Dodson's view that Shoshenq II's hawk-headed coffin (Cairo JE 72154) was similar to the hawk-headed coffin lid of the granite tomb of Harsiese (JE 60137) from Medinet Habu, which was made for Ramesses II's sister Henutmire,<sup>112</sup> has been cited as evidence that Shoshenq II and Harsiese A were contemporaries.

Unfortunately, no burial item of Osorkon I has been discovered<sup>113</sup> by which to compare them. Items of Shoshenq I found in Shoshenq Heqakheperre's tomb were then explained as heirlooms and not suggestive of an immediate filial link.<sup>114</sup> But Broekman believes that if Shoshenq Heqakheperre had been contemporary with Osorkon II, then objects belonging to kings later than Shoshenq I would have been found in his tomb.<sup>115</sup>

The identity of Shoshenq Maäkheperre was newly explained by Broekman in 2000 when he proposed that Shoshenq Maäkheperre could be the *actual son* of Psusennes II as he claimed on the Cairo Statue CG 42192 in order to boost his right as heir to the throne.<sup>116</sup> Broekman notes that the name Shoshenq occurs in the 21st Dynasty among the ancestors of Psusennes II or his wife.<sup>117</sup> Shoshenq *Maäkheperre* could claim his descent from his great-grandparents, Shoshenq A and his wife Mehtenweskheth, his grandfather Osorkon the Elder, and his father, Psusennes II.<sup>118</sup>

Shoshenq *Heqakheperre*, on the other hand, could claim his descent from Shoshenq A and Mehtenweskheth his great-great-grandparents, his great-grandfather Nimlot A, his grandfather Shoshenq B (Shoshenq I), and his father Osorkon I.<sup>119</sup> If Heqakheperre is Shoshenq II, son of Osorkon I and Maätkare, and succeeded his father, where and when did Shoshenq Maäkheperre, presumed son of Psusennes II, have his reign, since Psusennes was succeeded by Shoshenq I?

Broekman notes from the Karnak Priestly Annals fragment 4, that Shoshenq I was not yet recognized as king in Thebes in his second regnal year, being called only "Great Chief of the Ma."<sup>120</sup> Broekman proposes that it is probable that Shoshenq Maäkheperre's "claim to kingship was supported in Thebes."<sup>121</sup>

However, as discussed above, there was a five-year co-regency between Psusennes II and Shoshenq I indicating the absence of a son to succeed Psusennes II, so Broekman's idea can be set aside. That leaves us with a Maäkheperre Shoshenq of no

<sup>111</sup> Von Beckerath, "Zur Rückeninschrift der Statuette kairo CG 42192," *Orientalia* 63 (1994) 87; idem, "Beiträge zur Geschichte der Libyzeit," *GM* 144 (1995) 8-9; idem, *Chronologie des Pharaonischen Ägypten: Die Zeitbestimmung der ägyptischen Geschichte von der Vozeit bis 332 v. Chr.* (Mainz: von Zabern, 1997) 98.

<sup>112</sup> Dodson, *Canopic Equipment*, 88 and n. 68, 92.

<sup>113</sup> *Ibid.*, 89.

<sup>114</sup> "Sheshonk II," [http://en.wikipedia.org/wiki/Shoshenq\\_II](http://en.wikipedia.org/wiki/Shoshenq_II)

<sup>115</sup> Broekman, "Shoshenq Maäkheperre," 40.

<sup>116</sup> *Ibid.*, 40-43.

<sup>117</sup> *Ibid.*, 41.

<sup>118</sup> *Ibid.*, 41-44.

<sup>119</sup> *Ibid.*, 43-44.

<sup>120</sup> *Ibid.*, 42-43.

<sup>121</sup> *Ibid.*, 42.

known origin. The Cairo statue CG 42192 is the sole attestation of a king with this name.<sup>122</sup> However, he is not the only newly discovered “Shoshenq.”

### Tutkheperre Meryamun Shoshenq

In 2004, Eva Lange suggested the possibility of another hitherto unidentified king with the name of Tutkheperre Shoshenq.<sup>123</sup> She referred to a damaged lintel fragment from the Great Temple of Bubastis discovered in 1994 by an expedition from the University of Potsdam. The fragment, found in the western part of the central courtyard (classification H/3.9), shows the topmost part of a king’s titular, which appears to have originally been six columns, but with only five now remaining. Column three contains the prenomen Tutkheperre (*twt hpr r<sup>c</sup>w*) in vertical writing and to its right in column four, clearly the nomen Shoshenq.

Dodson, who referred to this inscription in 2002, thought that the Tutkheperre referred to is Psusennes II who had this prenomen, and the “Shoshenq” was his successor, Shoshenq I.<sup>124</sup> But Lange points out that the spelling of the *tjt* (Tut) in Psusennes II’s prenomen is different from the *twt* spelling in the lintel. Ascribing them to the one king is problematical. But she acknowledges that the *twt* spelling is used in the prenomen of Psusennes II on the Cairo Statue CG 42192 from Karnak.<sup>125</sup>

Assuming that the two cartouches belong to the one person, she points out that none of the Shoshenqs I–V has the prenomen Tutkheperre. As added evidence for a new king Tutkheperre Shoshenq, she notes an inscription first published by E. Amelinéau in 1897–1898.<sup>126</sup> The inscription was on a fragment of a receptacle from Abydos and had two incompletely preserved cartouches one beginning with the prenomen Tutkheper[re] and in the other the lower part of the damaged name [...]amun; that is, Meryamun.

In 1995, M.A. Bonheme examined the ostraca, now in the Louvre Museum, and read the same Tutkheperre [Meri]amun written in black ink. He adds that the ostraca had been discovered near the 1st Dynasty tomb of Osiris at Abydos among votive deposits of varying dates beginning with the New Kingdom (18th Dynasty). It was assumed that the writer had mistakenly inscribed the chick symbol for Tut (*twt*) instead of the red crown sign for Hedj as for Hedjkheperre Shoshenq; that is, Shoshenq I.<sup>127</sup>

When Yoyotte examined the original fragment, he read in the lower part of the damaged cartouche the nomen “Shoshenq,” thus giving the reading Tutkheperre Meryamun Shoshenq.<sup>128</sup> Lange emphasizes that these cartouches belong to only *one* king. She refers also to two cartouches having a prenomen and nomen of a Shoshenq, which were found earlier on a receptacle from Abydos by E. Naville, published in 1891.<sup>129</sup> Lange suggests that these might also have referred to Tutkheperre Shoshenq. She notes the scarcity of attestation. On the advice of K. Jansen-Winkel, she suggests that Tutkheperre Shoshenq reigned in the first half of the 22nd Dynasty.<sup>130</sup>

<sup>122</sup> Kitchen, “Overview of Fact & Fiction,” 172.

<sup>123</sup> E. Lange, “Ein neuer König Schoschenk in Bubastis,” *GM* 203 (2004) 65-71.

<sup>124</sup> *Ibid.*, 65 citing A. Dodson, “Die Dauer der Dritten Zwischenzeit–III, ” *Biblische Archäologie am Scheideweg?* (eds. P. van der Veen and U. Zerbst; Darmstadt: Hänssler, 2002) 77.

<sup>125</sup> *Ibid.*, 68; see also, von Beckerath, “ZurRückeninschrift der Statuette Kairo CG 42192,” *Orientalia* 63 (1994) 84-87; K. Jansen-Winkel, “Historische,” 147.

<sup>126</sup> *Ibid.*, 69 citing E. Amelinéau, *Les nouvelles fouilles d’Abydos (II)*, 1897-1898, 147.

<sup>127</sup> M.A. Bonheme, “Les Chechanquides: Qui, Combien?,” *BSFE* 134 (1995) 53-54. See “Tutkheperre Shoshenq,” [http://en.wikipedia.org/wiki/Tutkheperre\\_Shoshenq](http://en.wikipedia.org/wiki/Tutkheperre_Shoshenq)

<sup>128</sup> Lange, “Ein neuer König Schoschenk,” 69.

<sup>129</sup> *Ibid.*, 68-69 citing E. Naville, *Bubastis (1887-1889)*, (Egypt Exploration Fund vol. 8, London: 1891) 46.

<sup>130</sup> *Ibid.*, 71.

In 2009, Kitchen proposed that Maatkheperre was the name used by Shoshenq I in order “to adopt a titular style acceptable to the latently hostile Theban authorities, very soon after his accession.”<sup>131</sup> Kitchen appeals to the fact that Shoshenq I was still just “Great Chief of the Ma” in his year two. Kitchen has not recognized that Psusennes II had a co-regency with Shoshenq I in the last five years of his reign, which could account for the use of his old designation. However, according to Kitchen, the name Maatkheperre did not impress the Thebans so Shoshenq I changed his name from Maatkheperre to Tyetkheper(u)re, the prenomen of Psusennes II, to make himself “a direct reincarnation.”<sup>132</sup> However, this gambit also failed, so Shoshenq I adopted the prenomen Hedjkheperre, that of Smendes, the founder of the 21st Dynasty—the dynasty he was replacing.<sup>133</sup>

Thus, Shoshenq I Ib and I Ic are none other than Shoshenq I with prenomens he used in the early years of his reign to “win hearts and influence people.” Kitchen says that Shoshenq I is not known by his prenomen Hedjkheperre before his fifth year.<sup>134</sup>

The elimination of Tutkheperre Shoshenq I Ib and Maakheperre Shoshenq I Ic just leaves Hedjkheperre Shoshenq I and his probable grandson, Heqakheperre Shoshenq I Ia as kings with the name of Shoshenq in the early period of the 22nd Dynasty.

### Shoshenq I Ia’s Length of Reign

In the Nile Level Texts, just above the earliest texts, those of Shoshenq I (No. 1 with year 6) and Osorkon I (No. 2 with year 12), is a text (No. 16) with just the name of the High Priest Iuwelot and “son of the king, the lord of the two lands (*nb t3wy*) Osorkon” with a year 5.<sup>135</sup>

Since Iuwelot was a youth in year 10 of his father, Osorkon I, he must have been HPA in the reign of his successor, either Shoshenq I Ia or Takeloth I.<sup>136</sup> The position of No. 16 close to Nos. 1 and 2 is appropriate for the son and grandson of the previous two, whose texts were the first to be engraved on the quay wall.

Most scholars seem agreed that this text belongs to Shoshenq I Ia, in which case it is possible to attribute to him a reign at least *into his fifth year* in our chronology. Kitchen regards Shoshenq I Ia as a *co-regent* with Osorkon I, reasoning that if Shoshenq I Ia had been sole king, his descendants—and not those of his brother Takeloth I—would have succeeded to the throne.

Kitchen gives Shoshenq I Ia ca. two years, and the dates of ca. 892–890 BCE subsumed under Osorkon I’s reign dated to 924–889 BCE.<sup>137</sup> It is necessary for Kitchen to make Shoshenq I Ia a co-regent because there are *no available years* to give him a place as a sole-reign king in his chronology with an upper limit of 945 BCE for the accession of Shoshenq I. The fact that Shoshenq I Ia is not mentioned in the Pasenhor genealogy can be explained by the fact that the genealogy passed down from Shoshenq I’s daughter-in-law, Tashedkhons, the daughter of Psusennes II married to Osorkon I, and the mother of Takeloth I, and on to Osorkon II, most likely continued with Takeloth II and the kings of the 22nd Dynasty.<sup>138</sup> On the other hand, Shoshenq I Ia was the son of Maatkare, Osorkon I’s first wife, and his son Harsiese was only a local king of Thebes

<sup>131</sup> Kitchen, “Overview of Fact & Fiction,” 172.

<sup>132</sup> Ibid.

<sup>133</sup> Ibid.

<sup>134</sup> Ibid.

<sup>135</sup> Broekman, “Nile Level records,” 164, 166, 169, 170.

<sup>136</sup> Ibid., 170, 173.

<sup>137</sup> Kitchen, “Overview of Fact & Fiction,” 202.

<sup>138</sup> Recorded by Kitchen himself, *TIP*, 106-07, §§85-86.

and did not continue the dynastic line. Just because he is not mentioned on the stela is no reason to assume that Shoshenq IIa cannot have had regnal years of his own. The year five attributed to him on the Nile Level Text presumes a fifth year.

Giving Osorkon I a reign of 35 years dates him to 957–922 BCE, and Shoshenq IIa with a provisional reign of five years will give him the dates 922–917 BCE. Thus, to the end of the first period of the 22nd Dynasty in 872 BCE, there are no more than 45 years to accommodate the remaining kings.

### **Takeloth I (Hedjkheperre Setepenre Takeloth Meryamun)**

Takeloth I was the son of Osorkon I and his lesser wife Queen Tashedkhons,<sup>139</sup> presumed half-brother to Shoshenq IIa. He is identified here as the second of Manetho's "three other kings" in the early period of the 22nd Dynasty.<sup>140</sup>

In 1939, Pierre Montet discovered in the tomb of Osorkon II, the burial of a king whose coffin was inscribed with two cartouches: Hedjkheperre Setepenre and Takeloth Meryamun, as well as other items bearing the name of Takeloth Meryamun. Knowing this to be the name of Takeloth II, the coffin was presumed by Montet and other scholars to be that of Takeloth II, son of Osorkon II. When Kitchen discussed Takeloth I in his 1973 and 1986 editions of *TIP*, Takeloth's prenomen was not known, so distinguishing Takeloth I from Takeloth II was then difficult.<sup>141</sup>

However, in 1987, Karl Jansen-Winkel was able to demonstrate that Hedjkheperre Setepenre Takeloth Meryamun was the name of Takeloth I; whereas the name of Takeloth II had the additional nomen epithet "Si-Ese" (son of Isis).<sup>142</sup> Jansen-Winkel reported that on the east wall of Room III near the burial of Osorkon II and Takeloth is a scene of the two kings. On the left is a king with two cartouches above him identifying him as Usimare Setepenamun Osorkon Meryamun, that is Osorkon II, and the text "a son, furbishing the one who created him."<sup>143</sup> On the right, separated by four columns of text appear an Osiris figure (god of the dead) and an Udjo (or Wedjet) figure (raised cobra as protector of the pharaoh).

Jansen-Winkel identified the Osiris figure as the deceased Takeloth I. The text between the figures, using Kitchen's translation, reads:

[Made?]" by the King of the South and North Egypt, Lord of Both Lands, *Usimare Setepenamun*, Son of Re, Lord of Crowns, *Osorkon II Meryamun*, [to furbish?] the Osiris King (2) *Takeloth Meryamun*, in his Mansion which is [an abo]de of the Sun-disc: "I have caused him to rest in this Mansion, in the vicinity of (3) "Hidden-of-Name" (= Amun), according to the doing by a son of benefactions for his father, [to] furbish the one who made his fortune(?), in conformity with what Horus-Son-of-Isis commanded (4) for his father Wennufer. How pleasant (it is) in my heart, for the Lord of the Gods!<sup>144</sup>

The scene shows Osorkon II clearly honouring *his father* at his reburial in his (Osorkon II's) own tomb. So the nearby coffin belonging to Hedjkheperre Setepenre

<sup>139</sup> Kitchen' *TIP*, 95 §76, 106 §85.

<sup>140</sup> Scholars who follow David Aston's chronology delete Takeloth II from the 22nd Dynasty, where he is in sixth place in Manetho's list, and then assume that Manetho's sixth king, Takelothis, is Takeloth I, not II. See D. Aston, "Takeloth II: A King of the Theban 23rd Dynasty?" *JEA* 75 (1989) 139-53. This means they seek to identify "three other kings" between Osorkon I and Takeloth I; whereas Manetho indicates "three other kings" after Osorkon I and before "Takelothis"; that is, Takeloth II. This is why in some Wikipedia websites Takeloth I is designated and not Takeloth II.

<sup>141</sup> Kitchen, *TIP*, 95-96 §76.

<sup>142</sup> K. Jansen-Winkel, "Thronname und Begräbnis Takeloths I," *VA* 3 (1987) 253-58.

<sup>143</sup> Kitchen, *TIP* (1996), xxii.

<sup>144</sup> *Ibid.*, xxii. Emphasis his.

Takeloth Meryamun in Osorkon II's tomb could only belong to Takeloth I.<sup>145</sup>

Further evidence that it really was the coffin of Takeloth I and not Takeloth II came from the discovery of a *shabti* in the tomb of Tashedkhons, Takeloth I's mother, and a heart scarab of "Takeloth Meriamum" without the epithet "Si-ese."<sup>146</sup> Jansen-Winkel also observes that Takeloth I's name is spelled with a vertical *t* sign; whereas Takeloth II or Takeloth III (of the 23rd Dynasty) is spelt with a small loaf *t* sign and the rope-tether sign, which, when combined with other evidence, distinguishes Takeloth I from Takeloth II and III.<sup>147</sup>

Based on this new evidence, Kitchen (in 1996) assigned to Takeloth I items that had previously been attributed to Takeloth II: "a donation stela of Year 9 (from Bubastis), another from Berlin (also from Bubastis) and a fragment in the former Grant collection."<sup>148</sup>

Concerning the length of Takeloth I's reign Jansen-Winkel writes:

A block, presumably from the Serapeum, bears the names of Takelot I and the HP of Memphis, Merenptah; Mariette noted that this was found together with a stela from a Year 14. This might be a stela in Alexandria dated to a Year 14 (without a royal name), and originally came from the Serapeum, as the inscription suggests.<sup>149</sup>

He comments that if an Apis bull was buried in the 14th year of Takeloth and its successor was the bull buried in the 23rd year of Osorkon II, the year 14 would have to come near the end of Takeloth I's reign,<sup>150</sup> since the longest known age for an Apis bull is 26 years.

Thus more than 3 years could be attributed to the 14 years known, if the year 14 from the stela found at the Serapeum indeed refers to the reign of Takeloth I. On *this* evidence the *longest* that can be attributed to Takeloth I is a reign of 16–17 years, since it is unlikely that another Apis bull could have come between Takeloth I and Osorkon II as the shortest length known for an Apis bull's life is 12 years.<sup>151</sup>

The length of Takeloth I's reign and those of his predecessor, Shoshenq IIa, and his successor, Osorkon II, have to be considered together because they must fit the years that remain for the early period of the 22nd Dynasty.

### Nile Level Texts for Takeloth I?

The Nile Level Texts, which comprise the chronological unit of Nos. 16–21, show a name (where legible) of a High Priest, and a regnal year of an unnamed king who is a son of Osorkon I. Since Shoshenq IIa and Takeloth I were sons of Osorkon I, it is plausible that Takeloth I may be represented in Nile Level Texts 16–21.

Already noted is No. 16 with a year five attributed to Shoshenq IIa. No. 20 is situated above No. 16, and No. 21 engraved below and to the left of Nos. 1 and 2 belonging to Shoshenq I and Osorkon I—the grandfather and father, respectively. Unfortunately, Nos. 20 and 21 are illegible as to the name of the High Priest or the king's regnal year. Nos. 17, 18, and 19 occupy the central lower levels, with No. 19 being the lowest of all the texts.

<sup>145</sup> Jansen-Winkel, "Thronname," 253-58; Kitchen, *TIP*, xxii.

<sup>146</sup> *Ibid.*, 257; Kitchen, *TIP*, xxiii.

<sup>147</sup> *Ibid.*, 257; Kitchen, *TIP*, xxiii.

<sup>148</sup> Kitchen, *TIP*, xxiii; see 2nd ed. 327 n. 463.

<sup>149</sup> Jansen-Winkel, "Third Intermediate Period," 239. He says that Mariette's remarks are "rather doubtful," n. 48.

<sup>150</sup> *Ibid.*, 239 n. 51; see Kitchen, *TIP*, 489 table 20.

<sup>151</sup> The Apis bull that died in the second year of Shabako had a successor that died in his 14th year, so aged about 12 years (Kitchen, *TIP*, 156 §(iii)).



These latter three have the name of the High Priest Smendes, presumed to be a younger brother of High Priest Iuvelot, indicating that the latter three are later than No. 16. Of these, No. 17 has a year eight, and No. 18 a year 13 or 14. In No. 19 the year is illegible, but the space for the number in the sketches is less than that for Nos. 17 and 18 and could indicate a number less than eight.<sup>152</sup> Because of the other evidence for a year 14 for Takeloth I, one is inclined to attribute No. 18 with its 13 or 14 years to Takeloth I. The Year eight on No. 17 could then refer to an earlier flood level in his reign, and possibly an even earlier one on No. 19.

That leaves Nos. 20 and 21 without any obvious king to whom they might belong. No. 20 is unusual in adding a wish for eternal life to the name of King Osorkon. Text No. 21 does not have this addition. In the chronological unit of Nos. 16–21, Nos. 17, 18, and 19 are notably written the same; whereas in the legible portion of Nos. 20 and 21, in the part that remains after the damaged first half, the first few hieroglyphs in both texts resemble each other but are different from the hieroglyphs appearing in the same place in Nos. 17, 18, and 19—but are the *same as No. 16 to which they are closer on the quay wall*.<sup>153</sup>

This suggests that they too might be assigned to Shoshenq IIa, in which case he would have three texts representing him. If his year five on Nile Level Text No. 16 is his highest regnal year, then the other two texts, if referring to him, must represent earlier years. It is peculiar that a king reigning only five years should have three texts assigned to him, but then the rationale for engraving flood heights in various years on the quay wall is not known.

The length of Osorkon II's reign has a bearing on whether Shoshenq IIa reigned five years, and whether Takeloth I reigned 14 years. Provisionally, assigned a reign of 14 years, Takeloth I's dates would be 917–903 BCE.

### **Osorkon II (Usimare Setepenamun Osorkon Meryamun)**

Osorkon II is not named by Manetho, but understood here to be the last of the “three other kings” that follow Osorkon I; that is, the fifth and last king of the early period of the 22nd Dynasty. Osorkon II was successor and son of Takeloth I and Queen Kapes.<sup>154</sup> The highest known regnal year for Osorkon II comes from Nile Level Text No. 14, which refers to a year 29 of a king Usimare Setepenamun.<sup>155</sup>

According to Broekman, the orthography of the text uses Version One of *h<sup>c</sup>pj* (Nile flood) indicating a king who reigned prior to Shoshenq III's 39th year when the Second Version of *h<sup>c</sup>pj* is first attested (Nile Level Text No. 22). This limits the choice to Osorkon II and Shoshenq III who both used the prenomen Usimare Setepenamun.

Broekman thinks it could refer to Shoshenq III but notes that it is not in the expected position between texts Nos. 27 and 29 of Pedubast I's 19th and 23rd years (of the concurrent 23rd Dynasty), equated with Shoshenq III's 26th and 30th years, respectively. He also thinks that if it *had* belonged to Shoshenq III, his name together with that of Prince Osorkon as High Priest, would be expected. Broekman then writes, “It is probable that Osorkon II is the king mentioned in text No. 14, because he was the

<sup>152</sup> Von Beckerath, “Nile Level Records,” 51 pl. III; Broekman, “Nile Level Records,” 171.

<sup>153</sup> *Ibid.*, 50–51; Broekman, “Nile Level Records,” 171.

<sup>154</sup> Kitchen, *TIP*, 312–13, 326.

<sup>155</sup> Broekman, “Nile Level Records,” 174–75. Osorkon II also has Nile Level Texts Nos. 8 and 9 both with year 12 (one above the other with the upper one No. 9 presumed to be of a higher flood level after the previous level had been recorded), and No. 11 with year 21 and No. 12 with year 22.

first king of the Twenty-second Dynasty to use this prenomen; no further indication was needed to distinguish him from preceding kings.”<sup>156</sup>

Nile Level Text No. 14 refers to a year 29. There is no reason to suppose it was a final year. Other evidence shows a 30-year royal jubilee, or *Heb Sed* festival, when the regnal powers of kings were renewed. Among his major building works at Tanis and later at Bubastis, Osorkon II constructed for himself a *sed*-festival hall,<sup>157</sup> normally indicative of an upcoming 30th year. An inscription from Bubastis appears to record a jubilee celebration in Osorkon II’s 22nd year. The relevant part of the inscription is translated as:

Year 22, fourth month of the first season (occurred) the appearance of the king in the temple of Amon, which is in the jubilee-hall, resting on the portable throne; and the assumption of the protection of the two Lands by the king, the protection of the sacred women of the house of Amon, and the protection of all the women of his city ... Lo, his majesty sought great benefactions for his father, Amon-Re, when he (Amon) decreed the first jubilee for his son, who rests upon his throne, that he might decree for him a great multitude (of jubilees) in Thebes, mistress of the Nine Bows.<sup>158</sup>

However, scholars have long noted that the inscription is almost identical to one written for the first *Heb Sed* festival of Amenhotep III. Anthony Spalinger writes: “A well-known inscription from Bubastis dealing with his [Osorkon II’s] *heb-sed* (or Jubilee) festival is actually a copy of an earlier text of Amenhotep III.”<sup>159</sup> This inscription is dated, though, to Amenhotep III’s year 30, on day one of the 10th month (II *šmw* 1).<sup>160</sup>

José M. Galan translates the pertinent text:

Year 30, second month of Shemu. Appearing [in] Amun’s temple, which is in the precinct of the *sed*-festival sitting on the southern litter and starting the protection (*hw*) of the two Lands, by the King. (Consisting of) the protection (*hw*) of the musicians and singers of Amun, and the protection (*hw*) of every woman of the town ... Now his majesty is seeking a great deal of magnificence] for his father Amun-Re, as he proclaims the first *sed*-festival of his son, who is sitting on his throne, [and as he announces for him very many (*sed*-festivals) in Thebes, mistress of the Nine Bows.<sup>161</sup>

The similarity of the two texts, and the fact that *Heb Sed* festivals are celebrated in the 30th year of a king<sup>162</sup> suggests to Edward Wente, “A mistake that could easily have been made especially if the upper part of the final ten-sign were damaged,” or “that the Year 22 is an error of the modern copyist.”<sup>163</sup> I earlier reported Kitchen’s 2006 proposal of two alternative chronologies for the 22nd and 23rd Dynasties. In Option A, he continued to give Osorkon II 25 years as he had given him in 2000.<sup>164</sup> In Option B, he

<sup>156</sup> Ibid., 174-75.

<sup>157</sup> Kitchen, *TIP*, 317-19 §§276-80.

<sup>158</sup> Original Historical Documents—Jubilee Inscriptions at

[http://www.specialtyinterests.net/jubilee\\_inscriptions.html](http://www.specialtyinterests.net/jubilee_inscriptions.html); see too C.C. van Siclen, “The Accession date of Amenhotep III and the Jubilee,” *JNES* 32 (1973) 296-97; Kitchen, *TIP*, 320-21 §279.

<sup>159</sup> A.J. Spalinger, “Egypt, History of (Dyn. 21-26),” *ABD*, 357. See also van Siclen, “The Accession date,” 296.

<sup>160</sup> The translation and commentary comparing the texts is found in Van Siclen III, “The Accession date,” 296-98; see also J.M. Galan, “The Ancient Egyptian Sed-Festival and Exemption from Corvee,” *JNES* 59 (2000) 255-56.

<sup>161</sup> Galan, “Ancient Egyptian Sed-Festival,” 255-56.

<sup>162</sup> P.F. O’Mara, “Dating the Sed Festival: Was there only a Single Model?” *GM* 136 (1993) 57.

<sup>163</sup> Wente, “Review of *TIP*,” 278.

<sup>164</sup> Kitchen, “Regnal and Genealogical Data,” 50.

joined other scholars in attributing Nile Level Text No. 14 to Osorkon II with its 29 years, and on the recognition that he celebrated a 30-year jubilee, assigned him 30 years, dying in his 31st year.<sup>165</sup>

Like Wente and others before him, the mistake would be that three “ten-signs” (𓏏𓏏𓏏) were misread as two “ten” signs with the third “ten” sign damaged at the top so that it read like two vertical strokes, thus seen as 22. In order to accommodate the extra five years now assigned to Osorkon II, Kitchen overlaps Takeloth II and Shoshenq III by seven years, and subtracts the excess two years from the reign of Shoshenq IV to give him 10 years not 12.<sup>166</sup> Kitchen cannot fit the 30-year reign of Osorkon II into the limited years of his chronology without the overlap theory. In 2009, Kitchen gives Osorkon II 22 years minimum and 30/32 years maximum.<sup>167</sup>

Further possible support for Osorkon II celebrating a 30-year jubilee comes from a small stela published by von Beckerath in 1996. It reads, “Regnal Year 22 under the majesty of the King of Upper and Lower Egypt, Usermaatse Setepenamun (i.e., Osorkon II), son of Re, the appearance of the beloved Osorkon Meryamun in the presence of the deities Osiris, Horus and Isis.”<sup>168</sup>

Von Beckerath maintains that because this stela from Osorkon II’s 22nd year does *not* mention a *Heb Sed* festival,<sup>169</sup> it implies that Osorkon II did not celebrate a jubilee in this year, for if he had, it would almost certainly have been mentioned.

