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.¹ 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).² Sherif el-Sabban proposes that the texts on either side represented different aspects of a whole calendar, or “twin calendars.”³ 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.”⁴ 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.⁵

¹ 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.
³ Ibid., 7-8.
⁴ Ibid., 7.
⁵ Ibid., 2.
Festival Calendars in the Middle and New Kingdoms

The presence of festival calendars in the New Kingdom (18th–20th Dynasties) presuppases their use in the Middle Kingdom (11th and 12th Dynasties) even though no calendars from the Middle Kingdom period have been found.6 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.”7 In the New Kingdom, for example, Amenhotep I had a festival calendar recopied from the Middle Kingdom.8 Thutmose III had a calendar at Abydos9 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.10 Another was found at Buto in the Nile Delta.11 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.12 Akhenaten too has one at Karnak.13

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.14 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.15 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

<table>
<thead>
<tr>
<th>Ebers Papyrus (18th Dyn)</th>
<th>Sennut Ceiling (18th Dyn)</th>
<th>Karnak Water Clock (18th Dyn)</th>
<th>Ramesseum (19th Dyn) &amp; Medinet Habu Temple Ceilings (20th Dyn)</th>
<th>Cairo Papyrus 86637 (20th Dyn)</th>
<th>Edfu Temple Frieze (late 2nd century BCE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>wp rapt</td>
<td></td>
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<td>mnḥt</td>
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<td>p n ipt</td>
<td>mnḥt(t)</td>
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<td>hwṭ ḫr</td>
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<td>rkh</td>
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<td>rkh</td>
<td>[p n p3] ḫḥr</td>
<td>rkh wr</td>
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<td>ṣwtt</td>
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</tbody>
</table>

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6 Ibid., 9.
7 Ibid.
8 Ibid., 141; Spalinger, “Festival Calendars,” 125.
9 Ibid., 187, pls. 7-8.
10 Ibid., 187, pls. 8-12; Spalinger, “Festival Calendars,” 125.
12 El-Sabbān, Temple Festival Calendars, 142-43; Spalinger, “Festival Calendars,” 125.
13 Ibid., 144-46, 189; Spalinger, “Festival Calendars,” 125.
15 Ibid., 116, fig. 15. The four fragmentary lists are from: the Necho water clock of ca. 600 BCE; Arrhidaeus water clock nos. I and II of ca. 320 BCE; and the Tanis Geographical papyrus from the Roman era.
Chapter 6. Pondering Egyptian Calendar Depictions

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 ostracon 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 rntp and the others with th; the calendars that begin with th end with wp rntp or R-Ḥr-3ḥty.

Sen=enmut 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. Both ceilings are represented below (Figure 6.1). They are each approximately 3.60 m. long and 3 m. wide. 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.

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 th, then follow the same names and order as found in the Ebers calendar, except that wp rntp, 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 th and ended with wp rntp; 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


18 Neugebauer and Parker, Ancient Egyptian Astronomical Texts III, 10.

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.”\(^{20}\) 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.”\(^ {21}\) He points out that the four

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seasons separated from each other must be *civil*, reinforced by the fact that no intercalary lunar month is represented.  

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. 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. 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. See representations below in Figure 6.2.

![Karnak water clock](http://www.sciencemuseum.org.uk/images/I012/10326214.aspx)

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 3ḫt, which is given its month-name: *thy*. Again, instead of *wp rnp*—the first civil month of Upper Egypt—*thy* appears first, and then the usual order is followed: *thy* – IV 3ḫt, I – IV ḫrt, 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.

