

**Ein Kundiger, der  
in die Gottesworte  
eingedrungen ist**



Festschrift für den Ägyptologen  
Karl Jansen-Winkeln  
zum 65. Geburtstag

Herausgegeben von Shih-Wei Hsu,  
Vincent Pierre-Michel Laisney  
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# ÄGYPTEN UND ALTES TESTAMENT

Studien zu Geschichte, Kultur und Religion Ägyptens und des Alten Testaments

Band 99

Gegründet von Manfred Görg

Herausgegeben von Stefan Jakob Wimmer und Wolfgang Zwickel

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Ägypten und Altes Testament, Band 99

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## Inhaltsverzeichnis

|  |       |
|--|-------|
| Vorwort  | IX    |
| Tabula Gratulatoria  | XI    |
| Karl Jansen-Winkeln – Verzeichnis seiner Schriften   | XIII  |
| Abstracts  | XXIII |
| <br>   |       |
| <i>Gerard P. F. Broekman</i><br>The Reign of the Kushite King Piye: Reconsidering Kushite Relations with Egypt, Assyria,<br>and the Palestinian Rulers   | 1     |
| <br>   |       |
| <i>Federico Contardi</i><br>Une statue naophore au Museo Nazionale Romano (inv. 77284)<br>(mit Farbtafel XVI)  | 11    |
| <br>   |       |
| <i>Hans-W. Fischer-Elfert</i><br>Zum sozialen und literarischen Hintergrund von Pap. Leiden I 371  | 31    |
| <br>   |       |
| <i>Roberto Gozzoli</i><br>Egyptian Hieroglyphs as God’s Language in the Kingdom of Kush: Tradition and Innovation  | 39    |
| <br>   |       |
| <i>Silke Grallert</i><br>Das Grab des Horiraa in Saqqara (LS 23) und die preußische Ägyptenexpedition<br>(mit Farbtafeln I–XI)                           | 61    |
| <br>   |       |
| <i>Shih-Wei Hsu</i><br>The Wretched one becomes the Strong Bull: The Development of Literary Images of Nubians<br>in Ancient Egyptian Royal Inscriptions | 83    |
| <br>   |       |
| <i>Claus Jurman</i><br>Ein bisher unbekannter König der Dritten Zwischenzeit?  | 91    |
| <br>   |       |
| <i>Jochem Kahl</i><br>Un chien asiutano – Ein assiutischer Hund  | 101   |
| <br>   |       |
| <i>Dan’el Kahn</i><br>Shabaka and Sennacherib  | 111   |
| <br>   |       |
| <i>Carola Koch</i><br>Datieren und Identifizieren: Vom Nutzen der Titeltunde   | 121   |

|  |       |
|--|-------|
| <i>Eva Lange-Athinodorou</i><br>Kult- und Aufzeichnungstraditionen im Nildelta der Libyerzeit: Ein Götteronomastikon des Alten Reiches aus dem Bastet-Tempel in Bubastis                   | 141   |
| <i>Alexandra von Lieven</i><br>Kann denn Mißerfolg Sünde sein? Lexikographische Überlegungen zur Bedeutung von <i>whi</i> durch die ägyptische Sprachgeschichte                            | 165   |
| <i>Jan Moje</i><br>Neues zur verschollenen Schenkungsstele des Westdelta-Lokalregenten Ni-ma-teped „B“   | 175   |
| <i>Ludwig D. Morenz</i><br>Mytho-Geschichte im Mnemotop: Erinnerung von Fern- und Nahvergangenheit in einer abydenischen Götterliste des frühen 2. Jahrtausends v.Chr.                     | 187   |
| <i>Jürgen Osing</i><br>Zum späten Osiris-Kult in Theben  | 199   |
| <i>Frédéric Payraudeau</i><br>Note d’onomastique libyco-égyptienne   | 205   |
| <i>Olivier Perdu</i><br>Sur les traces d’un Thébain de la fin de la XXV <sup>e</sup> dynastie responsable de la chancellerie royale  | 209   |
| <i>Joachim Friedrich Quack</i><br>Eine spätzeitliche Handschrift der Lehre des Cheti (Papyrus Berlin P 14423)  | 233   |
| <i>Tonio Sebastian Richter</i><br>Die kopto-arabische Chemikalienliste <i>Catalogue Général</i> 8028<br>( <i>National Museum of Egyptian Civilization</i> 3761)                            | 253   |
| <i>Kim Ridealgh</i><br>“Look after him in the Night”: Exploring the Linguistic Manifestation of the Father/Son Relationship Dynamic  | 263   |
| <i>Anthony Spalinger</i><br>Notes on Months Names  | 273   |
| <i>Pascal Vernus</i><br>Sur l’euphémisme en général et sur l’euphémisme par antiphrase (a contrario) en particulier. Son incidence sur l’interprétation des textes : la mort de Ramsès III | 283   |
| <i>Günter Vittmann</i><br>Eine „protodemetische“ Abrechnung aus der Dritten Zwischenzeit (Papyrus Köln 5632)   | 317   |
| <i>Anke Weber</i><br>Der Eingang zum Reich des Sokar: Überlegungen zur antiken Interpretation der Bereiche D bis E in KV 11 (mit Farbtafeln XII–XV)  | 345   |
| Farbtafeln   | I–XVI |