### Recognition of Regnal Years

Assuming that Osorkon II celebrated a 30-year jubilee, and his reign ended in 872 BCE (end of the early period of the 22nd Dynasty), his first year cannot be later than 902. Previously, we gave Takeloth I at least 14 years and the provisional dates of 917–903 BCE, apparently just one year between Takeloth I and Osorkon II, suggesting that Osorkon II had 31 years from 903 to 872 BCE. Recognizing that Shoshenq I had 41 years, Osorkon I 35 years, Shoshenq II 5 years, Takeloth I 14 years, and Osorkon II 31 years, this totals 126 years, or taking rounding-up into full years into account, 125 years for the first division of the 22nd Dynasty. There are no known lunar dates for the last three kings that might have anchored any of their reigns. To eliminate the extra year, I have assigned to Shoshenq IIA 4½ years and to Takeloth I 13½ years, leaving Osorkon II with the 31 years of 903–872 BCE.

### Synchronism of Osorkon II with Shalmaneser III of Assyria and Ahab of Israel

Kitchen and other scholars identify Osorkon II as the unnamed “king of Musri,” meaning Egypt, who allied himself with the kings of Hamath, Damascus, and Israel to fight the troops of Shalmaneser III of Assyria at the Battle of Qarqar when Ahab was king of Israel.<sup>170</sup> This identification is consistent with the discovery in Ahab’s palace of a large alabaster vase, a presentation vessel, which had traces of Osorkon II’s cartouche on it.<sup>171</sup> If Osorkon II was the unnamed king of Egypt, one of his regnal years must synchronize with the sixth year of Shalmaneser III when the battle of Qarqar was fought. His actual regnal year is not recorded. In my chronology in the *Reconstructed*

<sup>165</sup> Idem, “Strengths and Weaknesses,” 301.

<sup>166</sup> Ibid., 301; see Excurses I and II and Options A and B on pp. 304-08.

<sup>167</sup> Idem, “Overview of Fact & Fiction,” 165.

<sup>168</sup> J. von Beckerath, “The Angebliche Jubiläums-Stele Osorkons II,” *GM* 154 (1996) 20.

<sup>169</sup> Ibid., 22.

<sup>170</sup> Kitchen, *TIP*, 325 §285; D.B. Redford, *Egypt, Canaan and Israel in Ancient Times* (Princeton, NJ: Princeton University Press, 1992) 340.

<sup>171</sup> Ibid., 284; idem, “Strengths and Weaknesses,” 296; Redford, *Egypt, Canaan and Israel*, 339-40.

*Chronology of the Divided Kingdom*, Shalmaneser's sixth year dates to 897 BCE—being also Ahab of Israel's last year.<sup>172</sup> Thus Osorkon II's accession, dating no earlier than 903, is consistent with his identification as the king of Egypt participating in the Battle of Qarqar in 897 BCE.

### Osorkon II and Harsiese

Said to be the last great pharaoh of the 22nd Dynasty, Osorkon II had at least one rival claimant to the throne in the person of Harsiese, the son of Shoshenq IIa.<sup>173</sup> The relationship of Shoshenq IIa to Harsiese is confirmed by the Bes statue inscription, noted earlier, which refers to Shoshenq, first prophet, as son of Osorkon, king of the Two Lands, and his son Harsiese, prophet of Amun. Broekman notes that the inscription was engraved while Shoshenq was still HPA, so that Harsiese could have become HPA after the inscription was carved.<sup>174</sup> Kitchen considers that a HPA Harsiese on the Karnak statue Cairo Cat. 42225 referring to a Nebneteru who bears the cartouches of Osorkon II to be Harsiese A.<sup>175</sup>

When Shoshenq II died the throne went to Takeloth, Shoshenq's half-brother and not to his son Harsiese. It is proposed by various scholars that after the death of Takeloth I and the accession of Osorkon II in Tanis, Harsiese A aspired to the throne and competed with Osorkon II for recognition as an independent king at Thebes. That Osorkon II and Harsiese were contemporaries is noted by Kitchen, "established by the statue of Nakhtefmut from Karnak (Cairo Cat. 42208) bearing the full titulary of Osorkon II, but given by favor of king Harsiese."<sup>176</sup>

Kitchen, on the other hand, views Harsiese as being *appointed* High Priest by Osorkon II, who himself had been High Priest before becoming king, continuing a father-to-son succession of priests (Osorkon I to Shoshenq C to Harsiese A), a breach of principle, eventually leading to long-lasting civil war between the royal line and the priestly line.

Harsiese was not content with being High Priest but took upon himself full royal titulary, adopting the prenomen Hedjkheperre Setepenamun, and acted as king in Thebes.<sup>177</sup> It is speculated that the conflict with Harsiese A as ruler of Thebes and Osorkon II as King of Upper and Lower Egypt was not resolved until Osorkon II's 12th regnal year when the Nile Level Texts recommence naming the kings starting with Osorkon II's year 12 in Nos. eight and nine (both texts), by which time it is thought that Harsiese A had died.

Harsiese's coffin was found at Medinet Habu in the trough of a granite coffin made for Henutmire, the sister of Ramesses II. It has a hawk-headed lid in a style similar to that of his presumed father Shoshenq II, and also that of Osorkon II.<sup>178</sup> Harsiese's skull shows a hole had been bored, possibly due to a surgical procedure, which he apparently survived as evidenced by new growth, but which may have ultimately led to his death.<sup>179</sup>

<sup>172</sup> Tetley, *Divided Kingdom*, 166-68, 182, 184.

<sup>173</sup> Jansen-Winkeln, however, says that Harsiese was never HPA or the son of HPA (Shoshenq II); this identification being based on a wrong reading [of the Bes statue], ("Historische," 129-32). He prefers to view Shoshenq II as the son of Shoshenq I. ("Third Intermediate Period," 236-37).

<sup>174</sup> Broekman, "Shoshenq Maäkheperre," 39.

<sup>175</sup> Kitchen, *TIP*, 108 §87, 315 §274.

<sup>176</sup> *Ibid.*, 108 §87.

<sup>177</sup> *Ibid.*, 314-17 §§272-75.

<sup>178</sup> Dodson, *Canopic Equipment*, 88-89 and n. 68. Dodson also reports that nothing is known of the burial of Osorkon I (p. 89).

<sup>179</sup> J. Dunn, "Osorkon II, of Egypt's 22nd Dynasty," <http://www.touregypt.net/featurestories/osorkon2.htm>

A son, whose name is mostly lost except for the remaining letters ...*di*<sup>c</sup>... is presumed to have been inducted High Priest of Amun by his father.<sup>180</sup> Some scholars speculate that this refers to the later king Pedubast I, founder of the 23rd Dynasty.

Harsiese's reign does not contribute to the chronology of the 22nd Dynasty because his reign was confined to Thebes, but it does give background to the politico-religious situation at the time of Osorkon II's reign and conjures up possible reasons why Manetho felt it appropriate to divide the dynasty at the junction of the reigns of Osorkon II and Takeloth II.

### Conclusion

Manetho divided the 22nd Dynasty into two divisions, each with a subtotal (now corrupt). The early period comprised five kings collectively reigning 125 years: Shoshenq I 41 years, Osorkon I 35 years, Shoshenq IIa ca. 5 years, Takeloth I ca. 14 years, and Osorkon II ca. 31 years. The inscriptional references to Tutkheperre Shoshenq (IIb), and Maakheperre Shoshenq (IIc) are probably early designations for Shoshenq I before being known as Hedjkheperre Shoshenq, and therefore they did not exist as separate identities with any regnal years or parts thereof. The lack of any significant space for them in the chronology also points in this direction. Table 36.12 can be proposed for the kings of the early period of the 22nd Dynasty with anchor points from written and lunar records.

**Table 36.12: The early period of 22nd Dynasty kings with regnal years and dates**

King	Regnal years	Dates reigned BCE	Lunar anchor points or year periods BCE
Shoshenq I	41	998/997–957	Yr 2, Shoshenq I “justified” at feast III <i>3ht</i> 14; new moon III <i>3ht</i> 13 in 996. Yr 5, <i>wereh</i> feast IV <i>pri</i> 25; new moon IV <i>pri</i> 20 in 994
Osorkon I	35	957–922	Yr 1 bequests beginning on I <i>šmw</i> 7 is new moon in 957 (and lasting 3 yrs 3 mths and 16 days till Yr 4 on IV <i>šmw</i> 25). Yr 3 induction of Hor, II <i>3ht</i> 14; new moon II <i>3ht</i> 11, 954
Shoshenq IIa	4½	922–917	Nile Level Text 16 appears to give him 5 yrs.
Takeloth I	13½	917–903	Serapeum stela with 14 yrs, and Nile Level Text 18 with 13 or 14 yrs is probably his
Osorkon II	31	903–872	125 years (emended from Manetho's subtotal [1]25 ends in 872, last year of Osorkon II's reign
<b>Manetho Total</b>	<b>125 yrs</b>	<b>998/997–872</b>	

By comparison, Kitchen's chronology starts the 22nd Dynasty with the year 945 BCE being 43 years after the actual date. He followed Edwin Thiele's invention for Rehoboam of Judah's fifth year in 925 using hypothetical dating systems and the Assyrian Eponym Canon. These errors remove 52 years from the chronology of the 22nd Dynasty at its inception. The effect is felt not only in the 22nd Dynasty but down to the end of the 25th Dynasty. Kitchen appears unaware that lunar data can be applied to this dynasty in the reigns of Shoshenq I and Osorkon I. He has not considered the damaged subtotals that Manetho provides via Africanus, which has suggested that the length of the early period of the 22nd dynasty was 125 years. Consequently, Kitchen has to press the known years of a minimal chronology into the years available within his own construct, giving 21 years to Shoshenq I, not realizing that he reigned 41 years. To Osorkon I he correctly gives 35 years, to Shoshenq IIa only 2 co-regent years (therefore, none to the length of the dynasty), to Takeloth I 15 years (not attested, but possible) and to Osorkon II 32/34 years. In all, he gives 103–105 years to the early period: 945–ca. 840 BCE.<sup>181</sup>

<sup>180</sup> Kitchen, *TIP*, 315 §274.

<sup>181</sup> Idem, “Overview of Fact & Fiction,” table on p. 202. However, on p. 165 he writes, “For our regnally-significant kings, we have exclusively (so far) Shoshenq I (21 years), Osorkon I (33/35 years), Takeloth I

The latter date, 840, is now 32 years lower than it should be at 872 BCE. This impacts on his attempt to date the later period of the 22nd Dynasty.

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(13/15 years) and Osorkon II minimally 22 years, more probably (corrected jubilee-date?) just over 30/32 years. Minimal total, 97 years, maximal total 103 years.”

## Chapter 37

### Finishing the 22nd Dynasty

The previous chapter considered Manetho's framework for his account of the 22nd Dynasty, located at Bubastis in Lower Egypt. It established the first section of Manetho's two-part structure. This chapter finishes his chronological presentation consisting of Takelothis and a vague reference to "three other kings" as it was known to him. Table 37.1 presents the framework of the later period, with lunar anchor points and year periods, which form the structure for discussion for finishing Manetho's 22nd Dynasty.

**Table 37.1: The later period of 22nd Dynasty kings**

King	Regnal years	Dates reigned BCE	Lunar anchor points or year periods BCE
Takeloth II			Starts to reign 125 years after 997. 11th yr, Amun feast new moon on I <i>šmw</i> 11 in 860
Shoshenq III			Yr 28 installation of Apis bull in Yr 28 on II <i>3ht</i> 1 date of full moon in 810. This Apis bull died after 26 years in the second yr of Pimay in 784. Yr 39 Amun feast on I <i>šmw</i> 26 on third day after new moon on I <i>šmw</i> 24 in 800
Shoshenq IV			None known. A Yr 10 attested
Pami			In second yr, 785/784, Apis bull died that was installed 26 years earlier in 28th yr of Shoshenq III in 810
Shoshenq V			Yr 12 installation of Apis bull on IV <i>prt</i> 4 full moon date in 769
Osorkon IV			Present at Leontopolis at invasion of Egypt in Piye's 20th year in 730. End of dynasty in 730 is 142 years from Takeloth's accession in 872, and 267 years from beginning of dynasty in 998/997
Manetho Total	142 yrs		

#### Takeloth II (Hedjkheperre Setepenre Takelot Si-ese Meryamun)

The name of Takelothis begins the latter part of Manetho's list in the version of Africanus, where he is the sixth king (following two named and three unnamed kings) and is assigned 13 years.<sup>1</sup> Scholars have traditionally recognized Takelothis as Takeloth II, successor to Osorkon II, but since the publication of an article by David Aston in 1989 the position of Takeloth II in the 22nd Dynasty has been hotly debated.

#### Aston Removed Takeloth II from the 22nd Dynasty

Aston proposed that Takeloth II was *not* a king of the 22nd Dynasty, but of a 23rd Dynasty located at Thebes in Upper Egypt.<sup>2</sup> He updated this in 2009 to a Herakleopolitan/Theban 23rd Dynasty.<sup>3</sup> This view is supported by Aidan Dodson,

<sup>1</sup> See Table 36.5 in the previous chapter.

<sup>2</sup> D.A. Aston, "Takeloth II - A King of the 'Theban' Twenty-Third Dynasty?" *JEA* 75 (1989) 139-53.

<sup>3</sup> Idem, "Takeloth II: A King of the Herakleopolitan/Theban Twenty-Third Dynasty Revisited: The Chronology of Dynasties 22 and 23," *The Libyan Period in Egypt: Historical and Cultural Studies into the*

Jürgen von Beckerath, Karl Jansen-Winkeln, Rolf Krauss, and Gerard Broekman.<sup>4</sup> Kenneth Kitchen, on the other hand, has vehemently opposed Takeloth's removal from the Lower Egyptian 22nd Dynasty where Manetho places him.<sup>5</sup> The debate illustrates the problems of the artificially shortened chronology by which both sides are constrained. Some material from chapter 35 is necessarily amplified here, preliminary to proposing the sequence of kings, and establishing the dates and lengths of reign by the available chronological evidence, including lunar anchor points and year periods.

### Kitchen's Viewpoint

Kitchen proposes that Takeloth II was a son, possibly third son of Osorkon II, with his two older brothers Shoshenq D and Nimlot C, predeceasing him.<sup>6</sup> It is certain, however, that Takeloth II married Karomama (or Karomat D), daughter of Nimlot C (and, therefore, his niece), and they became parents of Crown Prince Osorkon, who became High Priest of Amun (Osorkon B).<sup>7</sup> According to *The Chronicle of Prince Osorkon*, Osorkon B officiated from the 11th regnal year of Takeloth II down to the 29th year of Shoshenq III, with a re-appearance in the 39th year.<sup>8</sup> Since Osorkon B's benefactions are dated to both kings, it seems that Shoshenq III succeeded Takeloth II in the same dynasty. Otherwise Osorkon B, unprecedentedly, would be dated to kings of two different dynasties. The sequence of generations in the major genealogies sets Takeloth II after Osorkon II and before Osorkon III of the 23rd Dynasty.<sup>9</sup>

### Aston's Reasoning

Aston believes that the family relationships of Takeloth II show that he lived about 25 years later than Kitchen allows,<sup>10</sup> thus down-dating him from 850–825 to 825–800 BCE.<sup>11</sup> To place Takeloth II in this timeframe, Aston overlaps Takeloth II's reign with that of Shoshenq III. He appeals to *The Chronicle of Prince Osorkon*, which recounts the history of this period.<sup>12</sup>

### List of Benefactions in *The Chronicle of Prince Osorkon*

The *Chronicle* lists regnal years for the benefactions of Osorkon B in terms of the reigns of Takeloth II (Osorkon B's father) and Shoshenq III (his brother). Caminos refers to a tabulation of "surviving portions of the summary of Osorkon's benefactions" with Table 37.2. He comments that, "The dates in which the above occur show with a degree

*21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009) 1-28.

<sup>4</sup> Aston, "Takeloth II ... Revisited," *Libyan Period*, 2 nn. 11-15.

<sup>5</sup> K.A. Kitchen, *Third Intermediate Period*, xxiii-iv; idem, "The Third Intermediate Period in Egypt: An Overview of Fact & Fiction," *Libyan Period*, 168-71.

<sup>6</sup> Idem, "Overview of Fact & Fiction," 168-69.

<sup>7</sup> Ricardo A. Caminos, *The Chronicle of Prince Osorkon* (Rome: Pontificium Institutum Biblicum 1958) 15; Kitchen, *Third Intermediate Period*, 106-07 §86; idem, "The Strengths and Weaknesses of Egyptian Chronology – A Reconsideration," *Ä und L* 16 (2006) 295; idem, "Overview of Fact & Fiction," 168.

<sup>8</sup> Caminos, *Chronicle of Prince Osorkon*, 1-2, 173, 180.

<sup>9</sup> Kitchen, *Third Intermediate Period*, 214 §180, 220 §184; idem, "Overview of Fact & Fiction," 169.

<sup>10</sup> Aston, "Takeloth II," 139-53; idem, "Takeloth II ... Revisited," 1-28; K. Jansen-Winkeln, "The Chronology of the Third Intermediate Period: Dyn. 22-24," *Ancient Egyptian Chronology* (eds. E. Hornung, R. Krauss, D.A. Warburton; Leiden and Boston: Brill, 2006) 240-43.

<sup>11</sup> In 2009, Aston readjusted the length of the generation to make it longer, therefore, allowing a slightly higher date for Takeloth II ("Takeloth II...Revisited," 1).

<sup>12</sup> See n. 7 above.



of probability amounting almost to certainty that year 24 in col. 7 (date-row 2) is Takelothis II's while dates 3 to 8 all belong to Shoshenq's reign."<sup>13</sup>

**Table 37.2: *The Chronicle of Prince Osorkon*—regnal years for the benefactions of Osorkon B**

Row	Column	Regnal years
1	6-7	Year 11 of Takelothis II to year 28 of Shoshenq III
2	7	Year 24, fourth month
3	12	Year 22 to year 28
4	12	Year 23
5	16	Year 24
6	17	Year 25
7	17	Year 22 (?) to year 28
8	22	Year 29 <sup>14</sup>

While on the surface the list appears sequential as understood by Caminos, Aston thought he'd found an overlap because the 24th year of Takeloth II (row 2) is followed by the 22nd year of Shoshenq III (row 3).

Traditionally, it is understood that a gap occurs in the account between columns 7 and 12 (rows 2 and 3), which presumably held information now missing. Aston has interpreted it to infer that year 24 of Takeloth II was closely followed by year 22 of Shoshenq III, implying that Takeloth II began to reign just three years before Shoshenq III,<sup>15</sup> that is, in the third-to-last year of Osorkon II's reign.

To Aston's mind, Takeloth II and Shoshenq III could not both belong to the 22nd Dynasty. In 1989, he proposed that Takeloth II was misplaced by Manetho and ruled over a different dynasty. He observed that there was little evidence of Takeloth II in Lower Egypt, so his residence in Upper Egypt at Thebes seemed plausible.<sup>16</sup> As confirmation that Takeloth II should be associated with Thebes, he pointed out that Takeloth II is the only Third Intermediate Period king to have the epithet *ntr-ḥq3-W3st* ("God, Ruler of Thebes") added to his name.<sup>17</sup> However, Broekman notes that the epithet *Si-Ese Netjerheqawaset* occurs not only with Takeloth II as observed by Aston, but also with the names of Osorkon III and Takeloth III with Year 28 and Year 5 respectively (a co-regency) on Nile Level Text No. 13.<sup>18</sup> These kings are traditionally associated with the 23rd Tanite Dynasty located in Lower Egypt, but the epithet Si-ese is presumed by Aston to suggest a Theban location. In 2009, Aston added Herakleopolis to Takeloth II's place of residency.

A mummy of a Takeloth was discovered in the anteroom of Osorkon II's tomb at Tanis.<sup>19</sup> It was previously assigned to Takeloth I, but has now been reassigned by Jansen-Winkel to Takeloth II since a scene in Osorkon II's tomb shows him honoring his father, which can only be Takeloth I with an accompanying text that includes the names of Osorkon II and Takeloth as his son.<sup>20</sup> Having the same prenoms, the two

<sup>13</sup> Caminos, *Chronicle of Prince Osorkon*, 128.

<sup>14</sup> *Ibid.*, 128.

<sup>15</sup> Aston, "Takeloth II," 143.

<sup>16</sup> This idea was also proposed by Anthony Leahy in 1990 in "Abydos in the Libyan Period," *Libya and Egypt c. 1300-750 BC* (ed. A. Leahy, London: SOAS, 1990), and promoted again in the same book by D. A. Aston and J.H. Taylor, "The Family of Takeloth III and the 'Theban' Twenty-Third Dynasty," 131-54.

<sup>17</sup> Aston, "Takeloth II," 142.

<sup>18</sup> G.P.F. Broekman, "The Nile Level Records of the Twenty-second and Twenty-third Dynasties in Karnak: A Reconsideration of their Chronological Order," *JEA* 88 (2002) 169.

<sup>19</sup> Kitchen, *Third Intermediate Period*, 332.

<sup>20</sup> K. Jansen-Winkel, "Thronname und Begräbnis Takeloths I," *VA* 3 (1987) 253-58; Kitchen, *Third Intermediate Period*, xxii-xxiii.

Takeloths are differentiated by the nomen epithet Si-Ese attached to the name of Takeloth II.

### Filling the Gap

Having removed Takeloth II from the 22nd Dynasty, Aston fills what has now become a “gap” between Osorkon II and Shoshenq III in Kitchen’s chronology.<sup>21</sup> Like Kitchen, he allows Takeloth II only 25 regnal years. After discussion, Aston concluded, in 1989, that Osorkon II should be attributed a *further* 15–20 years (up from 22) and gave him 39–44 years.<sup>22</sup> In 2009, he reduced this amount to around 28–30 years, bringing Osorkon II’s reign up slightly to a date earlier than ca. 874–835/830 BCE.<sup>23</sup>

Having made Takeloth II and Shoshenq III contemporary, Aston then has to account for the fact that Nile Level Text No. 24 equates year eight of Shoshenq III with year five of Pedubast [I]. Pedubast [I] is the first king of Manetho’s 23rd Dynasty located at Tanis and is credited with 25 regnal years. Thus Aston has three contemporary kings to explain: year one of Pedubast I = year eight of Shoshenq III = year 11 of Takeloth II.<sup>24</sup>

### Discussing the Rebellion Scenario

To repeat chapter 35, Aston describes a rebellion in Takeloth II’s 11th year at Thebes, and Prince Osorkon (Osorkon B) sailed forth to bring it under control. This coincides with the year Pedubast I became king, so Aston removes Pedubast’s identity as a Tanite king and makes him out to be a king of *Thebes* and in opposition to Takeloth II who is assumed also to be *in Thebes*. Pedubast is held responsible for fomenting the opposition that Prince Osorkon (Osorkon B) went to quell.<sup>25</sup>

In Shoshenq III’s 39th year, Osorkon B and his brother Bakenptah, head of the army, “Overthrew everyone who had fought against them.”<sup>26</sup> Since Takeloth II and Pedubast I are not still alive, who was the enemy? Aston considers Iuput [I] named on Nile Level Text No. 26 whose second year coincides with Pedubast’s 16th,<sup>27</sup> and then opts for a fairly recently identified king, a Usermaatre Meryamun Shoshenq, now known as Shoshenq VI (previously IV).<sup>28</sup> Shoshenq VI’s death (year six) coincides closely with the 39th year of Shoshenq III, and allows the presumption that Shoshenq VI was “the enemy.”<sup>29</sup>

Curiously, the victors, Shoshenq III and Osorkon B, are never heard of again. Aston inclines to the view that Prince Osorkon (B) became Osorkon III, and took up the position of the defeated Shoshenq VI to be king in the 23rd Theban/Herakleopolitan Dynasty.<sup>30</sup> This means that Osorkon B did not succeed Shoshenq III in the 22nd Dynasty by whom his benefactions had been dated, but transferred his allegiance to the 23rd Dynasty that he and Bakenptah had just overcome. Certainly, it was not Osorkon B who succeeded Shoshenq III, but a recently identified king, Shoshenq IV. However, the

<sup>21</sup> Aston, “Takeloth II,” 144.

<sup>22</sup> *Ibid.*, 148.

<sup>23</sup> *Ibid.*, 148; *idem*, “Takeloth II ... Revisited,” 1.

<sup>24</sup> Aston, “Takeloth II,” 148–49.

<sup>25</sup> *Ibid.*, 149.

<sup>26</sup> *Ibid.*, 150–51.

<sup>27</sup> It is now known that Iuput I reigned at least 12 years. See H. Jacquet-Gordon, *The Graffiti on the Khonsu Temple Roof at Karnak: A Manifestation of Personal Piety* (The Temple of Khonsu vol. 3; Chicago, IL: Oriental Institute of University of Chicago, 2003) 84–85.

<sup>28</sup> Aston, “Takeloth II,” 151.

<sup>29</sup> *Ibid.*, 152.

<sup>30</sup> *Idem*, “Takeloth II ... Revisited,” 20.

reason for Shoshenq IV's accession is not known, which means Osorkon B could have died at the same time as Shoshenq III soon after their victory—unless Osorkon B became Osorkon III.

Because Aston has assumed that the reigns of Takeloth II and Shoshenq III *overlap for about 22 years*, the pontificate of Osorkon B does not include these 22 years. This allows Osorkon B to be of an appropriate age for him to take on the kingship under the name of Osorkon III allowing him the reign of 28 years attributed to him.

Following Osorkon III, Aston adds the kings Takeloth III and Rudamun to the Herakleopolitan/Theban 23rd Dynasty, who are traditionally assigned to the 23rd *Tanite* dynasty. Then he attaches to the end of the dynasty, a little known Iny Si-ese Meriamun whose year four was found scratched onto the roof of the temple of Montu at Karnak,<sup>31</sup> and then Pefjtjauawybast, son-in-law of Rudamun, otherwise known from Piye's Victory Stela of his year 20 invasion of Egypt where the former is king of Herakleopolis.<sup>32</sup>

All of this leaves three kings who must be appropriately located. They are Pedubast I whose year five equates with Shoshenq III's 12th year on Nile Level Text No. 24; Iuput I whose year two equates with Pedubast I's year 16 on Nile Level Text No. 26 (which equates with Shoshenq III's 23rd year); and Shoshenq VI whom Osorkon B (= Osorkon III) is supposed to have replaced.

Pedubast I and Shoshenq VI are traditionally attributed to Manetho's 23rd Tanite Dynasty with no regnal years assigned to Iuput I. But Aston allocates them to the 23rd Dynasty as "Theban Rebel Kings" who reigned prior to Osorkon III.<sup>33</sup>

### Aston Rearranges the Lists of Kings

In order to place Osorkon IV, who is mentioned as king of Leontopolis in Piye's Victory Stela, Aston *reverses* the positions of Manetho's first two *listed* kings of the 23rd Dynasty: Pedubast I and Osorkon III. (Between them, unlisted by Manetho but recognized by scholars, is the reign of Shoshenq VI, which Aston now ignores.) He then appropriates Osorkon III's [2]8-year reign *to Osorkon IV* whom he places *after* Shoshenq V at the end of the 22nd Dynasty. (He gives to Osorkon IV the date preferred by Krauss of 747/744–716 and to Shoshenq V the dates of ca. 783/780–747/744 BCE).<sup>34</sup> Aston then identifies a Pedubastis, the *first* king of Manetho's 23rd Dynasty, traditionally identified with Pedubast I Si-Bast,<sup>35</sup> with Pedubast II (Sehetepib(en)re). Pedubast Sehetepib(en)re's provenance is uncertain but Kitchen places him in the late 25th or early 26th Dynasty.<sup>36</sup> Aston gives Pedubast II 22 or 23 of the 25 years Manetho gives *Pedubast I*, and the dates ca. 716/715–694/693 BCE. They are the last two kings of the 23rd Dynasty as understood by Aston. Aston follows these with five ephemeral kings who supposedly ruled under the authority of the 25th Dynasty kings.<sup>37</sup>

Aston has used Manetho's 23rd Tanite Dynasty kings, Pedubast I with 25 years and Osorkon III with [2]8 years, *twice*. The first time Pedubast I is in Thebes contemporary with Takeloth II and Shoshenq III [and Iuput I?] (and Osorkon is presumed to be Osorkon B who became Osorkon III). The second time, Aston inverts the

<sup>31</sup> Idem, "Takeloth II," 152, citing, H. Jacquet-Gordon, *Hommages à la mémoire de Serge Sauneron*, I (Cairo, 1979) 169-74.