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

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22 Ibid., 119.
23 Ibid., 119.
26 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.
28 Parker, *Calendars*, 40, §208, fig. 17.
months of II and III *furt*, is a scene of Amunhotep III offering to $R^2\cdot Hr\cdot 3\hthty$, the sun-god, who is on his left, with Thoth, the moon-god behind him on his right.\(^{29}\)

**Deities Represent Month-Names of the Civil year: Spalinger**

Of most interest is the bottom register, which displays scenes of Amunhotep 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 Semut 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.\(^{30}\) A cynocephalus (dog-headed baboon) once came after the 12th month, but this is now lost.\(^{31}\)

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.\(^{32}\) 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.\(^{33}\)

**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.\(^{34}\) 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.”\(^{35}\)

In 1955, Alan Gardiner, responding to Parker’s identification of the cynocephalus as an intercalary month, proposed instead that the figure on Amunhotep III’s water clock and on the Ramesseum represented the five epagomenal days—and not Parker’s intercalary lunar month.\(^{36}\) 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 $\hsmw$ and $\hthy$, this place being occupied by the spout.\(^{37}\) 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.\(^{38}\) Spalinger sees the cynocephalus as a central divider between the conclusion and the re-commencement of the year.\(^{39}\)

\(^{29}\) Neugebauer and Parker, *Ancient Egyptian Astronomical Texts* III, 12.

\(^{30}\) Spalinger, “Month Representations,” 114.

\(^{31}\) Ibid., 111.

\(^{32}\) Ibid., 115, 116.


\(^{34}\) Spalinger, “Month Representations,” 116.

\(^{35}\) Ibid., 114.


\(^{38}\) Ibid., 114.

\(^{39}\) 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, \( \textit{wp rnt} \), 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 (\( R \textit{	ext{c hr 3hty}} \)) on the water clock. Spalinger says that \( \textit{wp rnt} \) representing an idea “is connected to the beginning of the year—whence the well-known feast of \( \textit{wp rnt} \) on I 3ht 1.”\(^{40}\)

According to Spalinger, the fact that Harachty was chosen as the god to represent the month of \( \textit{wp rnt} \) poses no problem because its later equivalent for the 12th month was \( \textit{mswt Rc} \), that is, Mesore (the “birthday of Re”).\(^{41}\) 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 (\( R \textit{c hr 3hty} \)).

Thus II 3ht, \( \textit{mnht} \) (Menche), is represented by the god Ptah; IV 3ht is represented by \( k3 hr k3 \) (Kaherka) the goddess \( shm(t) \) (Sekhmet); and I \( prt \) (\( sf bdt \) Shef bedet) “the swelling of the emmer” (grain) is appropriately represented by the fertility god Min (\( mn \)).\(^{42}\) Spalinger concludes that, “Each deity of a month is directly linked with a civil month.”\(^{43}\) 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 \( wp rnt \). Of these, Spalinger says the first three retained their month-names in the later Greek and Coptic designations, but \( wp rnt \) was replaced by Re.\(^{44}\)

The last comment raises several questions. Why does \( wp rnt \), 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 \( wp rnt \) replaced by Re? Was \( Rc Hr 3hty \) the name of a month or merely a god’s name representing the 12th month of \( wp rnt \) as Spalinger proposes? What is the connection between \( wp rnt \) and the month later to be known as \( mswt Rc \) or Mesore?

The dislocation that places \( thy \) as the first month in Lower Egypt and \( wp rnt \) 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.\(^{45}\)

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

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\(^{40}\) Ibid., 120.
\(^{41}\) Ibid., 119-20.
\(^{42}\) Ibid., 120-22.
\(^{43}\) Ibid., 114.
\(^{44}\) Ibid., 122.
\(^{45}\) El-Sabban, Temple Festival Calendars, 188; Spalinger, “Festival Calendars,” 125.
20th Dynasty (about 100 years later) show the same astronomical ceiling. However the latter is also damaged and the only complete preserved month-names are sḫmt, pth, thy, and ipt hmt. Two fragmented names are hwt hr and rkḥ nds. Since the latter ceiling is a copy of the former they can be discussed together.  

![Figure 6.3: The astronomical ceiling in the Ramesseum at Thebes as depicted in Gardiner, The Problem of Month-Names.](image)

The layout of the Ramesseum ceiling month designations and their month-names is shown schematically below in Table 6.2.