## Notes on Months Names

Anthony Spalinger

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The following study is presented to Karl Jansen-Winkeln in honor of his lengthy and successful research as an Egyptologist. My time frame spans many eras, finishing in the late Ptolemaic Period if not after. The historical survey, however, remains firm and fixed because I wish to discuss the alteration in the names of the Egyptian civil months over time. I shall not deal with the exact solar and lunar orientations of the Egyptian and year because my purpose is to describe the various ancient Egyptian designations for their twelve temporal units at a time while the civil calendar was in use. Secondary material is contained in the footnotes, but owing to the limits of this presentation I have avoided intricate argumentation concerning exact dating and the origins of the civil calendar. In essence, following Carsten Peust (1999, 311 [Appendix 6]), the set of Egyptian month names can be reconstructed for the late New Kingdom onwards.

They are as follows:

| SEASON I  | SEASON II   | SEASON III  |
|---|---|---|
| Thoth < <i>Thj</i> (“Inebriation”)  | Tybi < <i>T(β)-ḳbt</i> (“The Offering”) < <i>Šf-bdt</i> (“The Swelling of the Emmer”)       | Pachons < <i>P(β)-Ḥnsw</i> (“The One of Khonsu”) < <i>Ḥnsw</i> (“Khonsu”)                             |
| Paophi < <i>P(β)-n-jpt</i> (“The One of Opet”) < <i>Mnhṯ</i> (“Clothing”) | Mechir <sup>1</sup> < <i>P(β)-mḥr</i> (a basket) < <i>Rkḥ wr</i> (“Great Heat”)             | Payni <sup>2</sup> < <i>P(β)-jnt</i> (“The Valley”; for the Valley Feast) < <i>Ḥntj-ḥtj</i> (a deity) |
| Athyr < <i>Ḥt-Ḥr</i> (“Hathor”)   | Phamenoth < <i>P(β)-n-Jmn-ḥtp</i> (“The one of Amunhotep”) < <i>Rkḥ nḏs</i> (“Lesser Heat”) | Epiphi < <i>Jpjp</i> < <i>Jpt-ḥmt</i> (deity) < an alabaster object <sup>3</sup>                      |
| Choiak < <i>K3-ḥr-k3</i> (Choiak Festival)                                | Pharmouthi < <i>P(β)-n-Rnnwtt</i> (“The One of Renenutet”) < <i>Rnnwtt</i> (“Renenutet”)    | Mesore < <i>Mswt-R<sup>c</sup></i> (“Birth of Re”) < <i>Wp rnpt</i> (“The Year is Opened”)            |

Note that I am not interested here in the reason why the twelfth civil month, the end of the year (excluding the epagomenals) does not refer to the first month of the next cycle (Spalinger 2011, 723–735). That complex issue is not germane to my discussion.<sup>4</sup>

<sup>1</sup> Černý 1958, 206–208 = “a basket” for the offerings. To be fair, Černý regarded the name of this object (as well as *Jpjp*) as having been derived from the corresponding name of the festival.

<sup>2</sup> Černý 1951, 441–442.