<sup>32</sup> *Ibid.*, 153.

<sup>33</sup> Idem, "Takeloth II ... Revisited," 25.

<sup>34</sup> *Ibid.*, 22-23. Krauss' dates for Takeloth II's first year are 845 or 834.

<sup>35</sup> Usimare Setapenamun Pedubast Meryamun Si-Bast/Si-Ese is traditionally recognized as the founder of the 23rd Tanite Dynasty, see Kitchen, "Overview of Fact & Fiction," 173.

<sup>36</sup> Kitchen, "Overview of Fact & Fiction," 173 and n. 33.

<sup>37</sup> Aston, "Takeloth II ... Revisited," 22-23.

order and name number so that Osorkon III becomes Osorkon IV and precedes Pedubast I who becomes Pedubast II. All this is a result of taking Takeloth II out of his original position as the sixth king of the 22nd Dynasty where Manetho placed him! Kitchen vehemently opposes Aston's proposal.<sup>38</sup>

### **Kitchen Refutes Aston's Proposal for the 22nd and 23rd Dynasties**

Kitchen holds to the traditional view that Takeloth II was king in the second half of the 22nd Dynasty, succeeding Osorkon II and preceding Shoshenq III. Kitchen responds to Aston's main tenets. Concerning family relationships, Kitchen protests that having relatives at Thebes does not infer that Takeloth II lived there, nor is there any trace of his burial at Thebes, and *nothing* has been discovered to prove he resided there.<sup>39</sup> Furthermore, Kitchen points out that the title "God, Ruler of Thebes," is used also of Shoshenq V at *Tanis* (22nd Dynasty) and means nothing as to the location of Takeloth II or the 23rd Dynasty.<sup>40</sup> He explains that the epithet Si-Ese "Son of Isis" refers to the god living in the East Delta used by kings of the 23rd Dynasty and used as an alternative to "Son of Bast" referring to the god Bast worshiped in the vicinity of Bubastis and Leontopolis by the coexisting 22nd Dynasty kings.<sup>41</sup> He says the epithets are not equivalent to the north and south of Egypt.<sup>42</sup> Pedubast I's use of both epithets is explained because he was the offspring of the Tanite/Bubastite 22nd Dynasty, and began his own dynasty at Ta-remu (Leontopolis) in Isis country, not far away.<sup>43</sup>

### **The Identity of Osorkon III**

The other reason to discuss Aston's and Kitchen's chronology is to identify Osorkon III of the 23rd Dynasty (located in the north or the south). Noted above, Aston's chronology allows the possibility that Osorkon B (Prince Osorkon, son of Takeloth II) became king of the 23rd Theban Dynasty after he and his brother Bakenptah overcame "the enemy" understood to be Shoshenq VI, in Shoshenq III's 39th year. Subsequent to Aston's proposal that Takeloth had been taken out of the 22nd Dynasty, and that Osorkon B might have become Osorkon III of the 23rd Dynasty, Kitchen was greatly opposed to the idea, but in 2007, at the Leiden Conference, he conceded the possibility that Osorkon B might have become Osorkon III.<sup>44</sup>

### **Kitchen's Two Options for Osorkon II's Length of Reign**

One point of contention between Aston's and Kitchen's chronologies has been the length of *Osorkon II's* reign. As noted above, Aston wanted to give him from 28 to 30 years. In 1996, Kitchen credited Osorkon II with 24 years,<sup>45</sup> but in 2006 he recognized the possibility that Osorkon's jubilee figure of 22 could be a damaged 30. He gave two revised chronologies, option A and B. In option A he assigned Osorkon II 25 years, but reduced Shoshenq IV's reign from 13 years to 10, thus eliminating the extra three years for Osorkon II's reign. In option B, he gave Osorkon II 30 years, but made Shoshenq III co-regent with Takeloth II for seven years, and the excess two years he

<sup>38</sup> Kitchen, "Overview of Fact & Fiction," 173-74; previously idem, *Third Intermediate Period*, xxiii-xxxiv.

<sup>39</sup> Idem, *Third Intermediate Period*, xxiv. Emphasis his.

<sup>40</sup> Ibid., xxiv. Emphasis his; idem, "Strengths and Weaknesses," 298.

<sup>41</sup> Idem, "Overview of Fact & Fiction," 175-76 §33.

<sup>42</sup> Ibid., 175 §32.

<sup>43</sup> Ibid., 176; also earlier in "Strengths and Weaknesses," 298.

<sup>44</sup> Idem, "Overview of Fact & Fiction," 183.

<sup>45</sup> Idem, *Third Intermediate Period*, xxv.

attributed to Shoshenq IV, thus eliminating the five extra years he had given to Osorkon II.<sup>46</sup>

### Kitchen's 2009 Option

In 2009, Kitchen assigned Osorkon II 30/32 years based on indications that he celebrated a 30-year jubilee.<sup>47</sup> Kitchen then had to delete the excess years from somewhere else because he had to keep Shoshenq I's first year in 945 BCE. So he overlapped the end of Osorkon II's reign (874–ca. 840) with Takeloth II's first three years (reigned 843–818), then he overlaps the last seven years of Takeloth II's reign (825–818) with the first seven years of Shoshenq III's reign (825–786) thus reducing Takeloth's (assumed) sole reign from 25/24 years to 14 years.<sup>48</sup>

Kitchen's explanation for this is that some good reason must account for the fact that Pedubast I split off from Shoshenq III in the latter's fifth year. He proposes that the rebellion that started in Takeloth's 15th year caused Shoshenq III to become king in Takeloth's 18th year, and seven years later in Shoshenq's year eight Takeloth II died, and then Shoshenq III and Pedubast I jointly buried him, thus legitimating Pedubast I as king of a new dynasty, the 23rd.<sup>49</sup>

The Nile Level Text No. 24 stating that year five of Pedubast I was the year 12 of an unnamed king, could only refer to Shoshenq III, but Kitchen has made Shoshenq III king seven years earlier, making his "year 12" actually his 18th year.<sup>50</sup> This scenario is proposed because Kitchen's chronology *does not have room* for the regnal years he requires for the dates he gives to the 22nd Dynasty; that is, his 945–715 BCE.

Kitchen's chronology keeps Takeloth II in the 22nd Dynasty where Manetho undoubtedly places him, and seeks to do justice to Manetho's records (even though he does not recognize the significance of the [1]24 years and [1]42 years for the early and later periods). But his chronology suffers the same handicap as Aston's in attributing the date of ca. 945 BCE to the first year of Shoshenq I, thus causing him to claim co-regencies to accommodate excess years.

Moreover, both Kitchen and Aston assume that the 22nd and 23rd Dynasties end at about the date of 716/715 when Shilkanni—otherwise Osorkon IV—(the same as "So" in 2 Kgs 17:4) submitted to the Assyrian king Sargon II. They don't realize that Manetho's 267 years for the 22nd Dynasty conclude in the year 730 BCE, which can be the only date for the Nubian invasion of Egypt led by Piye in his 20th year when the kings of the Delta submitted to him.

The order of kings proposed for the second half of the 22nd Dynasty are shown in Table 37.3.

**Table 37.3: Proposed order of kings in the later 22nd Dynasty**

1	Takeloth II
2	Shoshenq III
3	Shoshenq IV
4	Pami
5	Shoshenq V
6	Osorkon IV

### Determining the Actual Reign-lengths of Takeloth II and His Successors

The previous discussion of the Aston and Kitchen chronologies shows the

<sup>46</sup> Idem, "Strengths and Weaknesses," 308.

<sup>47</sup> Idem, "Overview of Fact & Fiction," 165, 169.

<sup>48</sup> Ibid., 182, 202.

<sup>49</sup> Ibid., 179, 182; see also idem, "Strengths and Weaknesses," 300.

<sup>50</sup> Idem, "Strengths and Weaknesses," 301; idem, "Overview of Fact & Fiction," 182.

speculation that has arisen from an absence of certainty, incorrect terminal dates, and neglect of astronomical evidence. The next section will consider lunar evidence at some length, and include dates pertaining to *Tepi Shemu* feasts, and the induction of Apis Bulls in the reigns of Takeloth II and his successor, Shoshenq III. These lunar dates relate to specific years of their reigns, and provide anchor points that establish their chronological positioning.

Chapter 36 determined that the first part of the 22nd Dynasty covered the 125-year period from 998/997 to 872 BCE. Osorkon died, and the first year of Takeloth II's reign was 872/871 BCE.

### Lunar Dates for *Tepi Shemu* Feasts and the Induction of Apis Bulls

If Takeloth II's first year was 872–871, his 11th year dates to 861/860 BCE. Referring to Takeloth II's year 11, Kitchen notes that when Prince Osorkon arrived in Thebes he presented “handsome offerings to Amun ... Having outwardly crushed opposition by main force, Osorkon made new appointments and issued no less than six new decrees ...”<sup>51</sup> According to Caminos this took place at the feast of Nehebkau on I prt 1.<sup>52</sup> Kitchen continues: “Four months later, at a festival on 1st Shomu Day 11, a priest Hori successfully petitioned Prince Osorkon to obtain his father's place in temple services, when the prince was again in Thebes.”<sup>53</sup>

Krauss thinks that the wording justifies the assumption that this is an Amun feast or what is referred to as a *Tepi Shemu* feast (first month of *šmw*). He reckons that Amun feasts were held on the first to fifth days of the *lunar month* in the (civil) month of I *šmw* and not, as Kitchen says, on I *šmw* 1–5 (civil).<sup>54</sup>

### *Tepi Shemu* Feast in Takeloth II's 11th Year

By my chronology, Takeloth II's 11th year was 861/860 BCE, that is, –860/–859. A new moon in –859 fell exactly on I *šmw* 11, as seen in Casperson's table here (Table 37.4).

**Table 37.4: Takeloth II's 11th year –859 (new moon listing for –859)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–859	11	2	–859	10	25	1923	8	12	7	11:10	6:23	213	6:24	113	6:24	15
<b>–859</b>	<b>12</b>	<b>2</b>	–859	11	24	1923	<b>9</b>	<b>12</b>	2	6:39	6:42	185	6:42	<b>82</b>	6:43	<b>–13</b>
–858	1	1	–859	12	24	1923	10	12	4	1:57	6:49	148	6:49	49	6:49	–34

DoW = day of week; ToD = time of day.

Two lunar dates in the reign of Pedubast I in the 23rd Dynasty and two dates in the reign of Shoshenq III in the 22nd Dynasty provide further confirmation that the 11th year of Takeloth II fell in –859. These dates will demonstrate that Manetho's allocation of 13 years' reign to Takeloth II cannot be correct, and that, as I noted previously, a year 24 is attested in *The Chronicle of Prince Osorkon*,<sup>55</sup> and a year 25 referring to the King Takeloth together with Osorkon is noted on an endowment stela of the princess Karama.

<sup>51</sup> Idem, *Third Intermediate Period*, 331 §292 and n. 486 referencing “Block with graffito of year 11, from Akh-nemu temple, Karnak (now Louvre E. 3336)”; idem, “Overview of Fact & Fiction,” 181.

<sup>52</sup> Caminos, *Chronicle of Prince Osorkon*, 175.

<sup>53</sup> Kitchen, *Third Intermediate Period*, 331 §292 and n. 486.

<sup>54</sup> R. Krauss, *Sothis- und Monddaten, Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 166, citing Kitchen, *Third Intermediate Period*, 170 §137.

<sup>55</sup> Caminos, *Chronicle of Prince Osorkon*, 128.

Two bandage fragments (Brussels E. 7047b, c) have a Year 24 referring to a Nespa(u)re and a Nesamun, and a year 26 with just Nesamun. Nespore is shown in the Neseramun genealogy as being contemporary with Takeloth II.<sup>56</sup> Thus the year 26 must belong to Takeloth II.

### Are 33 Years for Takeloth II Correct?

Previously, I proposed that the number of regnal years for Takeloth II in Manetho's list was originally 33, having had two ten-signs eliminated (as proposed also for Shoshenq I and Osorkon I), leaving the number 13. To demonstrate the validity of 33 years for Takeloth II's reign, I refer to the reigns of Shoshenq III and Pedubast I. The latter split off from Shoshenq III in the latter's fifth year to form a new dynasty, understood to be the 23rd Dynasty (of Tanis as described by Manetho).

Two new moon dates in the reign of Pedubast I, plus a full moon and a new moon in the reign of Shoshenq III, anchor their reigns and provide the length for Takeloth II's prior reign. Furthermore, Nile Level Texts indicate that Shoshenq III and Pedubast I were contemporaries.

Nile Level Text No. 24 equates the 12th year of Shoshenq III (Usimare Setapenamun/re Shoshenq Si-Bast/Si-Ese) with Pedubast I's fifth year. Pedubast I began his dynasty in Shoshenq III's eighth year. This Pedubast is understood to be Usimare Setapenamun Pedubast Si-Bast/Si-Ese Meryamun and not Sehetepibre Pedubast, whose provenance is uncertain, but who probably lived at the time of the late 25th or 26th Dynasty.<sup>57</sup> If Takeloth II reigned 33 years from the latter part of 872 BCE (the date for the beginning of the later period of the 22nd Dynasty) Shoshenq III's accession can be dated to 839. His 12th year and Pedubast I's fifth year will then be 828/827, with the latter's accession in 832/831 BCE.

### Tepi Shemu Feasts in Pedubast I's Seventh, Eighth, and 14th years

Pedubast I has two new moon dates, in his seventh and eighth years, respectively, ca. 826 and 824 BCE (–825 and –823). These are *Tepi Shemu* dates noted on the Medinet Habu calendar at Karnak, which record the inductions of priests during an Amun feast, the celebrations lasting five days.<sup>58</sup> According to Krauss, based on MHC 1451ff., the feast began on lunar Day one and ended on lunar Day five (see Table 37.5).<sup>59</sup>

**Table 37.5: Pedubast I's seventh and eighth years in –825 and –823 (new moon listing from –825 to –823)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			–2	–1	0			
–825	10	18	–825	10	10	1957	8	5	6	13:43	6:11	219	6:12	125	6:13	30
<b>Pedubast I's seventh year I šmw date</b>																
–825	11	17	–825	11	9	1957	9	5	1	8:51	6:33	201	6:34	104	6:34	7
–825	12	17	–825	12	9	1957	10	5	3	2:09	6:47	175	6:47	68	6:48	–33
–824	1	15	–824	1	7	1957	11	4	4	16:36	6:47	276	6:47	118	6:46	12
–824	2	14	–824	2	6	1957	12	4	6	4:12	6:33	180	6:32	48	6:32	–37
–824	3	14	–824	3	6	1957	13	3	7	13:34	6:13	311	6:12	92	6:11	2
–824	4	12	–824	4	4	1958	1	27	1	21:25	5:51	618	5:50	154	5:49	45

<sup>56</sup> Kitchen, *Third Intermediate Period*, 107 §86 and n. 115; 202 §166.

<sup>57</sup> Ibid., 98 §78; idem, "Overview of Fact & Fiction," 173-74 n. 33.

<sup>58</sup> Krauss, *Sothis- und Monddaten*, 166; idem, "Lunar Dates," *AEC* (2006), 409-11; Broekman, "Takeloth III and the End of the 23rd Dynasty," *Libyan Period*, 91-92; see also Kitchen, *Third Intermediate Period* 338 §298.

<sup>59</sup> Krauss, "Lunar Dates," 409.

-824	5	12	-824	5	4	1958	2	27	3	4:33	5:30	233	5:29	94	5:29	9
-824	6	10	-824	6	2	1958	3	26	4	11:47	5:15	299	5:15	144	5:15	46
-824	7	9	-824	7	1	1958	4	25	5	20:06	5:11	328	5:11	190	5:12	83
-824	8	8	-824	7	31	1958	5	25	7	6:37	5:21	230	5:22	122	5:22	15
-824	9	6	-824	8	29	1958	6	24	1	20:14	5:40	274	5:40	168	5:41	64
-824	10	6	-824	9	28	1958	7	24	3	13:12	6:02	225	6:03	126	6:04	29
-824	11	5	-824	10	28	1958	8	24	5	8:34	6:25	197	6:26	101	6:27	6
<b>-824</b>	<b>12</b>	<b>5</b>	-824	11	27	1958	<b>9</b>	<b>24</b>	7	4:26	6:43	174	6:44	<b>74</b>	6:44	<b>-21</b>
-823	1	3	-824	12	26	1958	10	23	1	22:50	6:49	276	6:49	136	6:49	35
-823	2	2	-823	1	25	1958	11	23	3	14:38	6:39	225	6:39	85	6:38	-1
-823	3	4	-823	2	24	1958	12	23	5	3:31	6:20	152	6:19	47	6:19	-23
-823	4	2	-823	3	25	1959	1	17	6	13:44	5:59	274	5:58	103	5:57	23
-823	5	1	-823	4	23	1959	2	16	7	21:51	5:37	483	5:37	174	5:36	70
<b>Pedubast I's eighth year III 3ht 16 date</b>																
<b>-823</b>	<b>5</b>	<b>31</b>	-823	5	23	1959	<b>3</b>	<b>16</b>	2	4:42	5:20	247	5:19	116	5:19	<b>23</b>
-823	6	29	-823	6	21	1959	4	15	3	11:23	5:11	296	5:11	159	5:11	50

DoW = day of week; ToD = time of day.

Kitchen notes that the Karnak Priestly Annal fragment No. 1 line 1 records that in year seven of Pedubast (which was year 14 of Shoshenq III), Pediamonet, a lesser son of the king Pedubast I, was “justified into the places of Mut and Khons,” that is, “into priestly service for Amun’s fellow deities in Thebes.”<sup>60</sup> The date for Pedubast I’s seventh year is given as I *šmw* [1] by both Krauss and Kitchen, indicating some uncertainty in the day-date.

In Table 37.5 the new moon falls on I *šmw* 5 in the year -825, which means that the feast should have fallen *on days five to nine*. Neither the preceding nor following year gives a date on these days. It is possible then that the uncertain date should be emended from I *šmw* [1] to a day in I *šmw* 5–9. This would assume that additional vertical strokes were once written but are now lost.

In year eight, there was the induction of another Pediamonet (fragment No. 2 of the Karnak Priestly Annals) “of long lineage into the ranks of the bearers of Amun’s processional images.”<sup>61</sup> Also in year eight on I *šmw* 19, “the much-betitled vizier Pentyef-ankh, son of a former vizier Hori” was also inducted. Kitchen then adds, “The events of Year 14 (Shoshenq III, Year 21; 805 B.C.) are lost.”<sup>62</sup> This is from “Annals fragment 5, line 4 (2nd horizontal line) the Year 14, 1st Shomu, [1].”<sup>63</sup>

These two latter dates are curious. In the eighth year of Pedubast I, the first lunar day falls on I *šmw* 23, so the 19th falls five days *before* the given date and is not applicable. But in year 14, the new moon falls on I *šmw* 19—the date attributed to year eight! (See Casperson’s Table 37.6, below.) If the date for the 14th year is I *šmw* 19, the date for the eighth year fell on I *šmw* 23 (as in Table 37.5, above), giving the dates for the induction of the second Pediamonet and said to be also for the vizier Pentyef-ankh. It seems, however, that the inscription actually attributed Pentyef-ankh’s induction to the 14th year on I *šmw* 19, the events of which are said to be lost.

<sup>60</sup> Kitchen, *Third Intermediate Period*, 337-38 §298.

<sup>61</sup> *Ibid.*, 337-38 §298.

<sup>62</sup> *Ibid.*

<sup>63</sup> *Ibid.*, 337-38 §298 n. 526.



**Table 37.6: Pedubast I's 14th year –818 (new moon listing from –818)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-818	10	31	-818	10	23	1964	8	20	7	0:28	6:21	194	6:22	81	6:23	-30
<b>-818</b>	<b>11</b>	<b>29</b>	-818	11	21	1964	<b>9</b>	<b>19</b>	1	13:17	6:40	271	6:41	142	6:41	<b>28</b>
-818	12	29	-818	12	21	1964	10	19	3	0:47	6:49	205	6:49	85	6:49	-19

DoW = day of week; ToD = time of day.

Apparently the year 14 date of I šmw 19 is incorrectly attributed to Pedubast's year eight, with the year 14 date only being partially preserved as I šmw [1] being Pedubast I's 14th year in 819 BCE (–818), which equates to Shoshenq III's 20th year.

### **Tepi Shemu Feast in Shoshenq III's 39th Year**

Krauss notes that Shoshenq III also has the date of another *Tepi Shemu* feast on I šmw 26 in his year 39.<sup>64</sup> In this year the aged prince Osorkon had his younger brother, Bakenptah, appointed as General of Herakleopolis and Army Leader. Kitchen writes,

“In that year, Prince Osorkon in his old posts ‘was within Thebes, celebrating the festival of Amun, in one accord with his brother, the General (etc.) Bakenptah, all [...] resting/at peace in [...]. Then they overthrew everyone who fought against them. On this day, induction of the vizier (etc.), Har[sies]e (E), [son of x and Ta-]hent-Ese, into the great, noble, festal shrine of Amun (etc.). He said...’ (inaugural address).”<sup>65</sup>

Although Kitchen does not note the dates for the Amun festival, it is obviously the same event to which Krauss gives the date of I šmw 26. Spalinger also refers to a feast of Amun at Karnak in the reign of Shoshenq III but without giving a regnal year. He writes, “The date [of the Amun feast] is I šmw 26 and the event took place in the temple ... Kruchten wisely concluded that in [*sic*] was in the first month of the third and final season that the so-called ‘introduction’ of new prophets of Karnak occurred. The key date of inscription seven (and others) proves that once more this is the Amun feast of List 67 in Medinet Habu (set on the new moon day).”<sup>66</sup> Shoshenq III's 39th year should have started ca. 800 BCE. Caspersen provides Table 37.7 for –799.

**Table 37.7: Shoshenq III's 39th Year in –799 (new moon listing for –799)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-799	10	30	-799	10	22	1983	8	24	2	15:37	6:21	237	6:22	135	6:22	35
<b>New moon III šmw 24</b>																
<b>-799</b>	<b>11</b>	<b>29</b>	-799	11	21	1983	<b>9</b>	<b>24</b>	4	8:31	6:40	212	6:41	106	<b>6:41</b>	<b>7</b>
-799	12	28	-799	12	20	1983	10	23	5	23:09	6:49	318	6:49	176	6:49	73
-798	1	27	-798	1	19	1983	11	23	7	11:03	6:53	259	6:52	124	6:52	41
-798	2	25	-798	2	17	1983	12	22	1	20:37	6:31	443	6:30	178	6:30	80
-798	3	27	-798	3	19	1984	1	17	3	4:36	6:04	242	6:03	108	6:02	28
-798	4	25	-798	4	17	1984	2	16	4	11:57	5:37	323	5:36	134	5:35	40
<b>New moon III šht 15</b>																
<b>-798</b>	<b>5</b>	<b>24</b>	-798	5	16	1984	<b>3</b>	<b>15</b>	5	19:36	5:14	420	5:13	167	5:13	<b>55</b>
-798	6	23	-798	6	15	1984	4	15	7	4:27	5:00	216	4:59	84	4:59	-15
-798	7	22	-798	7	14	1984	5	14	1	15:16	5:02	275	5:03	135	5:03	26

DoW = day of week; ToD = time of day.

<sup>64</sup> Krauss, *Sothis- und Monddaten*, 166.

<sup>65</sup> Kitchen, *Third Intermediate Period*, 340 §300.

<sup>66</sup> A.J. Spalinger, “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; Alter Orient und Altes Testament 297; Münster: Ugarit, 2002) 393 cited from J-M. Kruchten, *Les annales des prêtres de Karnak (XXI-XXIII<sup>es</sup> dynasties) et autres textes contemporains relatifs à l'initiation des prêtres d'Amon*, 1989 242-44.

Table 37.7 shows a new moon on I *šmw* 24 in –799, therefore, I *šmw* 26 fell on the third day of the feast thereby coming within the five-day period. It would seem likely that the same was also true for the inductions in the reign of Pedubast I, and therefore, the above dates should be emended as proposed. That is, the date for the Amun feast inductions in Pedubast’s seventh year fell on a day in I *šmw* 5–9 in –825; in his eighth year on a day in I *šmw* 24–28 in –824; and in his 14th year on I *šmw* 19 in –818.

Spalinger continues, “Another inscription belonging to the same series of priestly records [the Karnak Priestly Annals] is set on day seventeen of the third civil month.”<sup>67</sup> He understands that this came after the Opet feast, which ended on III *3ht* 15 in the 19th Dynasty.<sup>68</sup> The regnal year is not noted. Assuming that the date in Shoshenq III’s reign also refers to the induction of priests on or near to the new moon occurring on III *3ht* 15, in Shoshenq III’s reign of 39 years it is possible for the date to occur twice since it recurs every 25 years. In –798 (as above) it fell on III *3ht* 15 in Shoshenq III’s 39th year. In –823, 25 years earlier, the new moon fell on III *3ht* 16 (see Table 37.5 on pages 553-554) which equates to Shoshenq III’s 15th year and Pedubast I’s *eighth*. This confirms that the date for the *Tepi Shomu* feast given for I *šmw* 19 for Pedubast I’s eighth year is actually the date for the feast in Pedubast I’s 14th year in –818. The III *3ht* 15 date refers to Shoshenq III’s 39th year, falling as it does, exactly on the date of the new moon, thus providing a regnal year for the Karnak Priestly Annals’ date. With the *Tepi Shomu* date on I *šmw* 24 in –799 and the Karnak Priestly Annals’ date in Shoshenq III’s 39th year on III *3ht* 15 in –798 (799 BCE), Shoshenq III’s 39th year is confirmed for the years 800/799 BCE.

### Apis Bull Installed in Shoshenq III’s 28th Year

Krauss, on investigating dates given for the enthronement of Apis bulls, concluded that they were installed on the 15th lunar day ± three days. According to stela CSSM 22, an Apis bull was enthroned at Memphis in the 28th year of Shoshenq III on II *3ht* 1.<sup>69</sup> By my chronology, this event should date to 810 BCE (–809; see Table 37.8).

**Table 37.8: Shoshenq III’s year 28 in –809 (full moon listing for –809)**

Memphis; Lat. 29.9, Long. 31.2												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–809	3	14	–809	3	6	1973	1	1	4	17:13	6:14	17:14
<b>–809</b>	<b>4</b>	<b>13</b>	–809	4	5	1973	<b>2</b>	<b>1</b>	6	4:07	5:47	18:47
–809	5	12	–809	5	4	1973	2	30	7	12:48	5:23	18:23

DoW = day of week.

The table shows that a full moon did occur on II *3ht* 1 in –809 (810 BCE), thus agreeing with the date for the enthronement of the Apis bull in Shoshenq III’s 28th year.

The above lunar dates are consistent with each other for the reigns of Takeloth II, Pedubast I, and Shoshenq III, based initially on the proposition that Takeloth II reigned 33 years. They confirm that his length of reign is 33 years and not the 25 given him by Kitchen (which he reduces to 15 years by using co-regencies: three years with Osorkon II and seven years with Shoshenq III).<sup>70</sup>

<sup>67</sup> Spalinger, “Egyptian Festival Dating,” 394.

<sup>68</sup> Ibid.

<sup>69</sup> R. Krauss, “Die Mahler-Borchardtsche These über die Apis-Inthronisationen bei Vollmond,” *Acta Prehistorica et Archaeologica* (39, 2007) 347-48.

<sup>70</sup> Kitchen, “Overview of Fact & Fiction,” 202.

### Takeloth II's Reign Length

Takeloth II's reign was 33 years, dating from 872/871 to 839 BCE. Shoshenq III succeeded Takeloth II in 839. Pedubast I split off from the 22nd Dynasty in Shoshenq III's eighth year in 832/831 and began the 23rd Dynasty.

### Manetho's 13 Years for Takeloth II

The 13 years now given by Manetho's copyists were presumably transcribed from a damaged number 33, the original writing of which is shown in Figure 37.1



**Figure 37.1:** The original number 33 from Manetho's list (damaged).

The omission of two of the ten-signs, whether on the top row or from the right side, leaves one ten-sign plus three vertical strokes and the number 13. As noted previously, this same circumstance appears to have reduced Shoshenq I's 41-year reign to 21 years, and Osorkon I's reign of 35 years to 15 years.

### Nile Level Texts for Takeloth II?

The Nile Level Texts discussed by Broekman in 2002 do not include any texts that represent the reign of Takeloth II.<sup>71</sup> In his article of 2009, Broekman considered a suggestion by Karl Jansen-Winkel that Nile Level Text 3 might belong to Takeloth II.<sup>72</sup> Broekman had previously and tentatively assigned Nile Level Text 3 to a new king, Hedjkheperre Setepenre Shoshenq Siese Meryamun, based on the name Shoshenq in its orthographic Version Two for *h<sup>c</sup> pj* ("Nile Flood") and its position on the wall.<sup>73</sup>

That identification was re-evaluated by Broekman in 2005, taking into account that a Wadi Gasus graffito mentioned the 19th year of an unnamed king equated with the 12th year of another king understood to be Piye of the Nubian 25th Egyptian Dynasty, who, in his 20th year, invaded Egypt and caused submission of its kings and kinglets. Broekman's conclusion then was that the king of Nile Level Text No. 45 was Shoshenq VII (now VIa) and probably the king of the Wadi Gasus inscription.<sup>74</sup>

However, this identification has been reconsidered because the name Shoshenq is not now discernible and Jansen-Winkel wonders whether the Version Two could be better understood as a variant of Version One as used once only in Nile Level Text 25 dated to year six of Shoshenq VI (name not given in the text). Broekman, weighing the evidence again, considers that it more likely refers to the new king Shoshenq, tentatively given the designation Shoshenq VIa.<sup>75</sup>

The conclusion is that Takeloth II is not the king of Nile Level Texts Nos. 3 and 45. The absence of a Nile Level Text for Takeloth II is somewhat surprising because in the first division of the 22nd Dynasty all but the "ephemeral" kings (and these are probably Shoshenq I with different prenomens) have at least one text that can be attributed to them, and Takeloth II's immediate successors, Shoshenq III and Pedubast I, have several between them.

If Takeloth II had a text it would no doubt have had the First Version of "Nile Flood" since the style changed with Shoshenq III's 39th year on Nile Level Text No. 22.

<sup>71</sup> Broekman, "Nile Level Records," 163-78.

<sup>72</sup> Idem, "Takeloth III and the End of the 23rd Dynasty," 97-99 and n. 39.

<sup>73</sup> Idem, "Nile Level Records," 169, 176.

<sup>74</sup> Idem, "The Chronological Position of King Shoshenq Mentioned in Nile Level Record No. 3 on the Quay Wall of the Great Temple of Amun at Karnak," *SAK* 33 (2005) 75-89.

<sup>75</sup> Idem, "Nile Level Records," 98-99.

If Takeloth II was represented it may have been by the illegible texts 15 and 44. If not, his text(s) did not exist, or are no longer legible. It is not known what circumstances or rationale prompted the engraving of one flood height in any one year—some being quite close and others being distantly removed in time.

### **Shoshenq III and Shoshenq IV Reigned Between 839 and 787/786 BCE**

Beginning to reign in 839 BCE, Shoshenq III's last *attested* regnal year is his 39th in the year 800. *The Chronicle of Prince Osorkon* records the benefactions of Prince Osorkon (High Priest of Amun: Osorkon B) from Takeloth II's 11th year to Shoshenq III's 29th, with another mention of Osorkon in Shoshenq III's 39th year, inferring that Shoshenq III succeeded Takeloth II.<sup>76</sup> Shoshenq III's parents are not known—though Kitchen plausibly presumes him to be a son of Takeloth II.

It was formerly thought that Shoshenq III reigned 52–53 years, reckoned from the records of Apis bulls buried at the Serapeum. One such bull buried in the second year of king Pimay (now identified as Pami), had 26 years earlier been inducted in the 28th year of Shoshenq III.<sup>77</sup> If no king came between Shoshenq III and Pami, Pami would have ascended the throne 25 years after year 28 of Shoshenq III,<sup>78</sup> indicating that Shoshenq III reigned 52 years. However, another king, now known as Shoshenq IV, has recently been assigned approximately 12 years on the basis of a new proposal that there were two kings named Hedjkheperre Setepenre Shoshenq Meryamun, one being Shoshenq I, and the other a much later king, now recognized as Shoshenq IV.<sup>79</sup> The previous Shoshenq IV of the 23rd Dynasty is now renumbered as Shoshenq VI.

### **Shoshenq IV (Hedjkheperre Setepenre Shoshenq Meryamun)**

The existence of Shoshenq IV is inferred from a donation stela of a chief of the Libu, Niumateped. The stela was dated to the 10th year of the reign of a Hedjkheperre Shoshenq, and on another stela, a Niumateped, also a chief of the Libu, was in office in the eighth year of Shoshenq V, suggesting the two references referred to the one Niumateped.

In the tomb of Shoshenq III at Tanis, a second uninscribed sarcophagus was found. In the debris, a canopic jar with the full name of Hedjkheperre Setepenre Shoshenq Meryamun Si-Bast Netjerheqaon was also discovered.<sup>80</sup> The use of the nomen epithet *Netjerheqaon* (god, ruler of Heliopolis), on the jar was never used by kings before Shoshenq III,<sup>81</sup> so could not refer to Shoshenq I or IIa. This evidence supports the proposal that there was a second Hedjkheperre Shoshenq in whose reign Niumateped dated his stela to the king's 10th year.

Niumateped's title first appears in year 31 of Shoshenq III,<sup>82</sup> equating to 809. Along with other evidence, Dodson, Kitchen, and most other scholars, now view Shoshenq IV as the successor to Shoshenq III.<sup>83</sup> Like Shoshenq III, his parentage is

<sup>76</sup> Caminos, *Chronicle of Prince Osorkon*, 128.

<sup>77</sup> Kitchen, *Third Intermediate Period* (2nd ed.), 102, 489 table 20.

<sup>78</sup> *Ibid.*, 102-03; see 348-49, 350; see Klaus Baer, "The Libyan and Nubian Kings of Egypt: Notes on the Chronologies of Dynasties XXII to XXVI," *JNES* 32 (1973) 7.

<sup>79</sup> See D. Rohl in A. Dodson's ftns in "A new King Shoshenq confirmed?" *GM* 137 (193) 53-58; Kitchen, *Third Intermediate Period*, xxv-xxvi.

<sup>80</sup> A. Dodson in "A New King Shoshenq, Confirmed?" *GM* 137 (1993) 54; *idem*, *The Canopic Equipment of the Kings of Egypt*, (London and New York: Kegan Paul, 1994) 93.

<sup>81</sup> *Ibid.*, 55.

<sup>82</sup> *Ibid.*, 53 and n. 7.

<sup>83</sup> *Ibid.*, esp. 57; Kitchen, *Third Intermediate Period*, xxvi; Jansen-Winkel, "Third Intermediate Period," 244.

unknown. The highest attested regnal year for Shoshenq III is his 39th year (Nile Level Text 22). Therefore, assigning him 39 years and his successor, Shoshenq IV, 13 years, fills the 52 years from Shoshenq III's death to Pami's accession. This accords with the Apis bull's 26-year lifespan from the 28th year of Shoshenq III to the second year of Pami, from 810–784 BCE.<sup>84</sup> Shoshenq III's reign may be dated 839/838–800/799 BCE, and Shoshenq IV can be attributed 13 years from 800/799–787 BCE.

### Pedubast I's Tanite 23rd Dynasty

As noted above, Pedubast I formed an offshoot dynasty in Shoshenq III's eighth year, designated by Manetho as the 23rd Dynasty. The two dynasties, 22nd and 23rd, co-existed from this point on until their termination by submission to the 25th Dynasty kings, firstly to Piye (formerly known as Pinakhy), and then to Shabako.

### Pimay/Pami/Pamiu (Usimare Setapenamun Pimay Meryamun Si-Bast)

Shoshenq IV's successor is variously spelled as Pimay, Pami, or Pamiu. Some scholars identify him as the third son of Shoshenq III, though some say he was a different man, Pami, whose parentage is unknown. A year 11 Serapeum stela cites Pami as the father of Shoshenq V.<sup>85</sup> Shoshenq IV's successor will be called Pami here.

Year six of Pami on a votive stela in the Louvre was formerly the highest known for Pami.<sup>86</sup> However, in 1998, a paper was published of a reused block from a doorway at Heliopolis, which preserves a section chronicling Pami's donations to local gods. A seventh regnal year is clearly visible for Pami, and in the following erased section "a brief 8th Year" is possible before the end of the damaged block.<sup>87</sup> If Pami reigned seven years, his dates are 787/786–780 BCE, with his second year in 785/784.<sup>88</sup>

### Shoshenq V (Aakheperre Setepenre Shoshenq Meryamun Si-Bast Netjerherqaon)

The Apis bull installed in year two of Pami died in year 11 of Shoshenq V. Pimay's second year is 785/784 and Shoshenq V's 11th is 770 BCE, indicating that the bull lived ca. 14 years, which is within a normal life span.<sup>89</sup>

Another bull was installed in Shoshenq V's year 12 on IV *prt* 4 according to Stela CSSM 31<sup>90</sup> regarded to be a date within three days of a full moon. On the above dates, Shoshenq V's 12th year should be ca. 769 BCE (–768). Casperson provides a full moon table in Table 37.9.

**Table 37.9: Apis bull installed in Shoshenq V's 12th year –768 (full moon listing for –768)**

Memphis; Lat. 29.9, Long. 31.2												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
–768	9	3	–768	8	26	2014	7	5	5	2:58	5:35	18:35
<b>–768</b>	<b>10</b>	<b>2</b>	–768	9	24	2014	<b>8</b>	<b>4</b>	6	21:24	6:01	17:01
–768	11	1	–768	10	24	2014	9	4	1	15:46	6:29	17:29

DoW = day of week.

<sup>84</sup> Kitchen, *Third Intermediate Period*, 102-03, see 348-50; and see K. Baer, "Libyan and Nubian Kings," 7.

<sup>85</sup> "Pami," <http://en.wikipedia.org/wiki/Pami>

<sup>86</sup> Kitchen, *Third Intermediate Period*, 103.

<sup>87</sup> <http://en.wikipedia.org/wiki/Pami> citing S. Bickel, M. Gabolde, P. Talbot, "Heliopolitan Annals from the Third Intermediate Period," *BIFAO* 98 (1998) 31-56.

<sup>88</sup> "Pami," <http://en.wikipedia.org/wiki/Pami>

<sup>89</sup> Kitchen, *Third Intermediate Period*, 156 §126 (iii); idem, "Strengths and Weaknesses," 294, table 306.

<sup>90</sup> Krauss, "Die Mahler-Borchardtsche These," 345 table 5.

A full moon fell on IV *prt* 4 confirming Shoshenq V's 12th year in 769 BCE. It also supports the proposal that the installation of the Apis bull fell on or around the time of a full moon. This bull died in Shoshenq V's 37th year in 744/743, having lived 25–26 years. So Shoshenq V reigned at least 37 years.<sup>91</sup> Another year is possible. A record from a donation stela at Buto mentions the prince Tefnakht (of Saïs) and a year 38 of a king of Upper and Lower Egypt whose name is left blank. In all probability, this is Shoshenq V as identified by Kitchen who assigns him 37 or 38 years as his highest year.<sup>92</sup> If Shoshenq V began to reign in 780 and reigned into his 38th year (not being a complete year) his years would be 780–743 BCE.

### **Osorkon IV (Aakheperre Setepenamun Osorkon Meryamun)**

An Osorkon of Bubastus, known in Egyptian records only from the Victory Stela of Piye of the 25th Nubian Dynasty, is assumed to have been the successor of Shoshenq V. The fact that Shoshenq V is not mentioned on the stela dated to I 3*ht* 1 of Piye's Year 21 and records his invasion of Egypt in his 20th year<sup>93</sup> infers that Shoshenq V had died. After the death of Shoshenq V in 743 only 13 years remain before the dynasty came to an end in 730 BCE. These 13 years can be allocated to Osorkon IV. However, he did not die at this time.

According to Piye's Victory Stela, Osorkon and other kings of the Delta, such as Iuput II of Leontopolis, Peftjauawybast of Herakleopolis, and Nimlot of Hermopolis, submitted to Piye, so that Piye became king over all of Egypt.<sup>94</sup> These kings were not killed. They were allowed to retain their royal position while at the same time under the control of Piye, and then his successor, his brother Shabako.

Osorkon IV is also the most probable candidate for the king "So" of Egypt to whom Hoshea of Israel appealed for help to avoid subservience and paying tribute to Shalmaneser V, king of Assyria. Hosea was subsequently imprisoned in Samaria in 722 BCE before the death of Shalmaneser V that same year.

### **Correlating Osorkon IV, Hoshea of Israel, and Sargon of Assyria**

Sargon II's first three regnal years, 722/721–719 BCE, correspond to Hoshea's seventh to ninth years.<sup>95</sup> This period can be extended by an Assyrian record that tells how Osorkon IV (Shilkanni) presented 12 great horses to Sargon II when the latter had arrived near the border of Egypt at the fort of Sile, an action that appears to have avoided an attack by the Assyrian army. From Assyrian records, this campaign can be dated to 716 BCE. Thus, Osorkon IV was alive during the years of Sargon's first three years and Hoshea's seventh to ninth years.<sup>96</sup>

### **The End of the 22nd and 23rd Dynasties**

Following Osorkon's tribute of horses to Sargon, he is not heard of again. Kitchen assumes Osorkon IV died about 715 BCE.<sup>97</sup> Kitchen uses 715 as the end of the 22nd Dynasty, thereby including an extra 15 years into it after 730, which helps him

<sup>91</sup> Kitchen, *Third Intermediate Period*, 104 §84; Baer, "Libyan and Nubian Kings," 10.

<sup>92</sup> *Ibid.*, 104-05, 138-39; *idem*, "Strengths and Weaknesses," 307-08 see tables; *idem*, "Overview of Fact & Fiction," 166.

<sup>93</sup> The Victory stela of Piankhy/Piye is a large granite slab found in 1862 in the ruins of the temple of Amun at the foot of Gebel Barkal, in Napata, the capital of Nubia.

<sup>94</sup> B. Yare, "The Victory Stele of Piankhy," <http://www.yare.org/essays/pianky.htm>

<sup>95</sup> Tetley, *Divided Kingdom*, 157-60.

<sup>96</sup> Kitchen, *Third Intermediate Period*, 376. The report is from a prism fragment from Nineveh.

<sup>97</sup> *Ibid.*, 376 §336; H. Tadmor, "The Campaigns of Sargon II of Assur: A Chronological-Historical Study," *JCS* 12 (1958) 78.

offset the shortening of his chronology. This is an important point to observe because it explains how most scholars now view the end of the 22nd and 23rd Dynasties. But Manetho attributes the date of 730 BCE to the end of Dynasty 22—and with it implicitly the end of the 23rd Dynasty too, as we shall elaborate in the next chapter.

If Shoshenq V reigned no longer than into his 38th year, his death and Osorkon IV's accession took place in 743 BCE, so that by 730 Osorkon IV has reigned ca. 13 years. Since he was still alive in 716 BCE when he “gave” Sargon II the 12 great horses, he survived at least another 14 years. But it is the 13 years Osorkon IV reigned prior to the invasion of Piye that are credited to the 22nd Dynasty, not the additional 14 or more years after it.

In Kitchen's 2009 chronology, *Shoshenq V's* death is dated to the year 730 BCE,<sup>98</sup> and Osorkon IV begins to reign in 730, two years before Kitchen's date for Piye's invasion in 728. Kitchen extends the dynasty down to 715 BCE believing that that is where it ended.

### Incorrect Chronology from an Erroneous Starting Date

All the dates Kitchen gives for the 22nd Dynasty are incorrect because instead of starting it at 998/997 BCE for Shoshenq I's first year, he has it start at 945 BCE reliant on Thiele's faulty date of 925 for Rehoboam of Judah's fifth year, 20 years after the accession of Shoshenq I.

For ease of reference, in Table 37.10 I repeat the table of years for the early period of the 22nd Dynasty that was shown in chapter 36, and then provide the table for this later period in Table 37.11, with their important anchor points. Both the early and later periods of the chronology are confirmed by the synchronisms of lunar dates attested in the inscriptional data and the astronomical data presented in the tables provided.

**Table 37.10: The early period of 22nd Dynasty kings with regnal years and dates**

King	Regnal years	Dates reigned BCE	Lunar anchor points or year periods BCE
Shoshenq I	41	998/997–957	Yr 2, Shoshenq I “justified” at feast III <i>3ht</i> 14; new moon III <i>3ht</i> 13 in 996. Yr 5, <i>wereh</i> feast IV <i>pwt</i> 25; new moon IV <i>pwt</i> 20 in 994
Osorkon I	35	957–922	Yr 1 bequests beginning on I <i>šmw</i> 7 is new moon in 957 (and lasting 3 yrs 3 mths and 16 days till Yr 4 on IV <i>šmw</i> 25). Yr 3 induction of Hor, II <i>3ht</i> 14; new moon II <i>3ht</i> 11, 954
Shoshenq IIa	4½	922–917	Nile Level Text 16 appears to give him 5 yrs.
Takeloth I	13½	917–903	Serapeum stela with 14 yrs, and Nile Level Text 18 with 13 or 14 yrs is probably his
Osorkon II	31	903–872	125 years (emended from Manetho's subtotal [1]25 ends in 872, last year of Osorkon II's reign
Manetho Total	125 yrs	998/997–872	

**Table 37.11: The later period of 22nd Dynasty kings with regnal years and dates**

King	Regnal years	Dates reigned BCE	Lunar anchor points or year periods BCE
Takeloth II	33	872–839/838	Starts to reign 125 years after 997. 11th yr, Amun feast new moon on I <i>šmw</i> 11 in 860
Shoshenq III	39	839/838–800/799	Yr 28 installation of Apis bull in Yr 28 on II <i>3ht</i> 1 date of full moon in 810. This Apis bull died after 26 years in the second yr of Pimay in 784. Yr 39 Amun feast on I <i>šmw</i> 26 on third day after new moon on I <i>šmw</i> 24 in 800
Shoshenq IV	13	800/799–787/786	None known. A Yr 10 attested

<sup>98</sup> Kitchen, “Overview of Fact & Fiction,” 202 see table. Kitchen's earlier chronologies differ somewhat depending on assumed co-regencies and reign-lengths.

Pami	7	787/786–780	In second yr, 785/784, Apis bull died that was installed 26 years earlier in 28th yr of Shoshenq III in 810
Shoshenq V	37	780–743	Yr 12 installation of Apis bull on IV <i>pri</i> 4 full moon date in 769
Osorkon IV	13	743–730 to end of dynasty then governed to ca. 716/715	Present at Leontopolis at invasion of Egypt in Piye's 20th year in 730. End of dynasty in 730 is 142 years from Takeloth's accession in 872, and 267 years from beginning of dynasty in 998/997
Manetho Total	142 yrs	872-730	
Total	267 yrs	Early and later periods combined	

The later division of the 22nd Dynasty, starting with Takeloth II, was concurrent with the 23rd Dynasty starting with the reign of Pedubast in the eighth year of Shoshenq III in 832 BCE. The focus now shifts to the kings who, according to Manetho, reigned from Tanis—a city in the north-eastern region of the Delta.



## Chapter 38

### Restoring the 23rd Dynasty

The formation of the new city of Tanis was likely due to the silting up of the Nile branch that ran by Pi-Ramesses, forcing people to seek an alternative riverside location. Tanis was a brand new city and served as a parallel religious center to Thebes, becoming known as the Thebes of Lower Egypt. The kings at Tanis saw themselves as the legitimate successors of the throne of Upper and Lower Egypt.

Here the 23rd Dynasty is understood as the 23rd Tanite Dynasty based on data handed down from Manetho. Transcription or transmission discrepancies are obvious, but some data may be reconstructed. The placement of Takeloth II, and the identification of Orsokon III in the 23rd Dynasty, including Pedubast, occupied much of the previous chapter. *Manetho's* versions report the following for the 23rd Dynasty:

#### DYNASTY XXIII

Fr. 62 (from Syncellus). ACCORDING TO AFRICANUS.

The Twenty-third Dynasty consisted of four kings of Tanis.

1. Petubatês, for 40 years: in his reign the Olympic festival was first celebrated.
2. Osorchô, for 8 years: the Egyptians call him Heracles.
3. Psammûs, for 10 years.
4. Zêt for 31 years (34).

Total, 89 years.

Fr. 63 (a) (from Syncellus). ACCORDING TO EUSEBIUS.

The Twenty-third Dynasty consisted of three kings of Tanis.

1. Petubastis, for 25 years.
2. Osorthôn, for 9 years: the Egyptians called him Hêracles.
3. Psammûs, for 10 years.

Total, 44 years.

(b) ARMENIAN VERSION OF EUSEBIUS.

The Twenty-third Dynasty consisted of three kings of Tanis.

1. Petubastis, for 25 years.
2. Osorthon, whom the Egyptians named Hercules: for 9 years.
3. Psammus, for 10 years.

Total, 44 years.

In *The Book of Sothis*, the following kings and reigns are supplied,<sup>1</sup> discussed earlier regarding the length of Shoshenq I's reign.

68. Petubastês, 44 years.
69. Osorthôn, 9 years.
70. Psammus, 10 years.

For comparative purposes, Table 38.1 presents the above data.

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<sup>1</sup> *Manetho*, (trans. W.G. Waddell; Loeb Classical Library 350; London: William Heinemann Ltd. and Cambridge, MA: Harvard University Press, 1940) 247.

**Table 38.1: Manetho's versions of 23rd Dynasty kings of Tanis**

Kings	Africanus no. of years	Eusebius/Armenian no. of years	<i>The Book of Sothis</i> no. of years
1. Petubates/Petubastis <sup>2</sup>	40	25	44
2. Osorcho/Osorthon	8	9	9
3. Psammus	10	10	10
4. Zet	31	(not given)	(not given)
<b>Total</b>	<b>89</b>	<b>44</b>	<b>(not given)</b>

Also, for ease of reference, the chart of contemporary dynasties displayed in chapter 35 is reproduced below (Table 38.2) to show connections between the dynasties that affect chronological positioning.

**Table 38.2: Traditional succession of kings for the 22nd, 23rd, 24th, and 25th Dynasties, based on Kitchen's model in 2006**

22nd Dynasty	23rd Dynasty	24th Dynasty	25th Dynasty
Shoshenq I			
Osorkon I			
Shoshenq II (co-regency)			
Takeloth I			
Osorkon II (Harsiese A, south)			
Takeloth II			
Shoshenq III	Pedubast I		
	Shoshenq VI		
Shoshenq IV	Osorkon III		
Pimay			
Shoshenq V	Takeloth III		
	Rudamun		Piye/Piankhy
Osorkon IV	Shoshenq VIa	Tefnakht	
	Iuput II	Bocchoris	Shabako
			Shebitku/Shabataka
			Taharqa

Manetho locates the 23rd Dynasty at Tanis (although this is disputed), becoming known as the Thebes of Lower Egypt. It should be noted that the 23rd Dynasty kings are recorded in the Nile Level Texts at Thebes, which appears to indicate their recognized status in the Thebes of Upper Egypt.

Table 38.2 does not represent all the kings identified by Kitchen as belonging to the Tanite 23rd Dynasty. He provides the following Table 38.3.<sup>3</sup>

<sup>2</sup> Africanus adds to the record for Petubates (Pedubast I) "in his reign the Olympic festival was first celebrated" (*Manetho*, 161). The date is usually fixed at 776–775 BCE, but this kind of annotation is usually secondary and not reliable.

<sup>3</sup> K.A. Kitchen, "The Third Intermediate Period in Egypt: An Overview of Fact & Fiction," *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009) 202.

**Table 38.3: 23rd Dynasty of Tanis according to Kitchen**

Date BCE	King	Regnal years
818–793	Pedubast I, Si-Bast>Si-Ese, Usimare Setepenamun	25
804–792	Iuput I, <.....>	12 (11 CR)
792–786	Shoshenq VI Meriamun, Usimare Meriamun	6
786–758	Osorkon III Si-Ese, Usimare Setepenamun(re)	28
763–744	Takeloth III Si-Ese, Usimare Setepenamun	19 (5 CR)
744–741	Rudamun Meriamun, Usimare Setepenamun	ca. 3?
741–736	Shoshenq VII (VIa) Si-Ese, Hedjkheperre Setepenre	5
736–715	Iuput II (Si-Bast), Usimare Setepenamun/re	21
<b>818–715</b>	<b>Total</b>	<b>103</b>

CR = co-regency.

In approaching this chapter, I am indebted to the work of Gerardus Broekman on the Nile Level Texts and his commentary.<sup>4</sup> I endeavor to place this data and his observations into the wider chronological narrative of this period, and propose the list of kings, as shown in Table 38.4, based on various chronological anchor points.

**Table 38.4: 23rd Dynasty kings with anchor points**

King	Regnal years	Dates reigned	Anchor points BCE
Pedubast I			Began to reign in Yr 8 of Shoshenq III (NLT 24 Shoshenq III's Yr 12 = Pedubast I's Yr 5). Yr 7 induction on I <i>šmw</i> [1] = I <i>šmw</i> 5 new moon in 826. Yr 14 induction on I <i>šmw</i> 19 new moon; (incorrectly attributed to Yr 8) in 819
Iuput I			NLT 26 Yr 16 = Yr 2 Iuput I
Shoshenq VI			Khons roof date?
Osorkon III			NLT 13 yr 28 = Yr 5 Takeloth III (5 yrs attributed to Osorkon III)
Takeloth III			None known
Rudamun			None known
Shoshenq VIa			Yr 19 = Yr 12 of Piye of 25th Dynasty in 738
Iuput II			Present at Leontopolis in Piye's 20th yr invasion in 730

NLT = Nile Level Text.

### Pedubast I

Only Pedubast I and Osorkon III in Kitchen's line-up are identifiable as the Pedubast and Osorcho/Osorthon of Manetho's list. Pedubast I founded a dynasty in Tanis according to Manetho. This accords with the fragmentation of the country with the warring factions of the kings of Lower Egypt and the Theban high priests at the end of the 22nd Dynasty and beginning of the 23rd Dynasty.

The 23rd Dynasty began as an offshoot of the Bubastite/Tanite 22nd Dynasty under Pedubast I in Shoshenq III's eighth year. The synchronism comes from Nile Level Text No. 24 in which year five of Pedubast I is year 12 of an unnamed king. On the basis of its orthography and structure, the year 12 must refer to Shoshenq III.<sup>5</sup> The High Priest during the concurrent reigns was Harsiese B, named on Nile Level Text No. 23 in Shoshenq III's year six, on Nile Level Text No. 24 (as given), Nile Level Text No. 28 in Pedubast's year 18 (= Shoshenq III's 25th year), and Nile Level Text No. 27 in Pedubast's year 19 (= Shoshenq III's year 26). In Pedubast's 23rd year, the High Priest has changed to a Takeloth (Takeloth E) who is last heard of in year six of Shoshenq VI, successor to Pedubast I.<sup>6</sup>

<sup>4</sup> G. Broekman, "The Nile Level Records of the Twenty-second and Twenty-third Dynasties in Karnak: A Reconsideration of Their Chronological Order," *JEA* 88 (2002) 163–78.

<sup>5</sup> *Ibid.*, 173.

<sup>6</sup> Kitchen, "Overview of Fact & Fiction," 180.

Concerning the regnal years for Pedubast I seen in the versions of *Manetho*, Africanus credits him with 40 years, Eusebius/Armenian with 25 years, and *The Book of Sothis* with 44 years. The excessive 40/44 years is probably explained by the numbers given to Osorkon [III], the next name on Manetho's list. Osorkon has eight years in Africanus and nine years in the other versions. However, in Nile Level Text No. 13 Osorkon III (Usimare Setepenamun Osorkon Meryamun Si-ese), has a year 28 together with Takeloth III with a year five. This indicates a co-regency between father and son. Therefore, Osorkon III reigned at least 28 years, and the eight or nine given him in *Manetho* must have lost the "20."

### **Pedubast Attributed a Reign of 25 Years**

Pedubast is given an extra 20 years by Africanus and *The Book of Sothis*, not given by Eusebius and the Armenian. We may conclude that an extra 20 years has been attributed incorrectly to Pedubast, which should be returned to Osorkon III. Various scholars attribute 25 years to Pedubast I and 28–29 years to Osorkon III.

My previous chapter asserted Shoshenq III's accession in 839 BCE, since the new moon date in his 39th year fell on 29 November, with the possibility that more of his accession year occupied 838 than 839. On the same basis, his eighth year and Pedubast I's first year may be dated to 832/831.