<sup>3</sup> For this deity, *Jp-ḥmt=s*, see CGC 38865 and *KRI* VI, 702.13 (oracle in the Renaissance Era, regnal year seven). But Černý 1958, 207–208, is more useful in this context. See the connection to the deity Toëris.

<sup>4</sup> In similar fashion, I have argued, with a degree of speculation, that *Wp rnpt* cannot be translated automatically as “The Opener of the Year,” but rather with a Passive *smḏ(w)=f* as “The Year is Opened.” My conclusion is connected to an assumed annual event during which the ruler was given the exact beginning of the year in a ceremony of a performative nature. See the first three chapters in Spalinger 2018.

The Karnak water clock is the first major *calculation device* that names the twelve months of the Egyptian civil calendar in use during the Empire.<sup>5</sup> It is a votive object dated to the reign of Amunhotep III. Found at Karnak in the Cachette and now preserved in the Cairo Museum, this scientific instrument has been discussed many times. For our purposes, and independent of its civil organization and its calibrations, we have the following twelve designations represented by deities and names:

|              |                |                              |
|--------------|----------------|------------------------------|
| <i>Thj</i>   | <i>Mnw</i>     | [ <i>Hnsw</i> ]              |
| <i>Pth</i>   | <i>Rkh wr</i>  | [ <i>Hntj-htj</i> ]          |
| <i>Ht-Hr</i> | <i>Rkh nḏs</i> | <i>Jpt</i>                   |
| <i>Shmt</i>  | <i>Rnnwtt</i>  | <i>R<sup>c</sup>-Hr-ḏhtj</i> |

All of the accompanying iconographic representations are of gods. The names for civil months six and seven are represented by hippopotami. The remaining deities are presented in a straightforward fashion. Every month has a deity and a corresponding name. The numerical system (e.g., is I *ḏht*, II *ḏht*) is avoided. The famous Ramesseum astronomical ceiling does likewise (Parker 1950, 43–45). Therefore, it is reasonable to conclude that the latter design was transformed from an earlier water clock, probably of the XVIIIth Dynasty.

This supposition is based upon the standard civil calendar month names that came into usage during the latter half of the New Kingdom. Specifically, we may signal the following cases not represented on the Karnak water clock.<sup>6</sup>

|   |  |
|---|--|
| <i>Thj</i> is not Thoth                           | <i>Mnw</i> is not <i>Tḏ-ḏbt</i> (later Tybi)   |
| <i>Pth</i> is not <i>P-n-Jpt</i> (later Paophi)   | <i>Rkh wr</i> is not <i>P-n-mhr</i> (later Mechir)                                   |
| <i>Ht-Hr</i>                                      | <i>Rkh nḏs</i> is not <i>P-n-Jmn-htp</i> (later Pharmnuthi)                          |
| <i>Shmt</i> is not <i>Kḏ-hr-kḏ</i> (later Choiak) | <i>Rnnwtt</i> is not <i>P-n-Rnnwtt</i>   |
|   | <i>Hnsw</i> is not <i>P-n-Hnsw</i>   |
|   | <i>Hntj-htj</i> is not <i>P-n-jnt</i> (later Payni)                                  |
|   | <i>Jpt</i> is not <i>Jpjp</i>  |
|   | <i>R<sup>c</sup>-Hr-ḏhtj</i> is not <i>Mswt-R<sup>c</sup>-Hr-ḏhtj</i> (later Mesore) |

Even from a cursory glance at these equivalences it is readily evident that the later New Kingdom writings, those that more realistically reflect the language of the day – see *P-n-mhr* – are absent. More significantly, the state deities and state feasts, like Opet (month two) and the Valley celebration (month ten) are missing. Equally, the deified Amunhotep I and his festival, well-known from Dynasty XIX and XX, are not mentioned. Thoth is not the godly label for the first civil month. Instead, the older *Thj* remains in place (Spalinger 1993; 2014). The same may be said for month four, where takes precedence of the all-important Choiak Feast. We can supplement this first-level appreciation of the temporal setting for the Karnak water clock by noting that *Tḏ-ḏbt* may be found in the fragmentary Festival Wall Inscription of Thutmose III, but without an exact calendrical setting.<sup>7</sup> This designation, given an exemplary study by Jaroslav Černý (1943), is – surprisingly – replaced by “The Periplus of Mut,” *Pḏ-hnw-Mwt*, in two ostraca of the Ramesside Period. Parker, in fact, also referred to this duality. The only possible close earlier source that might reflect this religious event is the Periplus of Uto on day twenty of the fifth civil month, but the equation with Mut is very tenuous.<sup>8</sup>

<sup>5</sup> For the evidence from the tomb of Amenemhet, see now von Lieven 2016, 207–231, who has improved upon my comments in von Lieven 1996, 67–77.