I also pointed to three *Tepi Shomu*/Amun festival dates for the inductions of priests recorded on Pedubast I's 7th, 8th, and 14th years,<sup>7</sup> and stated that the seventh year-date of I *šmw* [1], coming five days *before* the new moon on the fifth, seemed to be deficient—it should fall within five days *after* the new moon—and the eighth year-date coming on I *šmw* 19 seemed to be a mistake because the date of the new moon was the 23rd. On the other hand, I *šmw* 19 was the date for the new moon induction in the 14th year as shown in Casperson's table.<sup>8</sup> Since Shoshenq III's *Tepi Shomu* date on I *šmw* 26 fell within five days of the new moon on I *šmw* 23 in his 39th year, the 7th, 8th, and 14th years of Pedubast I are assigned to the years 826, 825, and 819 BCE, with the feasts all falling in November.

The transfer of 20 years from Osorkon III to Pedubast I must have taken place after the list for the 23rd Dynasty had lost its full complement of names, because between Pedubast I and Osorkon III there were two other kings, now only known from recovered inscriptions: Iuput I and Shoshenq VI.

### **Iuput I: Co-regency with Pedubast?**

Nile Level Text No. 26 has Pedubast I with a year 16 and an Iuput with a year two (= Shoshenq III's year 23 in 816/815 BCE). The High Priest of Amun (HPA) is not mentioned. Scholars designate this Iuput as Iuput I. Jacquet-Gordon identifies this person as the Iuput(y) mentioned in a hieratic inscription on a block on the Temple roof of Khons at Karnak, known as Inscription 244.<sup>9</sup> It is the uppermost of three inscriptions grouped together, and the only one that mentions his name.

He has no titles and his name is not in a cartouche, but the inscription has a date: "Year 9, third month of summer (during the reign of) Iuputy."<sup>10</sup> It is barely two lines, including the name of the maker and his lineage. The lowest and oldest of the three inscriptions, 245A, appears above footprints flanked by a leg of beef and dates to a

<sup>7</sup> See chap. pp. 553ff.

<sup>8</sup> See Table 37.6, p. 555.

<sup>9</sup> H. Jacquet-Gordon, *The Graffiti on the Khonsu Temple Roof at Karnak: A Manifestation of Personal Piety* (The Temple of Khonsu, Vol. 3; Oriental Institute Publications Vol. 123; Chicago, IL: Oriental Institute of University of Chicago, 2003) 84–85, pl. 93, graffiti Nos. 244–245A/B.

<sup>10</sup> *Ibid.*, 84.

“Year nine and second month of summer, day 2.” Warnings follow if any should destroy the graffito.

Between 244 and 245A, another inscription, 245B, is inserted, dated to a year 12 but without month or day. The inscriptions are each accompanied by the name of the “proprietor” of the graffito, a certain “Khonsu-hat-neter-neb, son of Hori, son of Khonsu-hat-neter-neb”, and extended in 244 to include a “son of Nes Khonsu, [son of] Nakht <ef>-Mut(?)”<sup>11</sup>

Iput(y), however, is given no lineage. His year 12 is his highest known regnal year. Assuming him to be the king mentioned in Nile Level Text No. 26, the nature of the regnal relationship between Upper Egypt’s Pedubast I (of Thebes where the Nile Level Texts were recorded) and Lower Egypt’s Iput I at Tanis remains unclear.

The only other King Iput known is one with the prenomen Usimare Setepenamun/re who resided in Leontopolis at the time of Piye’s invasion of Egypt and consequently is associated with the end of the 23rd Tanite Dynasty. Being some 80–90 years after Pedubast I, the second Iput is dubbed Iput II. He may have been a grandson or great-grandson of the former.

### **Iput I Allocated One Year of Sole Reign**

In any case, it appears that Iput I reigned simultaneously with Pedubast I, and was possibly his son. Iput’s first year coincided with Pedubast’s 15th, and the latter reigned 25 years. If Iput I reigned 12 years, as indicated by the Khonsu Temple Roof graffiti No. 245B, and Pedubast I died in Iput I’s 11th year, that allows Iput I one year of sole reign, though this is not indicated on the Khonsu temple inscriptions. Tentatively, Iput I may be allocated 807/806 BCE.

### **Shoshenq VI (Usermare Meriamun Shoshenq Meriamun)**

A *Usermare Meriamun Shoshenq Meriamun* with a year six and the name of a High Priest Takeloth, is engraved on Nile Level Text No. 25.<sup>12</sup> This High Priest Takeloth, now known as Takeloth E,<sup>13</sup> is also mentioned in Nile Level Text No. 29 in Pedubast I’s year 23.

The name, *Usermare Meriamun Shoshenq Meriamun* makes this Shoshenq distinct from others with the Shoshenq name and is now known as Shoshenq VI. He is understood by most scholars to be the immediate successor at Thebes of Pedubast I. Year six of Nile Level Text No. 25 is his highest known year.

### **A Six-year Reign Ending in 800 BCE**

Shoshenq VI’s first year equates to Shoshenq III’s 33rd year in 805, so if the former reigned only six years, he died in 800 equating to the 39th year of Shoshenq III. The assumption that Shoshenq VI was “the enemy” whom Osorkon B and his brother Bakenptah “overthrew” in Shoshenq III’s 39th year, makes Shoshenq VI’s death in 800 explicable. On the other hand, it is not certain that he *was* “the enemy” or that he was killed by the army of Bakenptah and Osorkon B.

### **Osorkon III**

Osorkon III succeeded Shoshenq VI. Curiously, as Broekman points out, Version One of *h<sup>c</sup>pj* (“Nile Flood”) is last found on Nile Level Text No. 5 giving an Osorkon a

<sup>11</sup> Ibid., 85, 84.

<sup>12</sup> Broekman, “Nile Level Records,” 173.

<sup>13</sup> Kitchen, “Overview of Fact & Fiction,” 180.

year three. This is Osorkon III not Osorkon II.<sup>14</sup> The first instance of the *Second Version* of *h<sup>c</sup>pj* is found on Nile Level Text 22 giving the name of Shoshenq III with his year 39 together with Osorkon B as HPA. If the change from Version One to Version Two is indicative of the order of kings, then the death of Shoshenq VI and the *third* year of Osorkon III, *preceded* the 39th year of Shoshenq III (22nd Dynasty).

Broekman suggests that there was a time of transition when Version One (of the Nile Level Text epigraphy) was being replaced by Version Two. In fact, he says Version Two was used before Version One.<sup>15</sup> From the 39th year of Shoshenq III the remaining kings of the 22nd Dynasty are not represented on any Nile Level Text as far as can be determined. The engravings of the Nile Level Texts continue with kings of the 23rd Dynasty all using the Second Version of *h<sup>c</sup>pj*, with the exception of Osorkon III.

### **Identity Difficulties: Was Osorkon B Also Osorkon III?**

The coincidence of Shoshenq VI's death occurring in the 39th year of Shoshenq III, and the absence of any later mention of Shoshenq III, Osorkon B, and Bakenptah,<sup>16</sup> has led to speculation that Shoshenq VI's successor was Osorkon B, known as Osorkon III. But, as Kitchen has pointed out, the 23rd Dynasty people would hardly be likely to welcome as king their foe of the rival 22nd Dynasty who had just killed their king!<sup>17</sup> On the other hand, Osorkon B, heir to the 22nd Dynasty throne, did not succeed his father. Instead, another Shoshenq (IV) came to the throne. In 2008, Kitchen reconsidered his position, and found certain points of similarity as well as difference between the two Osorkons. As well as the coincidence of the timing, he notes that a Japanese excavation at Tihna (Akoris) in Upper Egypt in 1982<sup>18</sup> found a stela of Osorkon III giving his full titulary, "High Priest of Amen-Re, King of the Gods' immediately in front of his first cartouche and its accompanying titles."<sup>19</sup>

This would be applicable to Osorkon B who was the only Osorkon known to have been a High Priest of Amun at Thebes.<sup>20</sup> The genealogies also provide that "Prince Osorkon B is (i) son of a king [Takeloth II] by (ii) a queen-mother Karomat/ma (D), and (iii) has a daughter Shepenupet by a lady Tent[...]."<sup>21</sup>

Kitchen goes on to say that, "The insatiable desire to merge Osorkon B and Osorkon III has been a driving-force for some, to crush down the internal chronology of the mid-22nd Dynasty *specifically* to obtain a valid lifespan/career for the merged Osorkon(s)."<sup>22</sup> He then points out that even with his chronology it is possible to have Prince Osorkon B reign 28 full years. Table 38.5 compares the years Kitchen gives to the kings thus far in the 23rd Dynasty, and the years assessed above in my chronology.

<sup>14</sup> Broekman, "Nile Level Records," 167.

<sup>15</sup> Ibid., 166.

<sup>16</sup> Kitchen, *TIP*, 340 §300.

<sup>17</sup> Ibid., xxxi; idem, "The Strengths and Weaknesses of Egyptian Chronology – A Reconsideration," *Ä und L* 16 (2006) 297-98; idem, "Overview of Fact & Fiction," 183.

<sup>18</sup> Kodaigaku Kyōkai and Heian Hakubutsukan, *Preliminary Report, Second Season of the Excavations at the Site of Akoris in Egypt* (Kyoto: Paleological Association of Japan, 1983) 13-14, 28, 31.

<sup>19</sup> Kitchen, "Overview of Fact & Fiction," 184.

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.

**Table 38.5: Assumed Lifespan for Osorkon B if he is also Osorkon III**

Kitchen's chronology			My Proposed chronology		
Age of Osorkon B at Induction		20	Age of Osorkon B at Induction		20
Under Takeloth II Yrs 11–25	14		Under Takeloth II Yrs 11–33	22	
Under Shoshenq III hypothetical 7-year co-regency between Takeloth II and Shoshenq III; yrs 8–38	31		Under Shoshenq III no co-regency	39	
Subtotal	45	= 65	Subtotal	61	= 81
As Osorkon III	28	= 93	As Osorkon III	28	= 109
<b>Before 5-year co-regency</b>		<b>= 88</b>	<b>Before 5-year co-regency</b>		<b>= 104</b>

Kitchen attributes only 25 years to Takeloth II, when the proposal here is that an original 33 years became 13 in Manetho's list by the omission of two ten-signs as proposed also for Shoshenq I and Osorkon I. As well as the deficit of eight years in Takeloth II's reign, Kitchen proposes a hypothetical co-regency for the last seven years of Takeloth II's 25 year reign with the first seven years of Shoshenq III's reign. He actually deletes eight years—because Shoshenq III is attributed 39 years—but Kitchen reckons him with only 38 full years.<sup>23</sup> However, as pointed out above, the Amun feast dated to III *3ht* 17 fell in the year 799 BCE, and if attributable to Shoshenq III as Spalinger assumes,<sup>24</sup> then it has to be either at the end of his 39th year or even in his 40th year because an earlier Amun feast on I *šmw* 26 (about six months earlier) in his 39th year fell in 800 BCE (–799). See Casperson's Table 37.7 in chapter 37.

It appears that Kitchen has deleted not seven but eight years from the reign of Shoshenq III. This hypothetical co-regency is proposed because Kitchen has to eliminate some years in order to fit the reigns into his timeframe of 818–715 for the 23rd Dynasty. Noting that men lived into their 80s or 90s he concludes, “So, it is perfectly possible for the two Osorkons to have been the same man—but we do *not* as yet have final clinching proof.”<sup>25</sup>

Kitchen's reckoning gives Osorkon B/Osorkon III 93 years. My chronology would require 109 years when he died, assuming that he became priest at age 20. But, it would be quite possible that Osorkon B/Osorkon III was older than this when inducted, so even older at death. I conclude they were separate individuals.

### **Osorkon B and Osorkon III are Separate Individuals**

Prince Osorkon B did not succeed Shoshenq VI on the throne of the 23rd Dynasty. Whether Shoshenq III, Osorkon B, and Bakenptah were responsible for Shoshenq VI's death, and whether the “disappearance” of these men so soon after the death of Shoshenq VI indicates that the three were victims of a reprisal, remains entirely unresolved.

As determined above, Shoshenq VI's successor was Osorkon III, but not the same man as Osorkon B. Osorkon III was also an HPA before or after his accession, possibly at Thebes.<sup>26</sup>

### **Osorkon III's Attributed Length of Reign of 28 years**

Osorkon III is to be identified with Manetho's Osorcho/Osorthon, where he is given a reign of only eight or nine years, although others attribute 28 years to him. This

<sup>23</sup> Ibid., 185.

<sup>24</sup> A.J. Spalinger, “Egyptian Festival Dating and the Moon,” *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; *Alter Orient und Altes Testament* 297; Münster: Ugarit, 2002) 394.

<sup>25</sup> Kitchen, “Overview of Fact & Fiction,” 185.

<sup>26</sup> Ibid., 184.

is because the 40 years given to Pedubast I by Africanus, and the 44 years given to him by *The Book of Sothis*, are presumed to be 20 years in excess, having been appropriated from the reign of Osorkon in the row beneath. Eusebius and the Armenian versions give Pedubast I only 25 years, thus indicating the excess of 20 years in the other records. A reign of 28 years for Osorkon III is supported by Nile Level Text No. 13, which gives to Osorkon Si-Ese Netjerheqawast (god, ruler of Thebes) a year 28 and to Takeloth Si-Ese Netjerheqawast a year five.<sup>27</sup>

This confirms that Osorkon III reigned at least 28 years, and the eight or nine years given by Africanus/Eusebius and the Armenian can be emended to 28 or 29 years.<sup>28</sup> Furthermore, Nile Level Text No. 4 dates solely to Takeloth III's year six without mention of Osorkon III which seems to indicate that Osorkon III did not fulfil a 29th year. Therefore, Osorkon III is credited with 28 years. Kitchen comments that the High Priest Takeloth (E) who officiated during the last few years of Pedubast I's reign and the following six years of Shoshenq VI's reign, mentioned on Nile Level Texts Nos. 29 and 25, also "disappeared" at the same time as Shoshenq VI together with the assumed victors, Shoshenq III, Osorkon B, and Bakenptah.<sup>29</sup>

A Takeloth G succeeded Takeloth F, the son of Osorkon III, who was to become Takeloth III.<sup>30</sup> This Takeloth G is the Takeloth in Nile Level Text No. 13 whose year five was year 28 of Osorkon III, indicating a co-regency between father and son.

Apart from the 39th year of Shoshenq III (discussed previously), Osorkon III is the first king to have Version Two of *h<sup>c</sup>pi* applied to his Nile Level Texts. The remaining Nile Level Texts all have Version Two, which means they all came after Osorkon III. Only five Nile Level Texts remain (apart from those of the 25th and 26th Dynasties) and these are all attributed to kings of the 23rd Dynasty with the possible exception of a king Hedjkheperre Setepenre, on Nile Level Text No. 3, tentatively attributed to the successor of Shoshenq III, namely Shoshenq IV, and therefore, of the 22nd Dynasty.

The reign of Osorkon III can be dated 800–772. He, rather than his son, is credited with the co-regent years (see below). From the end of Osorkon III's reign in 772 BCE to the year 730 when the 22nd Dynasty ended with the invasion of Piye, and thus also the end of the 23rd Dynasty, there are 42 years. Therefore, the remaining kings need to fill these 42 years, and some are represented by the remaining Nile Level Texts.

### **Takeloth III (Usimare Setapenamun Takeloth Meryamun Si-Ese)**

Takeloth III is distinguished from Takeloth I and II by his prenomen, Usimare, whereas Takeloth I and II use Hedjkheperre.<sup>31</sup> Takeloth succeeded his father after he had been co-regent with him for five years as indicated by Nile Level Text No. 13. Nile Level Text No. 4 credits him with a year six without mention of Osorkon III. It seems his father had died by then.

Manetho's copyists all name a certain Psammus after Osorkon [III], attributing 10 years to him. A king by this name is not known from contemporary sources. The only other king mentioned by Manetho (only noted by Africanus), is a certain Zet who is attributed 31 years. His identification has been problematic, and various scholars have

<sup>27</sup> Broekman, "Nile Level Records," 169.

<sup>28</sup> Osorkon III also has Nile Level Text No. 5 giving him his full name of Usimare Setapenamun Osorkon Meriamun Si-Ese with a year three and Version One of *h<sup>c</sup>pj* discussed above, Nile Level Text No. 6 with year five and Version Two of *h<sup>c</sup>pj*, and Nile Level Text No. 7 with year six and Version Two also of *h<sup>c</sup>pj*.

<sup>29</sup> Kitchen, "Overview of Fact & Fiction," 180.

<sup>30</sup> Ibid., 180.

<sup>31</sup> Kitchen, *TIP*, 96 §76.



suggested the reference might indicate “a query”; that is, the years of the remaining kings.

The 10 years of Psammus and the 31 years of Zet amount to 41 years, which is interesting in light of the fact that only 42 are needed to complete the dynasty to the year 730. Since Takeloth III is known to have been a son of Osorkon III and king of the 23rd Dynasty, the question arises whether Psammus could have been Takeloth III?

Until 2004, only a year seven of Takeloth III was known from a graffito on the roof of the Temple of Khonsu at Karnak. In 2004, Frederic Payraudeau argued from Papyrus Berlin 3048 that a year 14 referring to Takelot Si-Ese Meryamun, actually referred to Takelot III, not Takelot II, to whom it had been previously attributed.<sup>32</sup> However, by 2008 he had changed his mind.<sup>33</sup> He reappraised the genealogical links, which were not too secure. A fourth prophet of Amun Harsiese was noted as a witness in Nile Level Text No. 17 and assumed him to be the same as the fourth prophet Harsiese known from the reign of Takeloth II. Furthermore, he writes, “It is probably more secure to allocate the year dates in the papyrus (years 13, 16, 23, and even 26) to Takeloth II and not to Takeloth III, even if some questions remain unsolved.”<sup>34</sup> He notes that a year 26 is not known for Takeloth II and could refer to another reign,<sup>35</sup> but as we have determined in chapter 37, Takeloth II reigned 33 years, so a year 26 for him is not a problem.

In February 2005, US excavators from the University of Columbia unearthed a stela from the ruins of a temple in the western part of the Dakhla Oasis. Written in hieratic, it recorded a year 13 of a king’s reign. Originally thought to belong to Harsiese A, on further examination, it has been definitively identified as belonging to Takeloth III. Published by Dr. Olaf Kaper and Robert Demarée in 2005, the following is an excerpt:

The stela belongs to a group of finds documenting the temple of the God Thoth ... [in the western part of the dakhla Oasis] ... during the Third Intermediate period. One block of temple decoration was found in the name of king Petubastis (I), and the stela under discussion was set up in the temple to which this block belonged. The stela’s principal text has five lines, in which the date of the stela is given as Year 13 of Takeloth III (c. 740 BCE), as well as the name of the god Thoth of SA-wHAt, the local deity. The stela records a land donation to the temple on the part of the local governor, chief of a Libyan tribe, and it concludes with a list of eleven priests who are beneficiaries of this donation

<sup>32</sup> F. Payraudeau, “Le règne de Takélot III et les débuts de la domination Koushite,” *GM* 198 (2004) 79-90. Briefly, the four arguments were: (1) The document is written in abnormal Hieratic, the earliest in this style of writing dating to the 21st and 22nd years of Piye’s reign of the 25th Dynasty, therefore, not applicable to the much earlier reign of Takeloth II; (2) The document records a marriage contract witnessed by Vizier Hor and two Royal Treasurers: Bakenamun and Djedmontuiufankh. According to Payraudeau in the period from Osorkon II to Osorkon III only *one* treasurer from *one* family served in this office, having three direct descendants, allowing no opportunity for a treasurer of another family to intervene at the time of Takeloth II. Therefore, Djedmontuiufankh must have served under Takeloth III, for whom no other Royal Treasurers are known; (3) The Vizier Hor, who witnessed the marriage contract referred to in Papyrus Berlin 3048, appears to be the same person as the father of Vizier Nebneteru mentioned in several Nubian and Saite era genealogical documents (Herman De Meulenaere, “La Vizir Nebneterou,” *BIFAO* 86 (1986) 143-49). Since Hor would have served as Vizier shortly before Piye’s reign, this places Hor at the time of Takeloth III not II; (4) The genealogy of the above-mentioned Djedmontuiufankh, son of an Aafenmut, is given on this papyrus. Though there are two Aafenmuts listed the first was buried under Osorkon I and was a “scribe of the Treasury”, indicating the lineage to which Djedmontuiufankh was descended. Therefore, Djedmontuiufankh was the son of the second Aafenmut, and the Royal Treasurer associated with the Year 14 of Takeloth on Papyrus Berlin 3048.

<sup>33</sup> F. Payraudeau, “Takeloth III: Considerations on Old and New Documents,” *Libyan Period*, 291-302.

<sup>34</sup> *Ibid.*, 294.

<sup>35</sup> *Ibid.*, 294 n. 15.

... Another donation stela erected by the same governor is known from the temple of Seth in Mut (Dakhleh).<sup>36</sup>

This donation stela was found at Amheida, and is linked to the Smaller Dakhleh Stela because the supervision of the donation was undertaken by the Chief of the Shamin, Nesdjehuty, mentioned in both texts.<sup>37</sup> The smaller Dakhleh Stela dates to year 23 of King Piye of the 25th Nubian Dynasty, therefore the only Takeloth to which both these stelae could refer is Takeloth III, since Takeloth II had long since died. The highest known year, therefore, for Takeloth III, is his year 13.

The remaining Nile Level Texts not yet identified with a king are those written above Nile Level Text No. 4 referring to Takeloth III with six years, located on the right-hand side of the quay wall. They have Version Two of *h<sup>c</sup>py*.<sup>38</sup> Briefly, pending further comment, at the far right side is No. 10, a Usimaatre [...] with a year 5, 6, 13, or 14. To its right is No. 43 with a Meriamun [...] with year three. (To its right is No. 14, that of Osorkon II with 29 years.) To the right of No. 14 is No. 3 referring to a Hedjkheperre Setepenre [...] with a year five, and to its right, without any names legible but with a structure the same as No. 3, is Nile Level Text No. 45 with a year, 17, 18, or 25.

The only remaining kings of the 23rd Dynasty to whom these Nile Level Texts might be attributed are: Takeloth III, Rudamun (Takeloth III's half-brother, a son of Osorkon III) to whom scholars assign only a short reign; a possible Shoshenq VIa thought to be the same king on No. 3 and No. 45, in which case he could have 17, 18, or 25 years; and an Iuput II who was present at Piye's invasion of Egypt and is credited with a reign of 21 years.

It is possible to see, in Nile Level Text No. 10, a further reference to Takeloth III, in which he could be assigned a reign of 13 or 14 years. Only year 13 is known from contemporary sources. Manetho's Psammus, given a year 10, could be a deficient year 13 with only the "ten" remaining so Psammus could be Takeloth III.

### **Rudamun (Usimare Setapenamun Rudamun Meryamun)**

Rudamun, a son of Osorkon III, succeeded his half-brother Takeloth III. No contemporary source gives the length of his reign, though Nile Level Text No. 43 with a year three might be his. Rudamun's daughter, Irbastudjnefu, married Peftjauawybast, who was ruler of Herakleopolis at the time of Piye's invasion in 730 BCE.

Manetho does not mention Rudamun, and the king succeeding Psammus, mentioned only by Africanus, is an otherwise unknown Zet, who is attributed a reign of 31 years. If these 31 years are understood to be the remaining number of years assigned to the dynasty by kings not now mentioned, we can venture to suggest that three of these years should be appropriated to Rudamun, leaving 28 years.

### **Shoshenq VIa and the Wadi Gasus Graffito**

Crucial to the identification of the next king of the 23rd Dynasty is a graffito found at Wadi Gasus near the Red Sea. The style of writing identifies it as belonging to the early 25th Dynasty, and in particular to the reign of Piye. It reads: "Year 12 [—] Adoratrix of the God Amenirdis (I) and 'Year 19 [—] God's Wife, Shepenupet (I)."<sup>39</sup>

<sup>36</sup> O. Kaper and R. Demarée, "A Donation Stela in the Name of Takeloth III from Amheida, Dakleh Oasis," *JEOL* 39 (2005) 19-37. Excerpt from "Takelot III," [http://en.wikipedia.org/wiki/Takelot\\_III](http://en.wikipedia.org/wiki/Takelot_III)

<sup>37</sup> Payraudeau, "Takeloth III: Considerations," 295.

<sup>38</sup> Also on this level is Nile Level Text No. 14, which has been identified as belonging to Osorkon II, with 29 years in Version One.

<sup>39</sup> Kitchen, *TIP*, 359-60 §321.

From this, most scholars understand that Piye installed his sister (or half-sister), Amenirdis, as God's wife elect at Thebes, and had her adopted by Osorkon III's daughter, Shepenupet I.<sup>40</sup> The year 12 is understood to refer to Piye's reign, but the king with the year 19 is unidentified, but presumed to be of the 23rd Dynasty because of the mention of Shenenupt, half-sister to Takeloth III and Rudamun. The 12th year of Piye can be dated because in his 20th year he led the invasion of Egypt bringing the 22nd and 23rd Dynasties to an end in 730 BCE.<sup>41</sup>

Eight years earlier, Piye's 12th year fell in 738 BCE. This has to correspond to the 19th year of a king of the 23rd dynasty. If Takeloth reigned 13 years from 772 to 759, followed by Rudamun for two or three years, 759–758/757, the 19th year of Rudamun's successor would fall in 738 BCE, thus synchronizing with the 12th year of Piye in accord with the Wadi Gasus graffito.

### A Hitherto Unknown King Named Shoshenq

The identity of the king who reigned at least 19 years, 12 of which were concurrent with Piye, has long been debated. However, Broekman asserted in 2002 that the name of the king of Nile Level Text No. 3 could be read as Hedjkheperre Setepenre Shoshenq Si-Ese Meriamun. The inclusion of the epithet Si-Ese distinguished him from Shoshenq IV, because his nomen included Si-Bast. Broekman discusses other difficulties in identifying this king as Shoshenq IV and concluded that Nile Level Text No. 3 belonged to a hitherto unknown king.<sup>42</sup> The similarity of the structure of No. 3 with No. 45 to its left, which suggests that it was written after No. 3—Egyptian being written from right to left—led Broekman to suggest that it also should be attributed to this Shoshenq.<sup>43</sup> This Shoshenq is now known as VIa following the Leiden Conference in 2007.

However, in 2009, Payraudeau contested the identity of the king on Nile Level Texts Nos. 3 and 45 as being a king Shoshenq because he was otherwise unattested. He pointed out that even Rudamun with a short reign was frequently attested, that the word Shoshenq was not legible, and that Version Two of *h<sup>c</sup>py*, which was already partly destroyed when observed by von Beckerath, could be a progressive form.<sup>44</sup>

In 2007, Jansen-Winkel had suggested to Broekman that Version Two could be a variant of Version One used elsewhere only once with No. 25 referring to Shoshenq VI (predecessor of Osorkon III).<sup>45</sup>

Payraudeau says that if Shoshenq VIa did exist, his reign would have to have been short, no more than the five years of Nile Level Text No. 3. He prefers instead to attribute the texts to Takeloth II.<sup>46</sup> But von Beckerath had earlier pointed out and affirmed to Broekman that “the space after the *st*-sign would be too small for the name *tkrtj* (Takelot).”<sup>47</sup> Furthermore, the identification of the name in No. 3 relies more on the

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<sup>40</sup> Ibid.

<sup>41</sup> The year 730 is 267 years from the beginning of the 22nd Dynasty in 998/997, given as subtotals of [1]25 and [1]42 years, respectively, by *Manetho* via Africanus. See previous chapter.

<sup>42</sup> Broekman, “Nile Level Records,” 176.

<sup>43</sup> Ibid., 177, 178; idem, “The Chronological Position of King Shoshenq Mentioned in Nile Level Record No. 3 on the Quay Wall of the Great Temple of Amun at Karnak,” *SAK* 33 (2005) 87.

<sup>44</sup> Payraudeau, “Takeloth III: Considerations,” 296.

<sup>45</sup> Broekman, “Takeloth III and the End of the 23rd Dynasty,” *Libyan Period*, 98.

<sup>46</sup> Payraudeau, “Takeloth III: Considerations,” 296.

<sup>47</sup> Broekman, “Nile Level Records,” 176.

occurrence of Version Two rather than on the name, as Kitchen had pointed out to Broekman in a private letter.<sup>48</sup>

With the first occurrence of Version Two appearing with the year 39 of Shoshenq III together with the name of the High Priest, Osorkon (B), and then from Osorkon III's year five onwards,<sup>49</sup> if Nile Level Text Nos. 3 and 45 belonged to Takeloth II, his earliest year, his fifth, would date in *this* chronology to 868 BCE, and Shoshenq III's 39th to 800 BCE. That makes an interval of 68 years before Version Two is used again!

In Broekman's chronology, he claims a space of 37 years elapsed (based on Aston's chronology?) during which seven Nile Level Texts were inscribed with Version One. He thinks, "This is very unlikely."<sup>50</sup> It is even more unlikely with an interval of 68 years! Broekman has conceded that, "We have to accept that only the prenomen *Hedjkheperre Setepenre* and the occurrence of the epithet *Son of Isis* in the nomen-cartouche are indisputable."<sup>51</sup>

He accepts that the options for Nile Level Text No. 3 are Takeloth II or a new king Shoshenq. However, Takeloth II can be virtually excluded on the above arguments. Attribution to Takeloth II would remove from the Nile Level Texts the existence of a king whose reign can fill the years between Rudamun and Iuput II and whose 19th regnal year coincides with Piye's 12th year in accordance with the important Wadi Gasus graffito synchronism. This synchronism implicitly supports the identification of a "new" king, whether named Shoshenq or not, but for clarity we continue to refer to him as Shoshenq VIa.

### Shoshenq VIa

The highest year on Nile Level Texts Nos. 3 and 45 is the possible year 25 on No. 45. Von Beckerath shows the number as a ten-sign followed by shading (damaged area) with five vertical strokes beneath. It could be 17 or 18 years with the addition of two or three vertical strokes, or with the addition of another ten-sign, becomes 25.<sup>52</sup> Attributing 25 years to Shoshenq VIa with his 19th year synchronized with Piye's 12th year in 738/737 will give him the dates 756–731. There is no mention of Shoshenq VIa as a king in the Delta at the time of Piye's invasion in 730, which would seem to indicate that Shoshenq VIa had already died.

Three of the kings who submitted to Piye were Osorkon [IV] of the 22nd Dynasty, Iuput [II] of Leontopolis, and Peftjauawybast of Herakleopolis. Iuput II is identified on several monuments from Lower Egypt with the name Usimare Setapenamun/re Iuput II (Si-Bast). Therefore, Iuput II could not have been the king of Nile Level Texts Nos. 3 and 45 (assuming they belong to the same king), because that king has the prenomen Hedjkheperre, said to be clearly legible on No. 3. Iuput II is understood to be Shoshenq VIa's successor.

Shoshenq VIa's 25 years fills the time period between Rudamun and Iuput in compliance with the Wadi Gasus graffito synchronism, and allows Iuput to have begun to reign before the invasion of Piye in 730 when he submitted to Piye as recorded in the Victory Stela. Shoshenq VIa is the only king who could fill this slot with the required number of years. From this we understand that in Piye's year 12 in 738 he installed his sister Amenirdis as God's wife at Thebes who was adopted by Osorkon III's daughter

<sup>48</sup> Idem, "Takeloth III," 97.

<sup>49</sup> Ibid.

<sup>50</sup> Ibid., 98.

<sup>51</sup> Ibid.

<sup>52</sup> Von Beckerath, "The Nile Level Records at Karnak and their Importance for the History of the Libyan Period (Dynasties XXII and XXIII)" *JARCE* 5 (1966) 55; Broekman, "Nile Level Records," 172.

Shepenupet I. The latter must have been born sometime before 772 when Osorkon III died, which means that she had to have been *at least* 34 and most likely older when she adopted Amenirdis.

In the past, some scholars have assigned the Wadi Gasus graffito to Takeloth III and even to Rudamun, supposing that the latter had a long reign, and not being aware of the proposed “new king” of Nile Level Texts 3 and 45. In the belief that the Wadi Gasus graffito was wrongly attributed to *Takeloth III*, in 2006 Claus Jurman proposed that the Wadi Gasus graffito did not refer to Shepenpet I and Amenirdis I, but to a later Amenirdis I in year 12 of Shabako (Piye’s successor) and to a Shepenupet II in year 19 of Taharqa. He cited palaeographic and other evidence from Karnak<sup>53</sup> and noted that the graffito and year date formulas were written in two different handwriting styles suggesting that they were not composed at the same time.

I will show later that Shabako’s year 12 dates to 708 BCE and Taharqa’s year 19 to 671 BCE, involving a separation of 37 years between the two kings of the same dynasty, which in itself requires an explanation as to what the graffito was intended to convey by placing them in apposition on the one stela.

It is correct that Takeloth III reigned too early to be the king of the Wadi Gasus graffito, but there is no need to transfer the Wadi Gasus graffito inscription to the reigns of Shabako and Taharqa since the year 12 of Piye synchronizes with year 19 of Shoshenq VIa in 738/737 BCE. Thus, in this year, Piye’s sister Amenirdis I was adopted as God’s wife of Amun at Thebes by Shepenupet I, the daughter of Osorkon III, and it was recorded on the Wadi Gasus graffito, whether or not the graffiti were both written by the same hand at the same time.

The existence of Shoshenq VIa is made almost certain by the Wadi Gasus synchronism in conjunction with Nile Level Texts 3 and 45.<sup>54</sup> An incorrect chronology has led Kitchen to dispense with the Wadi Gasus inscription identification of year 12 with Piye and his sister Amenirdis I, and year 19 with Osorkon III’s daughter Shepenupet I.<sup>55</sup> He assigns to Shoshenq VIa only five years when the true period of his reign is 25 years.<sup>56</sup>

### Candidates for Shoshenq Meriamun of the Temple of Montu Graffiti

Kitchen, however, follows Broekman in proposing another attestation of Shoshenq VIa.<sup>57</sup> The information has been provided by Helen Jacquet-Gordon.<sup>58</sup> A graffito, No. 145 (Broekman’s No. 10), scratched onto the roof of the Temple of Montu at Karnak has a year four of a Shoshenq Meriamun. It was written by a *wab* priest, Djedioh A, whose grandson of the same name, identified as Djedioh B, is inscribed on graffito No. 146 (Broekman’s No. 11), just east of No. 145, along with a year five and the date of III *šmw* 10 referring to a *king* Iny Si-Ese Meriamun.

Graffito No. 147, just west of graffito No. 145, refers to a year two and a third month with name lost, and someone’s father with the name of Khonsu. Kitchen suggests that this Khonsu is the son of Djedioh A and the father of Djedioh B.<sup>59</sup> Also near Nos.

<sup>53</sup> C. Jurman, “Die Namen des Rudjamun in der Kapelle des Osiris-Hekadjet. Bemerkungen der 3. Zwischenzeit un dem Wadi Gasus-Graffito,” *GM* 210 (2006) 69-91.

<sup>54</sup> Kitchen, “Overview of Fact & Fiction,” 175. Note that Kitchen wrongly attributes Nile Level Text No. 13 to Shoshenq VIa when he really meant Nile Level Text No. 3.

<sup>55</sup> *Ibid.*, 177.

<sup>56</sup> *Ibid.*, 175, 177, 189, 198.

<sup>57</sup> *Ibid.*, 175.

<sup>58</sup> Jacquet-Gordon, *Graffiti on the Khonsu Temple Roof*, 5-56.

<sup>59</sup> Kitchen, “Overview of Fact & Fiction,” 189.

145 and 146 is graffito No. 148 (Broekman's No. 19) on the same roof slab, which mentions a certain Irethoreru (Iret-Hor-eru), son of a Djedioh, carved in hieroglyphic—not hieratic—writing, which would date it to the 24th or 25th Dynasty or later, the hieroglyphics being characteristic of the 26th Dynasty, as well as the name Irethoreru.<sup>60</sup>

If Irethoreru is the son of Djedioh B it places Djedioh B and Iny in the 25th Dynasty. Broekman suggests that Iny reigned shortly before Shabako conquered Egypt when there was a revolt against Piye's overlordship, and the slaughter by Shabako of those "who had rebelled against him in both south and north and in every foreign land" commemorated on a scarab.<sup>61</sup>

Broekman, following Yoyotte, links this to Louvre stela C.100, which has the partial erasure of both a figure of a king, Iny with the prenomen Menkheperre, and that of his daughter Mutirdis. The king's name appears in the columns three times and in each case has been erased leaving only two reed signs ending in y, which suggests that this stela belongs to Iny.<sup>62</sup> According to Kitchen the style of the stela is consistent with the early 25th Dynasty.<sup>63</sup> This "damnation memoriae" was not a usual practice of the Libyan dynasties but could be attributed to the 25th Dynasty.<sup>64</sup>

Kitchen defines this more closely by identifying Iny as the successor of Nimlot D and his successor Thutemhat, in Hermopolis. As Nimlot D was present at Piye's invasion, it places Iny after Nimlot and Thutemhat. Kitchen proposes that Shabako destroyed Iny's presence at Thebes and perhaps at Hermopolis before sweeping north and conquering other "petty royalties" in Lower Egypt.<sup>65</sup>

If Iny was the contemporary of Djedioh B as stated on graffito No. 146, the question remains as to when Djedioh A lived. Who was the king Shoshenq Meriamun on graffito No. 145 in whose reign the graffito was written at the time of Djedioh A?

Shoshenq III as a contender for the "Shoshenq Meriamun" is ruled out by Broekman because it would place Iny in the reign of Osorkon III.<sup>66</sup> Since Shoshenq III reigned in the chronology I have established from 839 to 800 BCE, the distance between grandfather Djedioh A and grandson Djedioh B—assuming Iny reigned in his locality ca. 720 when Shabako began to reign<sup>67</sup>—makes it very unlikely that Shoshenq III is the Shoshenq Meriamun of graffito No. 145.

If Shoshenq VI's reign is dated to 806–800 (as here) at which time Djedioh A was alive, and the graffito referring to Djedioh B and Iny inscribed sometime ca. 720 BCE, some 80 years ensued. This may seem a long time between grandfather and grandson, but it is not improbable since two generations can span more than 80 years.<sup>68</sup> A son of Djedioh A could have been born near to, or after, the death of Shoshenq VI ca. 790, and his son some 30 years later (ca. 760 BCE), thus Djedioh B could have been contemporary of Iny, and be aged not much more than 40 years when the graffito was carved in the reign of Piye or Shabako.

<sup>60</sup> Jacquet-Gordon, *Graffiti on the Khonsu Temple Roof*, 56.

<sup>61</sup> Broekman, "Chronological Position," 84-85; cited from Kitchen, *TIP*, 379 §340.

<sup>62</sup> J. Yoyotte, "Pharaoh Iny, un Roi mystérieux du VIIIe siècle avant J.-C." in *CRIPPEL* 11 (1989) 113-131; Broekman, "Chronological Position," 84-85.

<sup>63</sup> Kitchen, *TIP*, 137 §110.

<sup>64</sup> Broekman, "Chronological Position," 84-85.

<sup>65</sup> Kitchen, "Overview of Fact & Fiction," 189.

<sup>66</sup> Broekman, "Chronological Position," 84.

<sup>67</sup> Kitchen's date of Shabako's accession in 716 ("Overview of Fact & Fiction," 189) is four years too late as we shall discuss presently.

<sup>68</sup> As known from personal experience!

Therefore, Djedioh B's grandfather, two generations earlier than Iny, could have been a contemporary of *Shoshenq VI*, identifying him with Shoshenq Meriamun on graffito No. 145. It is worth recalling that Iuput I who *preceded* Shoshenq VI has been identified as Iuputy of Khons Temple roof graffito Nos. 244 and 245A–B.<sup>69</sup> His 12 years (11 as co-regent with Pedubast I) spanned the years 818–806 BCE. With Iny being dated to ca. 720, the 23rd Dynasty is covered by the graffiti.

### **Another Candidate: Shoshenq VIa**

The only other candidate for Shoshenq Meriamun of Khons roof graffito No. 145 is Shoshenq VIa. Presumably this king reigned when an adult and he reigned 25 years (757–732), which could make him over 45–50 when he died. It is quite possible that he had a grandson when he died, and that the grandson would have been an adult by the time of the Piye/Shabako changeover in 720 BCE, and contemporary with Djedioh B and King Iny.

Therefore, Shoshenq VIa, living at the time of the early 25th dynasty, might be a more likely candidate for the Shoshenq Meriamun of graffito No. 145 than Shoshenq VI.

However, the latter cannot be ruled out. It is not certain that the Shoshenq Meriamun of graffiti No. 145 is a further attestation of Shoshenq VIa. What is certain is that year 19 of Shoshenq VIa coincides with year 12 of Piye in my chronology, in accordance with the Wadi Gasus inscription. No other king's reign is applicable. The existence of this king with a year 19, and up to a year 25, is attested; even if his name Shoshenq cannot be confirmed.

### **Iuput II (Usimare Sepepenamun/re Iuput Si-Bast)**

Iuput II is mainly known from the Victory Stela of Piye as ruler or king of Leontopolis who submitted to Piye in the latter's invasion of Egypt in his 20th year in 730 BCE. Kitchen assigns Pedubast I, the founder of the 23rd Dynasty, to Leontopolis (Ta-Remu), which had strong Bubastide connections to the 22nd Dynasty. Kitchen says Iuput II first had the epithet Si-Bast at Memphis; but after moving to Ta-Remu changed it to Si-Ese.<sup>70</sup> The fact that Iuput II is placed at Leontopolis, and no mention is made of Shoshenq VIa alive at the time of Piye's invasion recorded in the Victory stela, leads Kitchen and others to identify Iuput II as the last king of the 23rd Dynasty.

A stela from Mendes (a city in the central Delta area) featuring Smendes the son of Harnakht bears Iuput's name without his prenomen and attributes to him a year 21.<sup>71</sup> Shoshenq VIa's 25 years' reign is dated in my chronology to 757–732 BCE and indicates that Iuput II reigned about two years as king of the 23rd Dynasty before Piye invaded Egypt. Iuput II was not killed by Piye's army. Piye allowed him to remain as local governor of Leontopolis.<sup>72</sup> Assuming Iuput reigned 21 years and not longer, his last year would date to 711 when apparently Smendes too was alive.

Kitchen's chronology runs into problems when he works downwards from his date for Pedubast I's accession in 818 (taken from the Nile Level Text No. 24 giving a year 12 of Shoshenq III synchronized with a year five of Pedubast [I]), and upwards from 715 when he believes the 22nd and 23rd Dynasties came to an end—rather than at the time of Piye's invasion in 730 BCE. By selecting 715 as the end of the two dynasties

<sup>69</sup> Jacquet-Gordon, *Graffiti on the Khonsu Temple Roof*, 84–85.

<sup>70</sup> Kitchen, "Overview of Fact & Fiction," 188.

<sup>71</sup> Idem, *TIP*, xxx; 542 §446 referencing J. Chappaz, *Genava* (Geneva: Musée d'art et d'histoire, 1982) 71–81.

<sup>72</sup> "Victory Stela of Piye." <http://www.yare.org/essays/pianky.htm>

he actually allocates an extra 15 years that were not included in Manetho's reckoning (that is 267 years for the 22nd Dynasty spanning 997–730 BCE).

By assigning Iuput II's 21 years to 736–715, only 5 years are allowed for Shoshenq VIa because the combined years of Pedubast I (25 years), Iuput I (1 sole year), Shoshenq VI (6 years), Osorkon III (28 years), Takeloth III (14 years sole reign, should be 13), and Rudamun (3 years), amount to 77 years, giving Rudamun the years 744–741 BCE. So between 741 and 736 there are only 5 years. Kitchen relies on Nile Level Text No. 3 with a year five and its attribution to Hedjkheperre Setepenre [Shoshenq VIa] without also attributing Nile Level Text No. 45 with its 17, 18, or 25 years to this same king as Broekman had earlier proposed.

This king is, therefore, not assigned *any* years in Kitchen's chronology. Seventeen years is the *least* number of years this king reigned. And, because he cannot accommodate Shoshenq VIa's 25 years reign, Kitchen cannot identify Shoshenq VIa as the king of the Wadi Gasus inscription. So he dispenses with it—as noted above.

### Remainder of Nile Level Texts

Resulting from the above discussion, it is possible to assign Nile Level Text No. 10 with a year 13 to Takeloth III, No. 43 with a year three to Rudamun, and No. 3 with year five and No. 45 with year 25 both to Shoshenq VIa.

The only king of the 23rd Dynasty not so far represented on at least one Nile Level Text is Iuput II. (Iuput I shares Nile Level Text No. 26 with Pedubast I.) However, there is a possibility that Iuput II is represented in Nile Level Text No. 44, which is very badly damaged. Broekman assigned it to Shoshenq VI because its structure was most similar to Nile Level Text No. 25 attributed to that king, and he suggested that the six strokes legible following a damaged area could have had two more strokes, thus six plus two equals eight.<sup>73</sup> However, the chronology, as discussed above, indicates that six years is all that *can be* assigned to Shoshenq VI, and he *already has* a year six on Nile Level Text No. 25. (The king is not named but the presence of High Priest Takeloth has led to the identification of it as belonging to Shoshenq VI.)

Broekman said that the traces of the prenomen seem to read Usermaatre Meriamun or Usermaatre Setepenamun. The version of *h<sup>ε</sup>py* is not legible. While the position of this text on the wall was not recorded by Legrain and not seen since, it is said that Legrain numbered the texts in what he thought was their chronological order (which was inaccurate). It therefore seems that a No. 44 would appear chronologically near to No. 43, which is now proposed as that representing Rudamun, and No. 45 representing Shoshenq VIa, both of which are *Iuput's immediate predecessors*. Furthermore, Iuput II's prenomen is Usimaatre (alternatively Usimare or Usermare) Setepenamun/re. It may be possible, therefore, to attribute the six strokes on Nile Level Text No. 44 to Iuput II for six years, with the possibility of a higher number, which includes *at least* six digits, such as seven to nine, and with a ten-sign, 16–19. It is not known if Iuput II reigned longer than 21 years.

If No. 44 is assigned to Iuput II, then all the kings of the 23rd Dynasty are represented on the Nile River quay texts. The only other text noted by Legrain and not seen since, is that of No. 15 about which Broekman says, “is too badly damaged to yield any useful information.”<sup>74</sup> About the only clue then to the king's identity is its numbering given by Legrain according to his understanding of the chronology. The only king remaining of the 22nd Dynasty who does not have a Nile Level Text attributed to

<sup>73</sup> Broekman, “Nile Level Records,” 174.

<sup>74</sup> *Ibid.*



him, but comes before Shoshenq III, who is the last to be attributed a Version One of *h<sup>c</sup>py*, is Takeloth II. He, of course, comes immediately after Osorkon II.

The fact that both of the badly damaged texts of Nos. 44 and 15 are associated with the section of the quay wall where Nos. 43, 45, and 14 (together with Nos. 3 and 10) are found at the same level on the right-hand side, suggests that Nos. 44 and 15 may have once been seen in this area, though they have now eroded away. Perhaps significantly, Osorkon II's Nile Level Text with his year 29 is *No. 14!* So it would be appropriate for Takeloth II's Nile Level Text to be given the number 15!

Nile Level Text No. 14, referring to Osorkon II with a year 29 (873 BCE) was engraved more than *110 years before* those adjacent to it. It is positioned on the quay wall *between* No. 43 (Rudamun's Nile Level Text dating to 759–757) and No. 3 (Shoshenq VIa's Nile Level Text, with No. 45 to its left, dating to 757–732), which were after Osorkon II died and Takeloth II began to reign in 872. Therefore, a Nile Level Text No. 15 could belong to a king who reigned after Osorkon II and be reasonably attributed to Takeloth II. The almost illegible state of the text might indicate an earlier king, especially as those on the lower part of the wall were subject to more erosion caused by flooding over the centuries. Von Beckerath wrote, "There are still traces of other inscriptions on the quay wall which I could not identify."<sup>75</sup> Maybe some of these belonged to Takeloth II.

Legrain's numbering of the texts does not follow the now known chronological sequence, but even so it is instructive to see how he numbered them. After correctly assigning No. 1 and No. 2 to Shoshenq I and Osorkon I, respectively, he applies No. 3 to the row we have been discussing, which is somewhat removed and to the right of Nos. 1 and 2. This suggests that Legrain thought that the king's prenomen, Hedjkheperre Setepenre (nomen not legible), indicated Takeloth I, whom he would have thought had succeeded Osorkon I of Nile Level Text No. 2, since the existence of King Shoshenq IIa who was the immediate successor of Osorkon I is a relatively recent discovery. (His Nile Level Text texts appear above and below Nos. 1 and 2.)

No. 4, below and to the right of No. 3, is now known to belong to Takeloth III, but Legrain may have understood it also to belong to Takeloth I. Thereafter, the Nos. 5–14 are all attributed to an Osorkon, whereas chronologically, Nile Level Texts Nos. 8, 9, 11, 12, 14, belong to Osorkon II, and Nos. 5, 6, 7, to Osorkon III, with No. 13 to Osorkon III and Takeloth III (co-regents).

Then Legrain places Nos. 16–21 together, which refer to the sons of an Osorkon; whereas, it now appears that 16, 20, and 21 probably refer to the reign of Shoshenq II, and 17, 18, and 19 to Takeloth I. Nos. 22–28 all refer to the time period of Shoshenq III, and Pedubast I (although No. 22, which refers to the 39th and *last* year of Shoshenq III, is the first numbered). That just leaves Legrain with Nos. 15, 43, 44, and 45, with 15 and 44 unplaced, and 43, 44, and 45 numbered in his compilation as kings of the 25th and 26th Dynasties,<sup>76</sup> presumably because he did not know to whom or where they belonged. But, as discussed above, they seem to be the last three kings of the 23rd Dynasty: Rudamun, Shoshenq VIa, and Iuput II.

### Reconciliation with Manetho's 23rd Dynasty

Having established the chronology as above, it is now possible to make suggestions about the names of the kings and regnal years handed down by Manetho via Africanus for the 23rd Dynasty. They may be compared with my proposed chronology in the right-hand column in Table 38.6.

<sup>75</sup> Von Beckerath, "Nile Level Records," 43 n. 9.

<sup>76</sup> Reproduced by von Beckerath, "Nile Level Records," 55.

**Table 38.6: Comparison of *Manetho* and the proposed chronology for the 23rd Dynasty**

Kings	<i>Manetho; The Book of Sothis (BoS)</i>	Proposed regnal years	Dates BCE (sole-reign years)
Pedubast I	40/25; <i>BoS</i> 44	25	832/831–807
Iuput I	Omitted	1 sole, 11 co-regent	807–806
Shoshenq VI	Omitted	6	806–800
Osorkon III	8/9; <i>BoS</i> 9	28	800–772
Psammus/Takeloth III	10; <i>BoS</i> 10	13	772–759
Rudamun	Omitted	2–3	759–758/757
Zet/Shoshenq VIb	31	25	758/757–732
Iuput II	Omitted	2 prior to 730, 19 after invasion	732–730 to 709
<b>Total</b>	<b>89/94</b>	<b>132</b>	<b>132 yr</b>

As previously explained, the 40 years given to Pedubast I by Africanus (and the 44 by *The Book of Sothis*) seem to include 20 years appropriated from the reign of Osorkon III who should be attributed 28 or 29 years, not 8 or 9.<sup>77</sup> Pedubast then needs five extra years in Africanus to bring his total to 25 years given him by Eusebius/Armenian. The 44 from *The Book of Sothis*, possibly indicates an original 24 attributed to him, thus 24–25 years, rounded to 25 years as above. Nile Level Text No. 29 gives Pedubast I 23 years, just two short of the 25 years. Six years are required for the reign of Shoshenq VI not given by Manetho's copyists, but indicated by Nile Level Text No. 25. Osorkon III's 8 or 9 years are to be emended to 28 as given on Nile Level Text No. 13.

If Psammus is equated with Takeloth III, then three more years should be added to his 10-year reign to give him the 13 years attested on the donation stela from the Dakhla Oasis. The five years of Takeloth III's co-regency with his father is attributed to Osorkon III's regnal years. Rudamun, attested as a king of the 23rd Dynasty, is not mentioned by Manetho, but a two- to three-year reign can be attributed to him between the end of Takeloth III's reign and the accession of Shoshenq VII in 757 BCE, as previously discussed on the basis of Nile Level Text No. 43 with a year three.

### Zet?

An otherwise unknown Zet, mentioned only by Africanus, is given 31 years. Thirty of these 31 years can be accounted for by recognizing 3 for Rudamun, 25 for Shoshenq VIa and 2 for Iuput II before Piye's invasion. The extra year is probably to be divided among Shoshenq VIa and Iuput II as the 19th year of Shoshenq VIa fell in the 12th year of Piye in 738 BCE. The only years not represented by Manetho's versions are the six years of Shoshenq VI, and the two years of Iuput II. Eight years represent the difference between the total of 94 for Manetho's versions and the 102 of this chronology. The 23rd Dynasty may be allocated the years 832–730 BCE.

This chronology makes sense of the numbers in Manetho's 23rd Dynasty, which has been a complete enigma to Egyptologists. One of the reasons is that the actual length of the dynasty was not known due to the dates imposed on it by its synchronization of Pedubast I's first year with an incorrect date of 818 BCE for Shoshenq III's eighth year.

Furthermore, the 13 years now credited to Takeloth III has only been known since 2005. The 23rd Dynasty is synchronized to the 22nd Dynasty by Pedubast's first

<sup>77</sup> It is possible that just as the 20 years has been brought up a line to the reign of Pedubast from that of Osorkon III in Manetho's list via Africanus, that the notation after the name of Osorkon, "in his reign the Olympic festival was first celebrated" was originally attached to the name of Osorkon. Since the first Olympic festival is dated conventionally to the year 776 BCE, this applies to Osorkon III's reign (800–772 BCE) not Pedubast I's.

year equated with Shoshenq III's eighth year in 832/831 BCE and both ending in 730 BCE at the time of Piye's invasion of Egypt in his 20th year.

If the 22nd Dynasty is given the starting date of 945 BCE for the accession of Shoshenq I, a date applied to it from Thiele's incorrect Hebrew chronology based on the Assyrian Eponym Canon, which is 52 years too low, then the dates used by Kitchen to give him the dates for the 23rd Dynasty will correspondingly also be too low, although by the time of Pedubast I's accession the number has been reduced to 14 years difference (Kitchen's 818 instead of 832 BCE). The date of 945 has no corroboration, although Kitchen thought his "dead reckoning" was supported by Thiele's date for Rehoboam's fifth year/Shoshenq I's 20th year in 925 BCE. The entire reconstruction of the 22nd to 25th Dynasties suffers from the imposition of Shoshenq I's accession date of 945 instead of the correct 997 BCE, making the chronology too short to accommodate the kings' regnal years. This is seen above in the years given to Osorkon IV when he is dated to 730–715 by Kitchen, when Osorkon IV should be dated to 741–730 BCE as the last king of the 22nd Dynasty and then as governor under Piye and Shabako. Osorkon IV eventually came up against the Assyrian king Sargon in 716/715 BCE to whom he gave 12 horses as tribute. After that, Osorkon IV is not heard of again.

Table 38.7 gives the chronology of the 23rd Dynasty as discussed above.

**Table 38.7: The 23rd Dynasty with regnal years and dates**

King	Regnal years	Dates reigned BCE	Anchor points BCE
Pedubast I	25	832/831–807	Began to reign in Yr 8 of Shoshenq III (NLT 24 Shq III's Yr 12 = Pedubast I's Yr 5). Yr 7 induction on I šmw [1] = I šmw 5 new moon in 826. Yr 14 induction on I šmw 19 new moon; (incorrectly attributed to Yr 8) in 819.
Iuput I	12 yrs (11 co-regent with Pedubast I)	807–806	NLT 26 Yr 16 = Yr 2 Iuput I
Shoshenq VI	6 yrs	806–800	Khons roof date?
Osorkon III	28	800–772	NLT 13 yr 28 = Yr 5 Takeloth III (5 yrs attributed to Osorkon III)
Takeloth III	13	772–759	None known
Rudamun	3	759–758/757	None known
Shoshenq VIa	25	758/757–732	Yr 19 = Yr 12 of Piye of 25th Dynasty in 738
Iuput II	2 to 730 + more	732–730 (+ 19 after invasion)	Present at Leontopolis in Piye's 20th yr invasion in 730
<b>Total</b>	<b>102 yrs</b>	<b>832–730</b>	

NLT = Nile Level Text.



## Chapter 39

### Finalizing the 24th and 25th Dynasties

During the final years of Shoshenq V, and continuing through the reign of Osorkon IV (22nd Dynasty), Egypt fragmented. A local chief of the western Delta (known as the Māshwash/Meshwesh), Tefnakht of Saïs, extended his boundary and sought the loyalty of other local chiefs. In Piye's 19th year, Tefnakht sailed south up the Nile with a large army and besieged Herakleopolis, ruled by Peftjauawybast, who had married the daughter of Rudamun (sixth king of the 23rd Dynasty).