<sup>6</sup> Noblecourt 1976, 138–147. On pages 12–14 of Neugebauer and Parker 1969, a discussion of the “Senenmut Family’s” main group of decans is covered. See as well Parker 1950, 40 (§ 207–208).

<sup>7</sup> *Urk.* IV 1273 (bottom center); and Gardiner 1952, 6–23, with pages 21–22 in particular.

<sup>8</sup> Champollion 1889, 264. Note the presence of three riverine festivals, all for goddesses: Uto on day 20, Bastet on day 29, and Shesmet on day 30.

To me the most curious aspect of the early month names is their apparently conservative nature. Effects of the state religion of Dynasty XVIII cannot be felt. Likewise, almost all of the titles of the months refer to deities. Even there, two of them are specifically represented by hippopotami: *Rkh wr* and *Rkh nds*. I did not mention this point in a refutation of some of Parker's 1950 analyses of this material (Spalinger 1995a). (I felt that he had gone too far in opting for a lunar orientation to the iconological framework of these figures and their accompanying inscriptions.) To be fair to the data, however, it is noteworthy that the original aspects of the names, from the lunar calendar's use through the introduction of the civil calendar, have been supplanted (Spalinger 2011). The very early agricultural and cultic organization and nomenclature (e.g., Tybi, Mechir, and Epiphi) have been often eliminated (Spalinger 1995b). The two months of heats, which together constitute a short season in mid-year, are still present even if "Clothing," *Mnht*, is not. The last name, clearly derived from a key offering in month two, has been discarded for Ptah, but not, significantly, for the Opet Festival. The designations Tybi as well as Mechir are not present. In these two cases the orientation of the water clock reveals itself in a distinct manner:

- 1a. Tybi, *T3-3bt*, does not replace *Šf-bdt*, the earlier name for civil month five. Instead, a deity, Min, is represented, Hence the agricultural-ecological character of predynastic Egypt is recorded differently even if "growth" is overly indicated.
- 1b. But Mechir is not given. The older name of *Rkh wr* remains.
- 2a. The earlier agricultural designation is now a male deity.
- 2b. The older name is represented by a hippopotamus deity.

Even *Thj* with two plumes is present, as a goddess of inebriation. In similar fashion, Sechmet is the deity who rules civil month four. Other gods are retained, such as Hathor, Renenutet, and Khonsu. Still, see Re-Harachty replaces *Wp rnpt* for civil month XII. Excluding the two hippopotami,<sup>9</sup> there are five female deities and five males. They occur in this order:

|                    |                     |                                    |
|--------------------|---------------------|------------------------------------|
| F ( <i>Thj</i> )   | M ( <i>Mnw</i> )    | M ( <i>Hnsw</i> )                  |
| M ( <i>Pth</i> )   |                     | M ( <i>Hntj-htj</i> )              |
| F ( <i>Ht-Hr</i> ) |                     | F ( <i>Jpt</i> )                   |
| F ( <i>Shmt</i> )  | F ( <i>Rnnwtt</i> ) | M ( <i>R<sup>c</sup>-Hr-3htj</i> ) |

These gods and goddesses do not equate with any system, such as those in the Greater and Lesser Ennead. Nor are they predominately lunar or solar. Khonsu, of course, is associated with the moon, and his counterpart, Re-Harachty, is connected to the sun. Hathor is the wife of Re; but her relationship to the agricultural seasons is murky, to say the least. Min is, of course, overtly life-giving, replete with fecundity. His place in the second season does make sense. Re-Harachty at the end corresponds well with the commencement of the year, as did the predecessor *Wp rnpt*.<sup>10</sup> Nonetheless, the assigner of the months on the Karnak water clock chose deities who were not always reflective of those time intervals. Perhaps the identifications appear sometimes arbitrary rather than genuine.