The Victory Stela of Piye, dated to his 21st year, records how Piye responded to a call for help from loyal Nubian commanders who were being attacked by Tefnakht's vast army. Piye ordered the local chiefs to fight, and deployed his own army to go to their aid. The army proceeded to Thebes, Hermopolis, and Herakleopolis, slaughtering troops and capturing ships on the way. At Herakleopolis, Piye's troops challenged Tefnakht's army, which included King Namart of Hermopolis, King Iuput (Iuput II), Shoshenq of Busiris, Djedamenefankh of Mendes and his son, commander of Hermopolis Parva, Prince Bakennefi and his son Nesnaisu of Hesbu, and King Osorkon [IV] of Bubastis. When Piye heard that a remnant of the opposing army had escaped, he was enraged and vowed that he himself would go north after the celebrations of the New Year had taken place. He said,

I will offer to my father, Amon, at his beautiful feast, when he makes his beautiful appearance of the New Year, that he may send me forth in peace, to behold Amun at the beautiful Feast of Opet, that I may bring his image forth in procession to Luxor at his beautiful feast ... and that I may bring him in procession to his house, resting upon his throne, on the "Day of Bringing in the God" in the third month of the first season, second day; that I may make the Northland taste the taste of my fingers.<sup>1</sup>

The Victory stela was dated to I *3ht* 1 of Piye's 21st regnal year; therefore, the preceding events occurred in his 19th and 20th years, with Piye celebrating a New Year between the first and second phases of the invasion. Piye personally took command of the second phase after he celebrated the New Year at his city of Gebel Barkal in Nubia. Then he and his army went north to Thebes, to celebrate the re-entrance of Amun in the Opet festival on III *3ht* 2 near the end of the feast.<sup>2</sup>

The date of the re-entrance given in advance of the feast seems set to fall at a specific time, and, as noted previously, Amun's re-entrance in his Amun festival fell several days after the new moon. Casperson provides Table 39.1 for the years -730 and -729 (731 and 730 BCE). Piye's accession date is not known.

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<sup>1</sup> "The Victory Stela of King Piankhy (747–716 BC),"

<http://www.homestead.com/wysinger/piyevictorystela.html>

<sup>2</sup> A.J. Spalinger, "Egyptian Festival Dating and the Moon," *Under One Sky: Astronomy and Mathematics in the Ancient Near East* (eds. J.M. Steele and A. Imhausen; Alter Orient und Altes Testament 297; Münster: Ugarit, 2002) 392.

**Table 39.1: Piye's 19th and 20th years in -730 and -729 (new moon listing from -730 to -729)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
<b>Piye's 19th regnal year (accession date unknown)</b>																
-730	1	25	-730	1	17	2051	12	8	6	1:01	6:43	177	6:43	44	6:42	-47
<b>Piye celebrated New Year at Gebel Barkal in Nubia</b>																
-730	2	23	-730	2	15	2052	1	2	7	12:50	6:26	246	6:25	81	6:25	-1
-730	3	25	-730	3	17	2052	2	2	2	1:40	6:04	136	6:03	47	6:03	-15
<b>Amun's re-entrance on III 3ht 2 after the new moon on III 3ht 1</b>																
-730	4	23	-730	4	15	2052	3	1	3	15:33	5:43	225	5:42	106	5:41	37
-730	5	23	-730	5	15	2052	4	1	5	6:10	5:23	180	5:23	94	5:22	26
-730	6	21	-730	6	13	2052	4	30	6	21:07	5:12	262	5:12	158	5:12	76
-730	7	21	-730	7	13	2052	5	30	1	12:07	5:14	224	5:14	132	5:14	41
-730	8	20	-730	8	12	2052	6	30	3	2:55	5:28	192	5:29	94	5:29	-7
-730	9	18	-730	9	10	2052	7	29	4	17:09	5:49	259	5:49	156	5:50	51
-730	10	18	-730	10	10	2052	8	29	6	6:27	6:12	223	6:13	113	6:13	0
-730	11	16	-730	11	8	2052	9	28	7	18:33	6:33	298	6:34	175	6:34	54
-730	12	16	-730	12	8	2052	10	28	2	5:32	6:47	244	6:47	98	6:48	-24
<b>Piye's 20th regnal year includes part of the year of -729</b>																
-729	1	14	-729	1	6	2052	11	27	3	15:44	6:47	369	6:47	135	6:46	14
-729	2	13	-729	2	5	2052	12	27	5	1:36	6:33	183	6:32	51	6:32	-32
-729	3	14	-729	3	6	2053	1	21	6	11:33	6:13	263	6:12	95	6:11	16
-729	4	12	-729	4	4	2053	2	20	7	22:01	5:51	390	5:50	151	5:49	62
-729	5	12	-729	5	4	2053	3	20	2	9:24	5:30	220	5:29	112	5:29	39
-729	6	10	-729	6	2	2053	4	19	3	22:10	5:15	292	5:15	168	5:15	82

DoW = day of week; ToD = time of day.

In the year -730 (731 BCE) a new moon fell on III 3ht 1, a day before Amun's re-entrance. This date can be attributed to Piye's 19th year since during the following year, -729 (730 BCE), his regnal year changed to his 20th year (though the date is unknown), being the year prior to the writing of the Victory Stela in his 21st year.

The second phase of the campaign led by Piye defeated the alliance of northern Egyptian rulers. Narmart fled to Hermopolis Magna, which was then besieged by Piye's troops. Sometime later, Narmart surrendered and paid tribute to Piye. Peftjauawybast of Herakleopolis also paid Piye tribute, praising him, for it was Piye's troops who defeated Tefnakht's hold on his city. Subsequently, the cities of el-Lahun, Meidum, and el-Lisht submitted. Memphis resisted, reinforced by 8,000 of Tefnakht's troops. But Piye's army captured all the ships in the harbor and then using the ships' masts and rigging scaled the city wall. Iuput II and two Libyan chiefs surrendered to Piye and paid tribute. Further north, at Heliopolis, Osorkon IV also surrendered, as did Nimlot of Hermopolis. Tefnakht fled to an island in the Delta but sent a letter of submission to Piye. After Piye had final control of Egypt, Narmart was invited into the palace because he was clean and did not eat fish, while Peftjauawybast, Iuput II, and Osorkon IV had to remain outside. Having successfully conquered all of Egypt, Piye sailed south to Thebes and returned to Napata, and apparently never again set foot in Egypt. Thus it was that the 22nd and 23rd Dynasties ended in the year 730 BCE.

### **Tefnakht Establishes the 24th Saïte Dynasty**

Sometime after the departure of Piye, Tefnakht set himself up again as king of the western Delta founding what is now known as the 24th Saïte Dynasty. Saïs was an ancient Egyptian town on the Canopic branch of the western Nile Delta.

### 24th Saïte Dynasty

Manetho gives the following information for the 24th Dynasty.

Fr. 64 (from Syncellus) ACCORDING TO AFRICANUS

The Twenty-fourth Dynasty.

Bocchôris of Sais, for six years: in his reign a lamb spoke ... 990 years.

Fr. 65(a) (from Syncellus) ACCORDING TO EUSEBIUS.

The Twenty-fourth Dynasty.

Bocchôris of Sais, for 44 years: in his reign a lamb spoke. Total, 44 years.

The Armenian version of Eusebius gives the same details for the 24th Dynasty as Eusebius (above) except it omits the “Total, 44 years.” *The Book of Sothis*, No. 74, has: “Bocchôris, 44 years. This king made laws for the Egyptians: in his time report has it that a lamb spoke.”

The record is deficient in failing to mention Tefnakht. Only the name of Bocchoris (with variant spellings) appears in *Manetho* as king of the 24th Dynasty, though the dynasty is known to have had two kings. Bocchoris is the Greek rendering of Bakenranef. In Africanus, Bocchoris is attributed six years, not given in Eusebius/Armenian. *The Book of Sothis* assigns Bocchoris 44 years, which is transferred from the total of 44 years for the dynasty given in Eusebius/Armenian. On the other hand, the years totaled separately for the 23rd, 24th, and 25th Dynasties are all given 44 years by Eusebius/Armenian, so no reliability can be attached to this number. Table 39.2 outlines the 24th Dynasty anchor points.

**Table 39.2: 24th Dynasty Anchor Points**

King	Years	Dates	Anchor points BCE
Tefnakht			Athens Stela yr 8 Tefnakht's Donation Stela: began to reign in western Delta in Shoshenq. V's 38th yr in 743. Submitted temporarily to Piye in 730. After Piye's departure in 730 Tefnakht regained position as king of Saïs ca. 729
Bocchoris/ Bakenranef			In Shabaka's 2nd yr in 719/718 he killed Bocchoris

### To Whom Does the Athens Stela Refer?

Until 2004, it was thought by most scholars that Tefnakht reigned eight years because the Athens stela dates to a year eight of a King Shepses Re Tefnakht.<sup>3</sup> However, some dissenting voices propose that the stela belongs to Stephinates of the 26th Saïte Dynasty.<sup>4</sup> To whom then does the eight years refer? In 2004, Olivier Perdu argued that the Athens stela was similar in style, text, and format to one discovered from the second year of Necho I's reign of the 26th Saïte Dynasty, and therefore Shepsesre Tefnakht could not be the same as Tefnakht of the 24th Dynasty, but was a contemporary of Necho I.<sup>5</sup>

Perdu asserted that Shepsesre Tefnakht was Stephinates, or Manetho's Stephinathis of the 26th Saïte Dynasty. Manetho lists the first four kings of the 26th Dynasty as Ammeris for 12 years, Stephinathis for seven years, Nechepsos (an unknown

<sup>3</sup> K.A. Kitchen, *The Third Intermediate Period in Egypt (1100-650 BC)*, (Warminster: Aris and Phillips, 1973, 1986, 1996) 139 §112, 372 §332; D. Kahn, “Did Tefnakht I Rule as King?” *GM* 173 (1999) 123-25.

<sup>4</sup> K. Baer, “The Libyan and Nubian Kings of Egypt: Notes on the Chronology of Dynasties XXII to XXVI,” *JNES* 32 (1973) 24.

<sup>5</sup> O. Perdu, “La Chefferie de Sébennytos de Piankhy à Psammétique Ier,” *Rd'É* 55 (2004) 95-111; “Tefnakht II,” [http://en.wikipedia.org/wiki/Tefnakht\\_II](http://en.wikipedia.org/wiki/Tefnakht_II)

Nekauba) for six years, and Nechao (Necho I) for eight years.<sup>6</sup> These kings reigned contemporaneously with the last two kings of the 25th Nubian Dynasty: Shebitku ruling 16 years (discussed below), and Taharqa ruling 26 years.

Taharqa's last year and Necho I's last year both ended in 664 BCE when Assyria sacked both Thebes and Memphis and installed Psammetichus I as first king of the 26th Dynasty. The year 664 BCE is regarded as the first secure date in Egyptian history. Working backwards, the 21 combined years of Stepinates, Nekau, and Necho I set Stepinates first year in 685. This is five years after Taharqa began to reign in 690; thus, Stepinates was contemporary with Taharqa from 685 to 678 BCE.

However, Perdu's epigraphic evidence has not convinced all Egyptologists that Stepinates should be identified with Shepsere Tefnakht. His criteria of a tripartite wig, slender figure of the king, and the positioning of the head of the falcon-headed god in stelae and temple wall reliefs has already appeared in the *early* 25th Dynasty, and according to Perdu himself, as Kahn noted, is "similar in style to the stela of Tefnakht, chief of the Meshwesh."<sup>7</sup> Kahn concluded, "The elements which Perdu used for dating the stelae of King Shepses-Re to the end of the 25th dynasty already appear in the days of Piankhy and Shabaka (and even earlier), contemporaries of the postulated reign of Tefnakht I."<sup>8</sup> This appears to undermine any positive identification of Stepinates with Shepsere Tefnakht. The eight years of the Athens stela may then belong to Tefnakht, a contemporary of Piye.

### Earliest Attestation of Tefnakht

Tefnakht's earliest known attestation is year 36 of Shoshenq V on the Abemayor stela. He is named there as "Great Chief of the Mā, Army Leader, and claimed to be great Chief of the Libu."<sup>9</sup> In Shoshenq V's 37th year, an Ank-Hor still claimed this title, thus indicating that Tefnakht was probably challenging him for the leadership. In Shoshenq V's 38th year, Tefnakht's donation stela claims he is "Great Chief of the Entire Land" and attributes him religious titles indicating he controlled the western half of the Delta.<sup>10</sup> Kahn notes a donation stela held in the Michailides collection that mentions "a donation of land by Shepses-Re Tefnakht in the vicinity of Saïs."<sup>11</sup> In 1999, Kahn, citing Yoyotte,<sup>12</sup> places the field in the far *eastern* area of the Delta, about nine km north-east of Bubastis. Kahn points out that the Nubian occupation in land so far east of Saïs would have prevented Shepsesre Tefnakht donating land in that vicinity if he were Stepinates of the 26th Dynasty, and he reasons that Shepsesre Tefnakht must be Tefnakht I not II.<sup>13</sup>

Perdu questioned Yoyotte's identification of the site of the donated land, proposing that it could have had a *western* location. Kahn, in 2009, conceded the possibility.<sup>14</sup> However, he goes on to note that the crowning of Tefnakht II and the

<sup>6</sup> Africanus omits Ammeris given in Eusebius/Armenian/*Book of Sothis* as its first king.

<sup>7</sup> D. Kahn, "The Transition from Libyan to Nubian Rule in Egypt: Revisiting the Reign of Tefnakht," *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009) 142; "Tefnakht II," [http://en.wikipedia.org/wiki/Tefnakht\\_II](http://en.wikipedia.org/wiki/Tefnakht_II)

<sup>8</sup> *Ibid.*, 143.

<sup>9</sup> Kitchen, *TIP*, 362 §324; see also Kahn, "Did Tefnakht I Rule as King?" 123.

<sup>10</sup> *Ibid.*, 362 §324, 355 §316.

<sup>11</sup> Kahn, "Did Tefnakht I Rule as King?" 123.

<sup>12</sup> J. Yoyotte, "Notes et documents pour servir a l'histoire de Tanis," *Kêmi* 21 (1971) 37-40 cited by Kahn, "Revisiting the Reign of Tefnakht," 143.

<sup>13</sup> Kahn, "Did Tefnakht I Rule as King?" 124-25.

<sup>14</sup> *Ibid.*, 143.



establishment of a new 26th Saïte Dynasty (not alluding to Ammeris as the possible first king) was not likely while Taharqa was ruling in the Delta.<sup>15</sup> Kahn concludes that Shepsesre Tefnakht is Tefnakht I to whom he attributes the eight years of the Athens Stela.<sup>16</sup>

### **How Should the Eight Years of the Athens Stela be Applied?**

I agree with Kahn that Shepsesre Tefnakht is Tefnakht I of the 24th Saïte Dynasty. The issue of identifying Shepsesre Tefnakht as Tefnakht I has been clouded by incorrect dates attached to his reign, and those of the 22nd and 23rd Dynasties, by scholars who assign him only a couple of years before Piye's invasion, and only five or six years thereafter. For example, Kitchen wrote that Tefnakht counted his years by Shoshenq V as witnessed by the year 38 in Tefnakht's donation stela before Shoshenq V was replaced by Osorkon IV shortly before the invasion of Piye. Kitchen says that Tefnakht "only adopted royal titles *after* that campaign" and there was no reason to back-date his years before the invasion.<sup>17</sup> In 2009, Kitchen gave to Shoshenq V the years 767–730 and to Osorkon IV 730–715, and to Tefnakht I the years 728–721 BCE. These dates do not show the true picture concerning the length of Tefnakht's reign nor when he reigned.

### **Tefnakht I's First Year is 743 BCE**

Tefnakht's donation stela places him in the 38th year of Shoshenq V. This year dates to 743 BCE, confirmed by Shoshenq V's year 12 Apis bull enthronement date of IV *prt* 4 occurring in 769 BCE as discussed in the previous chapter. Eight years earlier, the date would be 750, the first year of Piye's reign, since his 20th year is dated to 730. The eight years of the Athens stela applies to the period that Tefnakht was the adversary of Piye and challenging Ank-Hor for control of the western Delta (Abemayor stela).

Apparently gaining control of the western Delta in 743 BCE contemporary with the first year of Osorkon IV of the 22nd Dynasty (in Bubastis), Tefnakht would have been in his 14th year in Piye's 20th year invasion. (See the correlation shown in Table 39.11 at the end of this chapter). Osorkon IV, and Iuput II (of Leontopolis, last king of the 23rd Dynasty) submitted to Piye followed by Tefnakht for a while, but after Piye's departure Tefnakht reigned as king of the 24th Dynasty until Bocchoris/Bakenranef succeeded him.

### **End of Tefnakht's Reign Located by Correlated Information**

The end of Tefnakht's reign and the accession of Bocchoris can be determined by correlating certain events.

Bocchoris was killed by Shabaka/o (Piye's successor) in Shabaka's second year in 719 BCE. Various Apis bull burial stelae indicate that a bull died in Bocchoris' fifth year on II *šmw* 29 and the interment of the bull after 70 days took place in Bocchoris' year six on I *3ht* 6.<sup>18</sup> Therefore, Bocchoris reigned at least into his sixth year, with his sixth year beginning between the two dates.

The Apis bull's burial is identified with the burial in the second year of Shabaka's reign. Kitchen writes, "The wall-inscription of Shabaka's Year 2 was in the same chamber as the Apis burial of Year 6 of Bakenranef."<sup>19</sup> This provides the equation

<sup>15</sup> Ibid., 143-47.

<sup>16</sup> Ibid., 148.

<sup>17</sup> Kitchen, *TIP*, xxxv (emphasis his).

<sup>18</sup> Kahn, "Revisiting the Reign of Tefnakht," 141.

<sup>19</sup> Kitchen, *TIP*, 141-42 §114 n. 247.

that the second year of Shabaka was the sixth regnal year of Bocchoris (discussed further below). Shabaka's second year was 719, so five or six years earlier, Bocchoris' reign must have commenced in 725/724 BCE. This provides the end date of Tefnakht I's reign. Altogether, Tefnakht can be assigned 26–27 years from the first year of Piye's reign in 750 till he died in 724 BCE, which equates to Piye's 26th year.

Formerly identified as having come from a line of Chiefs of the Mā and Libu tribes, a stela published in 2000 by P.R. Del Francia claims Tefnakht was the son of a Gemnefsutkapu and the grandson of Basa, a priest of Amun near Saïs, and if so, Tefnakht came from a family of priests.<sup>20</sup>

### Bocchoris/Wahkare Bakenranef

Tefnakht I was succeeded by his probable son Bocchoris, who, as noted above, reigned from ca. 724 to 719 BCE, 719 being the second year of Shabaka. It is not known when in his sixth year Bocchoris died, but the six years given him by Manetho probably indicates that he reigned *at least* five and a half years, with his 6th possibly extending into 718 but still in Shabaka's 2nd year (719/718).

Bocchoris' resistance against the Nubian king Shabaka, brother and successor of Piye, in the siege of Saïs, resulted in Bocchoris being burned alive, as recorded by Manetho. Year two of Shabaka indicates the year of the death of Bocchoris. Shabaka's year two can be further established from the date for an Amun feast in Shebitku's third year (see further on pages 590ff. below). Shebitku was the son of Piye, a brother of Shabaka and the latter's successor.

### Summary of 24th Dynasty

The 24th Saïte Dynasty can be shown in Table 39.3.

**Table 39.3: 24th Saïte Dynasty with Regnal Years and Dates**

King	Regnal Years	Date BCE	Anchor points BCE
Tefnakht	As adversary of Piye: 7 + 14 + 5 = 26	750–743–730–724	Athens Stela yr 8 Tefnakht's Donation Stela: began to reign in western Delta in Shoshenq. V's 38th yr in 743. Submitted temporarily to Piye in 730. After Piye's departure in 730, Tefnakht regained position as king of Saïs ca. 729
Bocchoris/ Bakenranef	6	724–719/718	In Shabaka's 2nd yr in 719/718 he killed Bocchoris
	<b>32</b>	<b>750 – 719/718</b>	

### 25th Nubian Dynasty

Manetho gives the following information for the 25th Dynasty.

Fr. 66 (from Syncellus). ACCORDING TO AFRICANUS

The Twenty-fifth Dynasty consisted of three Ethiopian kings.

1. Sabacôn, who, taking Bochchôris captive, burned him alive, and reigned for eight years.
  2. Sebichôs, his son, for 14 years.
  3. Tarcus, for 18 years.
- Total, 40 years.

Fr. 67 (a) (from Syncellus). ACCORDING TO EUSEBIUS

<sup>20</sup> P.R. Del Francia, "Di una statuette dedicate ad Amon-Ra dal grande capo dei Ma Tefnakht nel Museo Egizio di Firenze," *Atti del V Convegno Nazionale di Egittologia e Papirologia, Firenze, 10-12 dicembre 1999* (ed. S. Russo; Firenze: Istituto Papirologico, 2000) 63-112, 76-82 cited by "Tefnakhte," <http://en.wikipedia.org/wiki/Tefnakht>

The Twenty-fifth Dynasty consisted of three Ethiopian kings.

1. Sabacôn, who, taking Bochchôris captive, burned him alive, and reigned for 12 years.
  2. Sebichôs, his son, for 12 years.
  3. Taracus, for 20 years.
- Total, 44 years.

The Armenian version of Eusebius and *The Book of Sothis* (Nos. 75, 76, and 77) give the same details for the 25th Dynasty as Eusebius. For comparative purposes Table 39.4 is provided.

**Table 39.4: Manetho's 25th Dynasty**

King	Africanus	Eusebius/Armenian & <i>The Book of Sothis</i>
1. Sabacon (Shabaka)	8 yr	12 yr
2. Sebichos (Shebitku)	14 yr	12 yr
3. Tarcus (Taharqa)	18 yr	20 yr
<b>Total</b>	<b>40 yr</b>	<b>44 yr</b>

Manetho's versions and *The Book of Sothis* give only the names of three Nubian/Kushite kings of the 25th Dynasty, and variants in the regnal years reigned. The kings are identifiable as Shabaka, Shebitku, and Taharqa. Scholars usually attribute to the dynasty three preceding kings: Alara, Kashta, and Piye; though Alara and Kashta were Nubian kings, and Piye spent only one year in Egypt during his invasion.

There is an obvious discrepancy between Africanus and the other versions for all three kings. Africanus, who is usually more reliable, differs also from the regnal years assigned by recent scholars. For example, Kitchen gives to Shabaka 14–15 years, to Shebitku 12–13 years, and to Taharqa 26–27 years.<sup>21</sup>

The earliest date that can now be established for the 25th Dynasty is Piye's accession, because his 12th year is synchronized with the 19th year of the unnamed king on the Wadi Gasus graffito. Previous discussion identified this king as Shoshenq VIa, and his 19th year/Piye's 12th dates to 738 BCE because the end of the 22nd and 23rd Dynasties occurred in Piye's 20th year in 730 BCE.

### **Piye's 20th Year is 730 BCE; His Accession is 750 BCE**

The date of 730 is 267 years from the beginning of the 22nd Dynasty under Shoshenq I in 997 BCE. This must be compared to Manetho's subtotals of 25 (emended to 125) and 42 (emended to 142) years, respectively. Anchor points that establish lunar dates throughout the 22nd Dynasty corroborate the time span. Thus Piye's accession year is 20 years before 730, in 750 BCE.

### **Piye's Length of Reign**

Evidence for a 30th regnal year for Piye comes from a damaged year on a bandage scrap from Western Thebes (BM No. 6640), thought to be a year 30, and refers to a Sneferre Piye.<sup>22</sup> A scene depicting Piye celebrating a *Heb sed*-festival carved on the Great Temple at Gebel Barkal near Napata also suggests he reigned 30 years.<sup>23</sup> Table 39.5 shows Piye's length of reign, and is completed later in this chapter.

<sup>21</sup> K.A. Kitchen, "The Strengths and Weaknesses of Egyptian Chronology—A Reconsideration," *Ä und L* 16 (2006) table p. 307.

<sup>22</sup> Idem, *TIP*, 152 §123 n. 292, 370 §330 n. 732, 559 §473.

<sup>23</sup> "Piye," <http://en.wikipedia.org/wiki/Piye>

**Table 39.5: 25th Dynasty (from the reign of Piye)**

King	No. of years	Dates BCE
Piye	30	750–720
Shabaka		
Shebitku		
Taharqa		

The length of Piye's reign can also be determined by taking into account that the Apis bull that died in Bocchoris' fifth year, and was buried early in his sixth year, is the same bull attributed to year two of Shabaka in the latter's wall inscription. As discussed above, the proposed date is 719 BCE. Thus Piye died the previous year in 720, giving to him a reign of 30 years.

### **Shabaka: Working Backwards from Shebitku**

Piye's date of death can be further confirmed by dating Shebitku's third year for which there is a feast dated to a new moon. Thus we work backwards from Shebitku's third year to confirm the length of Shabaka's and Piye's reigns. On the British Museum cube statue (BM 24429) a man named Ity is clearly dated to year 15, 11th day of the month Payni (II *šmw* 11) of Shabaka.<sup>24</sup> So Shabaka reigned at least 15 years, which is up from Africanus' 8 years and the other versions giving 12 years.

If Piye reigned for 30 years down to 720 BCE and Shabaka reigned 15 years, his 15th year will have fallen ca. 705 and Shebitku's third year ca. 703.

### **Shebitku's Accession Year**

The accession year for Shebitku can be established by dating a new moon that fell in a feast of Amun in Shebitku's third year, noted by Krauss. Krauss refers to this as a *Tepi Shemu* feast; that is, occurring in I *šmw*.<sup>25</sup>

Kitchen refers to the date from Nile Level Text No. 33 from which he translates: Year 3, x month of Shomu, Day 5, under the majesty of ... (titles) ... Shebitku, beloved of Amen-re, Lord of the Throne(s) of the Two Lands, [...]. Now, His Majesty appeared in the Temple of Amun, (when) he (= Amun) granted to him that he should appear with the two serpent-goddesses/to the Two Lands, like Horus on the throne of Re. His father Amun the great has accorded him an exceedingly great inundation ...<sup>26</sup>

The month of the feast is illegible. This Nile Level Text, giving a year three for Shebitku, is the only regnal year we have from his reign. Kitchen notes that the "appearing" can refer to any "public appearance" of a king. He writes, "In the 3rd year of Shebitku, this feast evidently coincided with the inundation – and with a visit to Amun of Karnak (on his feast-days) by the king in person ..."<sup>27</sup> The visit of Shebitku to Thebes clearly coincided with an Amun feast, and if a *Tepi Shemu* feast, can be dated to the month of I *šmw*. The date refers to the king arriving at the temple on ? *šmw* 5, so we would expect a new moon date following within five days of that date when Amun himself entered. Caspersen provides Table 39.6 for the year –703 (704 BCE).

<sup>24</sup> Kitchen, *TIP*, 153-54 §125.

<sup>25</sup> R. Krauss, *Sothis- und Monddaten, Studien zur astronomischen und technischen Chronologie Altägyptens* (HÄB 20; Hildesheim: Gerstenberg, 1985) 166-67.

<sup>26</sup> Kitchen, *TIP*, 170 §137.

<sup>27</sup> *Ibid.*, 170-71 §137.

**Table 39.6: Shebitku's third year Amun feast in -703 (new moon listing from -703)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: c1 = 11.5, c2 = 0.008																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-703	9	19	-703	9	11	2079	8	7	4	21:51	5:50	272	5:51	169	5:51	67
<b>New moon falls on I šmw 7</b>																
-703	9	19	-703	9	11	2079	8	7	4	21:51	5:50	272	5:51	169	5:51	67
-703	10	19	-703	10	11	2079	<b>9</b>	<b>7</b>	6	12:32	6:13	241	6:14	135	6:15	<b>29</b>
<b>-703</b>	<b>11</b>	<b>18</b>	-703	11	10	2079	<b>10</b>	<b>7</b>	1	1:49	6:34	205	6:35	<b>95</b>	6:36	-17

DoW = day of week; ToD = time of day.

The table shows that a new moon occurred on I šmw 7 in -703 (704 BCE) on October 19, indicating that a new moon fell on the second day after the given date of ? šmw 5; that is, I šmw 5. The new moon date in Shebitku's third year in 704 indicates his accession in 706.

### Shebitku's Reign and Tang-i Var Inscription

Until the end of the 20th century, scholars thought that Shebitku reigned 12 years (given by Eusebius), and he was assigned dates ca. 702–690 BCE.<sup>28</sup> New evidence from the Tang-i Var inscription indicates that Shebitku must have been king of Nubia by 706 BCE.