I have chosen this water clock because it is fixed temporally and can be used as a springboard to evaluate the changes before and after the reign of Amunhotep III. The research of Reyer van Walsem and Jaroslav Černý presented new data that supplemented Richard Parker's significant work in his *The Calendars of*

<sup>9</sup> Any investigation here is best left for Behrmann 1986, Documents 164 and 228 e2.

<sup>10</sup> Here, of course, one has to work with the change of an original *Wp rnpt* – I prefer the translation "The Year is Opened" – designating the first month (originally a lunar one), but later referring to the twelfth civil month. But note Fischer 1996, 190–191; and 1978, 13–14 and Figure 9k; yet I do not understand his phrase "opening of the (seasonal) year" for his "*wpt rnpt*."

*Ancient Egypt*.<sup>11</sup> Moreover, their studies, concentrating upon the Ramesside Period, filled in the lacunae left by Parker. Another excellent source is the Cairo papyrus JdE 86636.<sup>12</sup> The insert that I am following is independent of the vast calendar of Lucky and Unlucky Days. It has not been proven that both refer to the same time. Otto Neugebauer and Richard Parker dated this portion of the papyrus to an original ca 1400–1280 BC (Neugebauer and Parker 1960, 119). Here are the month names:

|     |                         |   |
|-----|-------------------------|---|
| I   | <i>ḥt</i> <sup>13</sup> |   |
| II  | <i>ḥt</i>               | <i>P-n-Jpt</i>                              |
| III | <i>ḥt</i>               | <i>Ḥt-Ḥr</i>                                |
| IV  | <i>ḥt</i>               | <i>K3-ḥr-&lt;ḥ&gt;b</i> for <i>K3-ḥr-k3</i> |
|     |                         |   |
| I   | <i>pṛt</i>              | <i>T3-ḥbt</i>                               |
| II  | <i>pṛt</i>              | <i>P-n-mḥr</i>                              |
| III | <i>pṛt</i>              | <i>P-n-Jmn-ḥtp</i>                          |
| IV  | <i>pṛt</i>              | <i>[P-n]-Rnnwtt</i>                         |
|     |                         |   |
| I   | <i>šmw</i>              | <i>P-n-Ḥn[sw]</i>                           |
| II  | <i>šmw</i>              | <i>P-n-Ḥ[nt]</i>                            |
| III | <i>šmw</i>              | <i>Jp[jp]</i>                               |
| IV  | <i>šmw</i>              | <i>Wp-rnp[t]</i>                            |

This is an excellent case of a water clock transposed to its inherent relative volumes. Notable is the series of new, updated designations such as *P-n-Jmn-ḥtp*. In that example, among others, the expected New Kingdom Egyptian terms are employed. The date of the composition, lying somewhere between post-Amarna Dynasty XVIII and the early reign of Ramesses II, aptly reflects the epoch. *Wp-rnpt* is specified even if the name of the first civil month is not. Yet the fourth month, garbled but certainly to be interpreted as *K3-ḥr-k3*, is different from the Amunhotep III water clock's Sechmet. The very old designations of *Rkḥ wr* and *Rkḥ nds* are also gone. Thus the insert in Cairo JdE 86636 reflects a worldview subsequent to that of the clepsydra found at Karnak.

Compare the depiction on the astronomical ceiling of the Ramesseum. There, the presentation invokes the deities, such as Ptah for the second month and Sechmet for the third, with civil month four represented by Min; on the right are Renenutet, Chenty-khety as I *šmw* 2, Ipet for the following month, and the final period honoring Re-Harachty. It is self-evident that this system is the same as that carved on the Karnak water clock. It, too, has *Thj* for the first month. We can conclude that the month designations on water clocks were somewhat different from those regularly used in daily life or in accounting lists. It is my feeling that, independently of the cultic references to religious objects as in Tybi, Mechir, and Epiphi, some of these deities are artificial; but this supposition needs further research.

<sup>11</sup> Černý 1951 and 1958; to which can be added van Walsem 1982, 215–243. With the last study it may be useful to consult Jauhainen 2009. I have read all of the unpublished material cited by van Walsem and commented upon the material in Spalinger 2018, Chapters 1–2. One can add Wikgren 2005.

<sup>12</sup> Leitz 1994, 451 and Plate 44 (C Verso XIV), and 1989, 22–34. I have described the system of this text, most evidently based on a water clock, in Spalinger 2012. The causes of the errors present (all of which can be resolved) in this papyrus were first pointed out by Neugebauer and Parker 1960, 119–120. Let me now add this short analysis which I had overlooked in my *SAK* article: Cotterell and Kamminga 1990, 59–64. See as well Tupikova and Soffel 2012.

<sup>13</sup> The name of civil month one is missing. The line includes “the day, hour(s) 16” followed immediately by “night, hour(s) 8.” This more verbose explanation is repeated in line eight for IV *pṛt*, but there the name of the month is given at the end.

Consider now the fragmentary Tanis facsimile of a water clock.<sup>14</sup> Here too the copy is taken from a real three-dimensional apparatus.<sup>15</sup> Some of the titles listed for the high officials pertain to the New Kingdom (Yoyotte 1960, 137), but other portions indicate a considerably later date (Yoyotte 1960, 137). Hence, some of the sources for this papyrus go back to the New Kingdom while others are post-imperial. For our purposes, it is the series of civil month names which are to be examined, and not the length of the shadows. Here is what can be determined with accuracy. The two fragments provide only a few designations.

|           |                  |            |           |   |
|-----------|------------------|------------|-----------|---|
| Month I   | <i>Thj</i>       | Month V    | Month IX  |   |
| Month II  | <i>[-?]Jpt</i>   | Month VI   | Month X   |   |
| Month III | <i>Ht-Hr</i> cow | Month VII  | Month XI  |   |
| Month IV  |                  | Month VIII | Month XII | <i>Wp rnpt</i><br><i>Hd R<sup>c</sup></i> |

The last name combines the older appellative with a variant of the newer one (Parker 1950, 41 [§ 212] and Fig. 18). It might be argued that the absence of the subsequent label Mesore, or *Mswt-R<sup>c</sup>*, indicates a timeframe predating its wholesale use. Of course, *Hd R<sup>c</sup>* signals the turn of the sun's longitudinal movement northward from its extreme southern position at the winter solstice. The sun is at the point of becoming greater and more significant. A new year has begun.

Now let us move backward in time from the Amunhotep III water clock. We can stop first at the representation of the twelve months in Senenmut's Tomb 353 ceiling.<sup>16</sup> Present are the following twelve civil months:

|                         |               |                        |
|-------------------------|---------------|------------------------|
| <i>Thj</i>              | <i>Šf-bdt</i> | <i>Hnsw</i>            |
| <i>Mnht</i>             | <i>Rkh</i>    | <i>Hntj-htj prt(j)</i> |
| <i>Ht-Hr</i>            | <i>Rkh</i>    | <i>Jpt-hmt</i>         |
| <i>K3-&lt;hr&gt;-K3</i> | <i>Rnwt</i>   | <i>Wp rnpt</i>         |

The arrangement consists of six commencing from the right and moving to the left on the top and then, in reverse (boustrophedon), turning to the right. These are the ones which Parker set up as representing his "lunar calendar month names," in an analysis that still serves as a useful paradigm, although none of these examples – including the previous lists – are lunar-oriented.<sup>17</sup> Here, primordial bases for the month names (notably *Mnht*, referring to a cultic offering,<sup>18</sup> and *Šf-bdt*, with its straightforward ecological orientation) were more obvious than they would become later (Spalinger 1995b). The first month, nevertheless, was always *Thj* and not Thoth (*Dhwjt*). Moreover, I suspect that the central short season of Heat, *Rkh*, was not differentiated into Greater or Lesser, if it is true that in prehistoric times there was one core summer segment that proved an awkward fit when the twelve-month arrangement was introduced later.<sup>19</sup> (But we then must delve even further back in time.)

<sup>14</sup> I have discussed this clock in conjunction with other timekeeping instruments in Spalinger 2012. A series of important secondary studies on the scientific arrangement of water clocks was covered, although the emphasis in that article was different from our present concerns.