Tang-i Var has 50 lines of text, much of it damaged, inscribed in a cliff face in Iran depicting an Assyrian monarch. It was found by the Archaeological Service of Iran in 1968, but was made accessible to English readers only in 1999 by Grant Frame.<sup>29</sup> Frame notes that the relief gives an account of an Assyrian campaign against Karalla in the Zagros mountains, which the Assyrian Eponym Canon dates to Sargon II's 16th regnal year in 706, his penultimate year.<sup>30</sup> The relevant text for our study, lines 19–21, is translated by Frame from photographs provided him by Dr. F. Vallett taken in 1971.<sup>31</sup> He translates:<sup>32</sup>

19) I plundered the city of Ashdod. Iamani, its king, feared [my weapons] and ... He fled to the region of the land of Meluhha and lived (there) stealthfully (literally; like a thief).

20) Sapataku', (Shebitku) king of the land of Meluhha, heard of the mig[ht] of the gods Aššur, Nabû (and) Marduk which I had [demonstrated] over all lands, ...

21) He put [Iamani] in manacles and handcuffs ... he had him brought captive into my presence.<sup>33</sup>

The Assyrian Display Inscription, lines 90–112, also relates how Iamani of Ashdod had fled from Sargon II and sought refuge with an unnamed Nubian king, and subsequently Iamani was extradited back to Sargon. It is supplemented by the Display Inscription from Room IV, line 14, both describing how the king of Meluhha (i.e. Nubia) had been overwhelmed by the gods of Assyria and caused Iamani to be placed in iron handcuffs and his feet shackled and sent back to Sargon.<sup>34</sup> Both Display Inscriptions date to Sargon's 15th year, 707–706, but don't mention the king of Nubia by name. This information is now provided by the Tang-i Var inscription that names Shebitku as the

<sup>28</sup> Idem, "Regnal and Genealogical Data of Ancient Egypt (Absolute Chronology I): The Historical Chronology of Ancient Egypt, a Current Assessment," *SCIEM II* (2000) 50.

<sup>29</sup> G. Frame, "The Inscription of Sargon II at Tang-i Var," *Orientalia* 68 (1999) 31-57.

<sup>30</sup> *Ibid.*, 48-52.

<sup>31</sup> *Ibid.*, 31-35.

<sup>32</sup> *Ibid.*, 40.

<sup>33</sup> *Ibid.*

<sup>34</sup> *Ibid.*, 52-53.

king of Nubia who extradited Iamani back to Sargon. The date is further confirmed by the mention of the Assyrian expedition to Karalla in its text, which agrees with the Assyrian Eponym Canon record of a campaign to Karalla undertaken by Sargon's army in 706 BCE, though he himself seems not to have been present.<sup>35</sup>

Allowing time for the carving of the relief after the campaign, and the inauguration of Sargon's new capital Dūr Šarrukīn on the sixth day of the second month of 706 before Sargon's death the following year in 705 in the summer month of Abu, places Iamani's extradition in 706 BCE. This agrees with the date of the display inscriptions that the extradition of Iamani took place in Sargon's 15th year; therefore, in 706. Named on the Tangi-i Var inscription as the king who sent Iamani back to Sargon, Shebitku must have already been king of Nubia in 706.<sup>36</sup> The combined evidence of the Amun festival date and the Tang-i Var inscription, confirm Shebitku's first year as 706.

When Frame published the Tang-i Var inscription, he relied on the annals of Sargon to date Shebitku's accession, which had to occur before Sargon died in 705, without reference to the Amun festival new moon date for Shebitku's third year.

Nevertheless, the 706 BCE date was four years earlier than 702, which scholars had previously reckoned for Shebitku's accession. Commenting on the implications for the Tangi-i Var inscription in 1999 (the same year Frame published the stela), Donald Redford placed Shebitku's accession before the death of Sargon II in 705.<sup>37</sup> He said that the highest attested year for Shabaka (Shebitku's predecessor) is his 15th year found on the cube statue (BM 24429). Thus if Shebitku's first year is 706, then 15 years earlier Shabaka's first year must be no later than 720, and his conquest of Egypt was in his second year in 719.<sup>38</sup> As noted above, this date coincides with Bocchoris' sixth year, and his death at the hands of Shabaka.

### Shabaka's Years?

However, Redford found a "major difficulty" because in the decade preceding 713/712 BCE, neither the Assyrian nor biblical records mention a *Kushite* king ruling over Egypt, which meant that Shabaka's first year fell *in 713* or later, and his 15th year in 699. This, of course, dates him in years proposed for Shebitku's reign starting in 706. Redford did not propose a co-regency but a "bifurcation in the government" in which Shabaka took control of Egypt, and by his eighth year had assigned Nubia to Shebitku.<sup>39</sup>

Responding to this suggestion in 2001, Dan'el Kahn said that in the years of the proposed divided administration (eighth to 15th years of Shabaka), it would be inconceivable that the two rulers, both operating out of Thebes, would date by two different dating systems—equating the second year of Shebitku to the tenth year of Shabaka.<sup>40</sup> Kitchen's response in 2000 to Frame's article was to argue that Shebitku was not king in 706, but a *de facto* viceroy in Nubia on his brother's behalf while Shabaka reigned from Memphis.<sup>41</sup> Alternatively, he suggested a revised chronology in which the four extra years that are required to accommodate the new dates for Shebitku could be absorbed in the "slack" of the 22nd Dynasty before the 24th/25th Dynasties began, while

<sup>35</sup> *Ibid.*, 51.

<sup>36</sup> *Ibid.*, 54.

<sup>37</sup> D.B. Redford, "A Note on the Chronology of Dynasty 25 and the Inscription of Sargon II at Tangi-i Var," *Orientalia* 68 (1999) 58-60.

<sup>38</sup> *Ibid.*, 59.

<sup>39</sup> *Ibid.*, 60.

<sup>40</sup> D. Kahn, "The Inscription of Sargon II at Tangi-i Var and the Chronology of Dynasty 25," *Orientalia* 70 (2001) 6.

<sup>41</sup> Kitchen, "Regnal and Genealogical Data," 50.

keeping the commencement date for the 22nd Dynasty at 945 BCE. In his revision, Kitchen accordingly dates Shoshenq V's reign from 769 to 732 (up from 767–730) and dates Osorkon IV's reign 732–716, giving him an extra year with a start two years earlier (up from 730–715). He writes, "All perfectly feasible, but the first solution eliminates the need for any adjustment at all."<sup>42</sup> However, in the synchronization of the 22nd with the 23rd Dynasty, Kitchen did not address the problem of the reign of Takeloth III of the 23rd Dynasty, giving to him only *two* sole-reign years and five co-regent years of the 13 sole-reign years he is now known to have reigned.

Kitchen's dates for the 23rd Dynasty are not able to absorb these extra 12 years or even 10 when starting with the date of 818 BCE. So, regardless of whether he absorbs the extra four years in the 22nd Dynasty to allow Shebitku's reign to start in 706, he still has a problem with the years of the 23rd Dynasty. If given the *extra* 11(?) years required for Takeloth III, the synchronism between Pedubast I's first year and Shoshenq III's eighth year will be pushed up 11 years, consequently putting the dates of the 22nd Dynasty beyond the imposed limit of 945 BCE.

Kahn's 2001 article ruled out a co-regency between Shabako (Shabaka) and Shebitku (Shabatka), and the postulated division of Egypt and Nubia under Shabaka and Shebitku, respectively. Then, based on the Tangi-i Var inscription, Kahn dates Shebitku's accession to no later than 707/706 BCE. He dates Shabaka's accession to 721 giving him 15 years.<sup>43</sup> Thus Shabaka's second year, when he re-conquered Egypt, is 720 BCE, which Kahn proposes as the sixth and last year of Bocchoris of the 24th Dynasty, bringing that dynasty to an end.<sup>44</sup>

Kahn also proposes that Piye ascended the throne of Nubia in 753 and died in 722/721 BCE, giving him a reign of 33 years.<sup>45</sup> In 2006, Kahn wrote another article in which he reviewed evidence, or lack of it, for co-regencies in the 25th Dynasty.<sup>46</sup> He concluded that some scholars "like Kitchen, Hoffmeier and von Beckerath accepted a co-regency in order not to change their former [chronology] ... Thus, according to the cited facts at hand, there is *no objective evidence* for a co-regency between Shabaka and Shebitku."

### **Kitchen Protests**

In 2009, Kitchen again argued that Shebitku was not king in 706 BCE. For example, he writes:

Because Sargon II seeks the repatriation of Yamani of Ashdod from Shebitku ("Shapataka" in a text, not an event!) dated in 706 BC, it has been glibly and very superficially assumed that Shebitku was reigning as pharaoh in Egypt in 706. This is 4 years before 702, so Shabaka in turn has to be set 4 years earlier also (say, 720/719–706 BC) and likewise Piye and all else in turn ... Unfortunately, this view is superficial, misleading and contradicted by the overall evidence.<sup>47</sup>

He goes on to list his main arguments, which are briefly excerpted here.

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<sup>42</sup> Ibid., 51.

<sup>43</sup> Kahn, "Tangi-i Var and the Chronology of Dynasty 25: Redford, "Note on the Chronology of Dynasty 25," 8.

<sup>44</sup> Ibid., 10-11.

<sup>45</sup> Ibid., 13, 18.

<sup>46</sup> D. Kahn, "Was there a Co-regency in the 25th Dynasty?" *The Ancient Sudan. Releases of the Sudan Archaeological Society of Berlin e V (MittSAG)* 17 (2006) 9-17.

<sup>47</sup> K.A. Kitchen, "The Third Intermediate Period in Egypt: An Overview of Fact and Fiction," *The Libyan Period in Egypt: Historical and Cultural Studies into the 21st-24th Dynasties: Proceedings of a Conference at Leiden University, 25-27 October 2007* (eds. G.P.F. Broekman, R.J. Demarée, and O.E. Kaper; Leiden: NINO, 2009) 162.

(i) In 716 BC, Sargon found the Delta dynasts *still* in control in Egypt ... In 716, Shabaka had not yet swept through Egypt, ridding it of the claims of Bakenranef in Memphis and of the other four petty rulers in Delta and Nile Valley alike.<sup>48</sup>

(ii) Shebitku is **not** termed king of Egypt in the text of Tang-i-Var—but ruler of “Meluhha”, *i.e.* Nubia/Kush, NOT Egypt (which would have been Musri); this is precisely analogous with the biblical terminology for Taharqa as ‘king of Kush’ (again, NOT Egypt, (Misraim in Hebrew) in 701).<sup>49</sup>

(iii) The year 706 was almost certainly NOT the date on which Sargon demanded the extradition of Yamani from the Nile valley. It is only the date of the Tang-i-Var *inscription*, a fact widely overlooked. It has been forgotten by some that the entire textual evidence for the reign of Sargon II of Assyria very clearly places Yamani’s flight by ship in 712 (Tadmor) or 711 (Fuchs); the date at which the Assyrians actually requested him back from the Nile Valley is another matter. To delay that request to 707, by an interval of 4 or 5 years ... is surely, wildly excessive ... the demand from Sargon II to the regime on the Nile would have been smartly passed up to his Nubian deputy Shebitku by Shabaka ... in 711/710 at latest, most likely.<sup>50</sup>

Kitchen concludes:

Thus, we can forget any idea (i) that Sargon’s demand from Shebitku [via Shabaka] ever happened as late as 706 BC, or that (ii) 4 years can be arbitrarily added to Shebitku’s reign in Egypt, simply on a failure to deal properly with the overall Assyrian sources for the wars of Sargon II (from Tang-i-Var or any other source) ... It has no direct bearing on Egyptian royal chronology during the 25th Dynasty.<sup>51</sup>

### Kitchen’s Chronology Awry

Kitchen’s misunderstanding of when the 22nd and 23rd Dynasties ended is obvious from his vehement denial that Shebitku was king of Egypt in 706 BCE. Because his chronology is too short to have the dynasties terminating in 730–728 when he dates Piye’s invasion, he is led to believe that it took place in 716/715 when Osorkon IV, as last king of the 22nd Dynasty, paid tribute to Sargon II by giving him 12 great horses. Thus Kitchen ends the 22nd, 23rd, and 24th Dynasties all in 715! Kitchen’s last date for Piye is in 716, because Bakenranef died in Shabaka’s second year, thus in 715. This is *four years later* than his actual second year in 719, not at the supposed end of the dynasty in 715. Since Shabaka has at least 15 regnal years known, Kitchen places Shebitku’s accession 14 years later in 702 BCE.

Kitchen’s incorrect chronology makes him adamant that Shebitku could not have been king of Egypt in 706 BCE, and gives the reasons above for making his reign begin four years later. Kitchen does not realize that in 730 the kings and minor rulers of Egypt had all submitted to Piye. Osorkon IV, Iuput II, and Tefnakht resumed rule over their realms in the Delta. Thus when Sargon II threatened the Delta in 716 BCE, it was Osorkon IV who was still nominally in control of Bubastis, and Osorkon IV who paid tribute to Sargon. In 2009, Kitchen makes no mention of the Amun feast date in Shebitku’s third year, although Krauss had mentioned in 1985 that a *Tepi Shemu* feast fell on the first to fifth lunar month day.<sup>52</sup> By using Casperon’s Table 39.7, we can check Kitchen’s dates to see if, in 700 BCE (–699)—or one year either side—there was a new moon on or soon after I *šmw* 5.

<sup>48</sup> Ibid.

<sup>49</sup> Ibid., 163.

<sup>50</sup> Ibid. Kitchen’s emphasis.

<sup>51</sup> Ibid., 163–64.

<sup>52</sup> Krauss, *Sothis- und Monddaten*, 166. He corrected Kitchen’s (mis)understanding that it fell in the first five days of I *šmw* (166 n. 2).



**Table 39.7: Amun Feast in Shebitku's third year: Kitchen's proposal (new moon listing from -700 to -698)**

Thebes; Lat. 25.7, Long. 32.6; visibility coefficients: $c_1 = 11.5$ , $c_2 = 0.008$																
Julian			Gregorian			Egyptian			DoW	ToD	Morning visibility					
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D			-2	-1	0			
-700	10	15	-700	10	8	2082	9	4	6	12:45	6:10	223	6:11	126	6:12	28
-699	11	3	-699	10	27	2083	9	23	5	8:17	6:24	216	6:25	114	6:26	13
-698	10	23	-698	10	16	2084	9	12	2	15:25	6:16	278	6:17	162	6:17	46

DoW = day of week; ToD = time of day.

In -699 (700 BCE) the new moon fell on I *šmw* 23; therefore, not near the date of the feast on day five. In the previous year, -700, the new moon fell on I *šmw* 4, coming a day *before* the feast indicated on day five. For Amun feasts, the day of the new moon comes within five days *after* the beginning of the feast date, not before it. In the year -698 the new moon fell on I *šmw* 12, and is not within the five days from the beginning of the feast, since the latest date the feast could have started on is the fifth.

Neither the date of 700 BCE, which Kitchen proposes as the third year of Shebitku, nor the year either side of this date, are applicable to the Amun feast date of I *šmw* 5. The lunar data do not support Kitchen's assertion that Shabaka ruled from 702 BCE. Instead, the lunar date shown earlier in Table 39.6 demonstrates that the year 704 is the third year of Shebitku. The year 706 is his first year as Frame and other scholars have asserted.

### End of Shebitku's Reign and Taharqa's Succession

The full length of Shebitku's reign is not attested from any known inscriptions. However, Taharqa succeeded him in 690 BCE, so Shebitku must have reigned from 706 to 690, some 15–16 years. Manetho, via Africanus, gives him 14 years, and Eusebius/Armenian and *The Book of Sothis* 12 years, perhaps indicating damage or transmission error.

Shebitku's accession in 706 and Piye's death in 720 indicate that Shabaka reigned from 720 to 706 BCE, or 14+ years, which corroborates the year 15 on the British Museum cube statue (BM 24429) earlier cited.

### Taharqa

Taharqa was the son of Piye and younger brother of Shebitku whom he succeeded. In 701, in the 24th year of Hezekiah of Judah,<sup>53</sup> when Taharqa was 20 years old and not yet king, he led the army of his brother Shebitku into Palestine.<sup>54</sup> The Assyrians were ravaging the land, including Lachish and Libnah and intent on razing Jerusalem. By the biblical account, when the Assyrians, led by Shalmaneser V, heard that the Egyptian army led by Taharqa was on its way to fight them in aid of the king of Judah, they told Hezekiah not to rely on the might of Egypt. But Hezekiah prayed to God and that night the Assyrian army was struck down with a great slaughter. Shalmaneser departed to Assyria, and Jerusalem was saved (2 Kgs 18:13–19:36; 2 Chr 32:1–22). Only nine years later did Taharqa become king of Egypt in 690 BCE.

According to Assyrian records, Sennacherib reigned 25 years. He died in 680/679 and was succeeded by Esarhaddon who reigned 12 years down to 668 BCE. Esarhaddon

<sup>53</sup> 2 Kgs 18:13 and Isa 36:1 give the 14th year of Hezekiah, but should be emended to the 24th, since Hezekiah's first year began in the third year of Hoshea of Israel (2 Kgs 18:1) and this was in 724 BCE. See Tetley, *Divided Kingdom*, 152–55, 161–63, 183, 186.

<sup>54</sup> Tetley, *Divided Kingdom*, 155 and n. 13.

led campaigns against Taharqa in 677, 673, and 671, when he captured and sacked Memphis, and Taharqa fled south to Nubia.

In 672 BCE, Esarhaddon appointed Necho I as king of the 26th Saïte Dynasty, succeeding an unknown Nekau who reigned eight years according to Manetho. Esarhaddon died en route to Egypt and his son Ashurbanipal succeeded him. Ashurbanipal defeated Taharqa who fled to Nubia and later died there in 664 BCE after a reign of 26 years.

### Tarharqa's Reign

The 26-year reign of Taharqa can be confirmed by the record of an Apis bull born in Taharqa's 26th year in 664 BCE. It was installed in Memphis on IV *prt* 9. Previously, an Apis bull died at the end of the fifth year of Bocchoris in 719 and was followed by another that lived until the 14th year of Shabaka in 707—a mere 12 years. Its successor lived to the fourth year of Taharqa in 687/686 or about 20 years.<sup>55</sup>

As discerned by Krauss, installations of Apis bulls occurred on a full moon  $\pm$  three days so we can check this with a table supplied by Casperson (Table 39.8) for the year -663 (664 BCE).

**Table 39.8: Taharqa's 26th year in -663 (full moon listing for -663)**

Memphis; Lat. 29.9, Long. 31.2												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-663	8	14	-663	8	7	2119	7	11	4	1:40	5:19	18:19
<b>-663</b>	<b>9</b>	<b>12</b>	-663	9	5	2119	<b>8</b>	<b>10</b>	5	17:60	5:43	18:43
-663	10	12	-663	10	5	2119	9	10	7	9:21	6:11	17:11

DoW = day of week.

According to Table 39.8, the full moon fell on IV *prt* 10, the day after the given date, which is within the three-day margin adduced by Krauss for the installation of an Apis bull. It eventually died on IV *šmw* 20 in year 20 of Psammetichus I, having a lifespan of 21 years.<sup>56</sup>

Another example of an Apis bull enthronement on a full moon  $\pm$  three days in the same century was that which occurred on III *3ht* 12 in the 54th year of Psammetichus I of the 26th Saïte Dynasty. The latter was Taharqa's successor in Lower Egypt, while his son Tantamani or Tanutamun ruled in the south, and was last king of the 25th Nubian Dynasty.<sup>57</sup> The installation of the Apis bull dates to the year 611 BCE (-610). See Casperson's Table 39.9, below.

**Table 39.9: Psammetichus I's 54th year in -610 (full moon listing from -610)**

Memphis; Lat. 29.9, Long. 31.2												
Julian			Gregorian			Egyptian			DoW	Time of Day		
Yr	Mo	D	Yr	Mo	D	Yr	Mo	D		Full moon	Sunrise	Sunset
-610	3	3	-610	2	24	2172	2	10	4	17:22	6:22	17:22
<b>-610</b>	<b>4</b>	<b>2</b>	-610	3	26	2172	<b>3</b>	<b>10</b>	6	4:44	5:55	18:55
-610	5	1	-610	4	24	2172	4	9	7	17:17	5:30	18:30

DoW = day of week.

The full moon fell on III *3ht* 10, two days before the given date of III *3ht* 12 for the installation of an Apis bull, within Krauss' estimation of  $\pm$  3 days of a full moon.

<sup>55</sup> Kitchen, *TIP*, 156 §126 (iii), 489 table 20; idem, "Strengths and Weaknesses," 294.

<sup>56</sup> R. Krauss, "Die Mahler-Borchardtsche These über die Apis-Inthronisationen bei Vollmond," *Acta Prehistorica et Archaeologica*, 39 (2007) 343.

<sup>57</sup> *Ibid.*, 172-73 §§138-39.

### Summary of Reigns

Psammetichus I's 54th year in 611 confirms that 54 years earlier his accession and the death of his predecessor, Taharqa, took place in 664 BCE. Twenty-six years earlier again Taharqa's accession occurred in 690, which gives the terminal date for Shebitku. Since Shebitku began to reign in 706 (third year dated by a new moon in 704 BCE), his death in 690 provides him with a reign of 16 years. Taharqa's 20 years, given in Manetho's versions (except Africanus), may be seen as a corruption from 26 years to 20 in the Greek, where the "6" has been omitted. Eighteen from 26 in Africanus is difficult to explain in the Greek, but could be accounted for in faulty transmission from an original Egyptian text. An original 26 years written as in the hieroglyphic script could be seen as 18 years if the second ten-sign (reading right to left) had the top damaged and its two vertical strokes understood as two separate strokes, thus read as 18. Compare the 26 on the left with 18 on the right in Figure 39.1:



**Figure 39.1:** Hieroglyphic script for the numbers 26 and 18.

Or there may be some other explanation. The foregoing discussion results in the following regnal years and dates for the 25th Dynasty kings from Piye to Taharqa.

**Table 39.10: 25th Dynasty (from Piye to Taharqa)**

King	No. of years	Dates BCE
Piye	30	750–720
Shabaka	14	720–706
Shebitku	16	706–690
Taharqa	26	690–664

The chronology proposed for the 25th Dynasty from 750 to 713 BCE is correlated with the 22nd, 23rd, and 24th Dynasties in Table 39.11 on the following page.

**Table 39.11: Correlation of 25th Dynasty with 22nd, 23rd and 24th Dynasties, 750–706 BCE**

Date BCE	25th Dynasty	22nd Dynasty	23rd Dynasty	24th Dynasty
750	1st Piye	= 21st Shoshenq V	= 7th Shoshenq VIa	= Tefnakht (8 years prior to 743)
749				
748				
747				
746				
745				
744				
743		38th Shoshenq V /1st Osorkon IV		= 8th Tefnakht
742				
741				
740				
739				
738	12th [Piye] (Wadi Gasus graffito)		=19th [Shq. VIa] (Wadi Gasus graffito)	
737				
736				
735				
734				
733				
732			25th Shoshenq VIa	
731			1st Iuput II	
730	20th Piye—invasion of Egypt	= 13th Osorkon IV—submits to Piye; <b>end of Dynasty 22</b>	= 2nd Iuput II—submits to Piye; <b>end Dynasty 23</b>	= 21st Tefnakht submits to Piye
729				Tefnakhte re-emerges
728				
727				
726				
725				
724		Hoshea of Israel appeals to “So” for help against Shalmaneser V of Assyria (2 Kgs 18:4)		6th of Tefnakht since invasion/1st Bocchoris (Bakenranef)
723				
722				
721				
720	Piye’s 30th/Shabaka’s 1st			5th Bocchoris—Apis bull dies
719	2nd Shabaka, reconquest of Egypt; kills Bocchoris			6th Bocchoris—killed by Shabaka; end 24th Dynasty
718				
717				
716		“27th” Osorkon IV—gives horses as tribute to Sargon II; last citation		
715				
714				
713				
712	9th Shabaka		“21st” Iuput II; last citation	
711				
710				
709				
708				
707				
706	15th Shabaka/1st Shebitku. Iamani of Ashdod sent back to Sargon II by Shebitku			

The above correlation, based on the preceding discussion, gives a different picture of the time period from 750 to 706 BCE than the one currently understood by most scholars.<sup>58</sup>

Piye's invasion of Egypt brought the 22nd and 23rd Dynasties to an end, being 267 years from the inception of the 22nd Dynasty on the accession of Shoshenq I in (December) 998/997 BCE. This agrees with *Manetho's* damaged subtotals for the 22nd Dynasty of [1]25 years and [1]42 years for each division.

### Conclusion

This work aimed to demonstrate that the year 977 BCE was the fifth regnal year of Rehoboam of Judah synchronized with the 20th year of Shoshenq I of the 22nd Egyptian Dynasty, and not the oft-quoted date of 925 BCE. Showing that the Egyptian and Hebrew chronologies come together in the year 978/977 BCE has been the research incentive for this compilation, which eventually turned out to be much broader than initially contemplated.

A comprehensive examination of Egyptian calendars, and Sothic and lunar data, provided information for the early stages of discussion. The early dynasties (1st–6th) were composed largely from data of the Turin Canon, the Royal Annals, other king-lists and lunar dates from the Abusir archives, especially the *w3gy* date in the reign of Neferefre (5th Dynasty).

The early records of Manetho proposed a different dynastic affiliation from that of the other sources. However, the later dynastic chronology (11th–12th Dynasties, and 20th–25th Dynasties) utilized Manetho's records combined with many inscriptional texts from stelae, papyri, and other sources, especially those providing Sothic or lunar dates. The Sothic date from the seventh year of Sesostris III, together with new moon dates from his reign and those of his son, Amenemhet III, provide dates for the 12th Dynasty. The Ebers calendar, prescribing a Sothic date in the ninth year of Amenhotep I of the 18th Dynasty, is possibly the most valuable record in reconstructing the entire Egyptian chronology, yet it has been “disallowed” by some scholars.

Manetho's lists of *his* 18th Dynasty with its Delta provenance (different from that of the monuments) are significant. They provide a correlation with the biblical period including Ramesses II, his son Amenophis, and the Israelite enslavement and exodus from Egypt under Moses. The chronology of 22nd–25th Dynasties supplies the years from Shoshenq I in 998/997 BCE to the end of the reign of Taharqa in 664, which is the secure starting point for ancient Egyptian history. Every year is accounted for in this time period. It cannot be truncated to begin ca. 945 BCE.

The 2,725 years from Menes (the first king of the 1st Dynasty who began to rule in 3389 BCE), through to Taharqa (the last king of the 25th Dynasty, whose rule ended in 664 BCE) have been accounted for, even though the individual regnal years of the kings of the First and Second Intermediate Periods are mostly unknown.

The length of the 22nd Dynasty, of 267 years (997–730 BCE) is matched year for year with the dual chronologies of the kings of Israel and Judah as described in my *The Reconstructed Chronology of the Divided Kingdom*, which is based on the earliest extant Greek and Hebrew texts of the biblical Books of 1 and 2 Kings. With three lines of textual evidence in mutual agreement (the synchronized Judah/Israel pair in the divided kingdom, and now the Egyptian line independently verified from multiple sources), the conclusion can no longer be avoided that the Assyrian Eponym Canon, on which other

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<sup>58</sup> L. Depuydt's attempt at a minimal chronology for the 25th Dynasty in “The Date of Piye's Egyptian Campaign and the Chronology of the Twenty-fifth Dynasty,” *JEA* 79 (1993) 269-74, even lower than Kitchen's proposal, is soundly criticized by Kitchen in *TIP* pp. xxxix-xli.

scholars have based their dates for the kings of Israel and Judah, and consequently Egypt, is deficient in the number of years prior to the solar eclipse in 763 BCE.

*The Reconstructed Chronology of the Divided Kingdom* has already suggested where the years have been lost, composed of two periods of similar length; 22 years from the reign of Shamshi-Adad V, and 21 years from the reign of Ashur-nirari III, interspersed with years from the reign of Ashur-nirari III. When these 43 years are reinstated into the eponyms of the years for these kings, the Assyrian Eponym Canon reconciles with the years that are provided by the chronologies of Judah and Israel; and now also, of Egypt. The Egyptian chronology as demonstrated above, vindicates the assumed reliability of the Hebrew chronology of the kings of Israel and Judah as it was written in its original record and transferred to the Books of 1 and 2 Kings. Present dates given by scholars for the kings of Israel and Judah, Egypt, Assyria, and the entire ancient Near East need to be revised (and updated) to revert to their true position in history.