<sup>15</sup> Griffith and Petrie 1889, Plate IX. A shadow clock is described and drawn in the same manuscript on Plate XV. See now Vodolazhskaya 2014. She has revised the study of Bickel and Gautschi 2014. But her conclusion that there was a combined use of L-shaped and round sun dials is hard to follow, as Rolf Krauss informs me. The Tanis papyrus definitely presents a shadow clock and not a sundial. To me it is significant that the Tanis papyrus commences with a water clock and ends with a shadow clock (excluding the narrative conclusion).

<sup>16</sup> This is frequently reproduced and discussed. For example, see Neugebauer and Parker 1960, 22–24, Plate 24; and Dorman 1991, 143–145 (where the title is incorrectly written as "The Lunar Calendar" – this is not so), and Plates 84–85.

<sup>17</sup> Parker 1950, 45 (Table 7). Earlier, in Spalinger 1995a, I discussed his incorrect analysis owing to his reliance upon lunar orientations.

<sup>18</sup> See now Luft 1992, 160–163. Both *Rkh*'s are covered on pages 168–169, and *Wp rnpt* on pages 152–153. For the festivals of Hathor at Lahun in the Middle Kingdom, see Horváth 2015.

<sup>19</sup> Parker 1950, 46 (§ 232); with note 100 on page 77; Nilsson 1920, 224–225; and Spalinger 1995b.

As an aside, I find it striking that Senenmut installed a calendrical ceiling in his tomb, No. 353. His preference enhances his reputation for an erudite career, social standing, literate background, and religious knowledge.<sup>20</sup> Here, he has diagrammed a complete year, with each twenty-four hours indicated by a circle, the latter representing a day as well as a month.<sup>21</sup> Where he got this information – and note that I am purposely ignoring the other half of the ceiling – is a fascinating question that nevertheless need not be explored for our purposes. For me the important observation is that the month names he chose to commemorate were not those of the imperial age of Egypt, which emphasized Theban state dogma. At the expense of the prior agricultural, ecological, and religious influences. The civil system is artificial: three seasons of 120 days divided among four months of thirty days. Regularization terminated the earlier lunar-based year, which had contained either twelve or thirteen lunar months. We cannot assume that the nomenclature and timing of lunar months had been exactly parallel to the civil replacements. Likewise, we have no evidence that the Egyptians originally recognized only three seasons.<sup>22</sup>

The Senenmut ceiling sets out the civil year with the older names for the months. Whether or not those appellations can be dated precisely to the lifetime of the man, or his pharaoh Hatshepsut is an open question. But all of those designations occurred earlier in the famous Ebers insert of Amunhotep I.<sup>23</sup> It commences, as expected, with the first civil month and runs through the remaining eleven. The opening date is III *šmw* day nine; an equation with the heliacal rising of Sothis (*prt Spdt*) is indicated.<sup>24</sup> All twelve months will be found on the Senenmut ceiling, and the two Heats are called *Rkh*. A recurring suspicion that they form a unity cannot be disregarded. Here are the months:

|                 |               |                            |
|-----------------|---------------|----------------------------|
| <i>Thj</i>      | <i>Šf-bdt</i> | <i>Hnsw</i>                |
| <i>Mnht</i>     | <i>Rkh</i>    | [ <i>Hntj-htj prt(j)</i> ] |
| <i>Ht-Hr</i>    | <i>Rkh</i>    | <i>Jpt-hmt</i>             |
| <i>K3-hr-K3</i> | <i>Rnnwtt</i> | <i>Wp rnpt</i>             |

Independently of the later research of Ulrich Luft (1992), who gathered together an excellent series of published and unpublished Middle Kingdom data, we have reached the end of our road. Whenever we can peer further back in time from Amunhotep I's ninth regnal year – the date of the Ebers calendar – any list of civil month names remains fragmentary. As noted earlier, we may find the following month feasts in the Illahun archive: *Wp rnpt*, *Mnht*, *Rkh* (which Luft feels is *Rkh wr and Rkh nds*), as well as *tp-c th* (Luft 1992, 143–189). The last is not used for the name of the first civil month. Indeed, neither do any of the others indicate a month. They are unique celebrations which were held on a single day. Still, it is fortunate that we can see, albeit darkly, into the mirror of the past wherein the Dynasty XII sources allow us to recognize all of the aforementioned festivals. Earlier in time, it is unfortunate that the two Niuserre feast calendars avoid the month names, which are instead written, in accounting procedure, I *3ht*, and so forth (Helck 1977; El-Sabban 2000, 2–8; Strudwick 2005, 86–92; Spalinger 2017).

A few final points for future investigation may now be raided. First, I find it significant of political, cultural, or intellectual stirrings that the Ebers calendar is coeval that when Amenemhet's supposed invention

<sup>20</sup> Dorman 1988, 82–83, following Jan Assmann, has already highlighted the presence of the litanies in Tomb 353. See also Dorman 1991, 99–114. The recent study of Espinel 2014, adds much to his analysis. Senenmut is discussed in this extremely helpful study; but one can always reread Drioton 1938, with profit. Senenmut's intellectual brilliance always reminds me of Neb-Wenenef's (time of Seti I-Ramesses II), for whom cryptograms were likewise a pleasure, providing that their presence at Luxor is to be attributed to his influence.

<sup>21</sup> And thus we are temporarily situated in the era when the water clock was already in use. The twenty-four hours of the day – twelve for the night and twelve for the day – were established after the earlier shadow clock had passed from routine use, at least for night events. See my remarks in Spalinger 2012. Therefore, the data presented on the Senenmut ceiling of Tomb 353 can be set rather well into the epoch of early Dynasty XVIII. Of course, the system in that diagram is civil and not lunar.

<sup>22</sup> Nilsson 1920, 71–78, is useful to read in this context. His point on page 77 is worth remembering: “The principal error lies in the systemizing, the seasons being regarded as periods of a definite number of days.”

<sup>23</sup> The historiography on the significance of this calendar can be left aside here. It is voluminous. For our purposes let me cite *Urk.* IV 44 and the excellent reproduction of Parker 1950, 38.

<sup>24</sup> My recent foray into the forest of this insert is referred to in Spalinger 2011.

of the water clock.<sup>25</sup> Can we recognize a calendrical-chronological reason for this? Second, the issue of the earlier lunar-based calendar and its month names requires additional research. Was it the case that the appellations of the twelve new civil months were copied, one by one, from the earlier lunar calendar? I regret that this conclusion must remain *sub judice*. Third, how many lunar month names can we reconstruct? Was there an intercalary month, as Parker assumed, or something else?

Finally, to add yet another conundrum, Harvest, *šmw*, the designation for the third Egyptian season, presumes agriculture; I follow Martin Nilsson (1920, 73–74) in this matter.<sup>26</sup> The core Indo-European vocabulary named three seasons, a point that need not be discussed here. Harvest came later, based on a Neolithic way of life, argued but one that parallels ancient Egypt during the historical period.<sup>27</sup> Therefore, it can be similarly argued that *šmw* had replaced a primordial term, the identity of which has been lost to us.

With regard to the other two seasons, the second, *pṛt*, most assuredly refers to the growth of vegetation and therefore plant food (Militarev 2002). Preceding it was *ḥt*, the significance of which, albeit connected to agriculture, predates domestication of plants. Yet to reconstruct seasonal designations in the remote antiquity of Egypt is a hardy undertaking. It is one that, I am sure, that will be the quest of future research.

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<sup>25</sup> See the two key scholarly discussions in note 3 above.

<sup>26</sup> He discusses the Germanic (Swedish) word for “autumn,” *höst*, which originally meant “harvest.” On page 71 he recognizes that Indo-European had only three seasons: *hiems*, *ver*, and *summer*. Anything to do with a “harvest” came in later.

<sup>27</sup> Spring = *\*wésy*, summer = *\*sem-*, and winter = *\*h<sub>3</sub>esen-*, or with another reconstruction (that of Calvert Watkins), *\*ghei-* = “winter,” *\*wes-* = “spring,” and *\*sem-<sub>2</sub>* = “summer.” See Gamkrelidze and Ivanov 1995, 597 note 8; 750–751; where note 20 cites the standard article of Goetze 1951. They also refer to Hoffner’s (1974, 13–30) position, which implies a division into four seasons. I can also add the unpublished Thesis of van Maaren 1995, 6–8.

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