<table>
<thead>
<tr>
<th>II prt</th>
<th>I prt</th>
<th>IV 3ḥt</th>
<th>III 3ḥt</th>
<th>I 3ḥt</th>
<th>[blank]</th>
<th>IV šmw</th>
<th>III šmw</th>
<th>I šmw</th>
<th>I šmw</th>
<th>IV prt</th>
<th>III prt</th>
</tr>
</thead>
<tbody>
<tr>
<td>rkḥ wr</td>
<td>mn</td>
<td>sḫmt</td>
<td>hwt hr</td>
<td>pth</td>
<td>thy</td>
<td>baboon</td>
<td>ṭ-ḥr-3ḥty</td>
<td>ipt-ḥmt</td>
<td>πnt bty</td>
<td>ṭnsw</td>
<td>ṭnwiṭ</td>
</tr>
</tbody>
</table>

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.

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47 Depuydt, *Civil Calendar*, 117.


49 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.\(^\text{50}\)

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 3ḥt, II 3ḥt, etc.) shown in the upper strip.

The names are the same as appear on the Ebers calendar except that \(wp\ \text{rnpt}\) heads that list and \(R^\circ\)-\(Ḥr\)-\(3ḥty\) does not appear there as 12th month; that being occupied by \(\text{ipt-hmt}\) (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.\(^\text{51}\) (The two hippopotami of the water clock are represented instead by jackals for the months of \(rkh\ \text{wr}\) and \(rkh\ \text{nnds}\) in the Ramesseum).\(^\text{52}\) The four that are different to those of the Senmut ceiling and the Ebers calendar are \(\text{ptah}, \text{šḥmt}, \text{mn}, \text{and R}^\circ\)-\(Ḫr\)-\(3ḥty\) as noted previously in our discussion of the Karnak water clock.

Most provocative is the question whether \(R^\circ\)-\(Ḥr\)-\(3ḥty\) (Re Horakhty) was the original name for the 12th month or was the name of the god representing \(wp\ \text{rnpt}\) 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 \(R^\circ\)-\(Ḥr\)-\(3ḥty\) was the 12th month of a pre-dynastic calendar of Lower Egypt separate from that of Upper Egypt. This infers an original month-name.\(^\text{53}\) 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.\(^\text{54}\) The main text, labelled by Bakir as ‘Book II’ is known as “The Calendar of Lucky and Unlucky Days” due to its subject matter.\(^\text{55}\) Spalinger states that the papyrus comes from the workmen’s village of Deir el Medina.\(^\text{56}\) He dates the papyrus to the reign of Ramesses III\(^\text{57}\) (early 20th Dynasty), which he asserts is more accurate than previous dates.\(^\text{58}\) The text is written in an “abominable” hieratic script, attributed to the copyists being unable to decipher the original cursive hieratic.\(^\text{59}\) 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

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\(^\text{50}\) Parker, *Calendars*, 43 §224.

\(^\text{51}\) Due to damage on the water clock the names \(\text{ḥnsw}\) and \(\text{ḥnt\ hty}\) are missing, but can be filled in by analogy to the Ramesseum ceiling.

\(^\text{52}\) Spalinger, “Month Representations,” 116.

\(^\text{53}\) See chap. 3 pp. 47-8.


\(^\text{56}\) Ibid., 299.

\(^\text{57}\) Ibid., 298, 301.


\(^\text{59}\) Spalinger, “Calendars: Real and Ideal,” 299-300.
The reconstructed chronology of the Egyptian kings, M. Christine Tetley

Hieroglyphic representation is given in Figure 6.4, followed by a translation (Table 6.3).

Table 6.3: Translation of Cairo Calendar 86637, verso XIV

<table>
<thead>
<tr>
<th>Month designation</th>
<th>Hours of daylight</th>
<th>Hours of darkness</th>
<th>Month-name</th>
</tr>
</thead>
<tbody>
<tr>
<td>I 3ḥt</td>
<td>16</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>II 3ḥt</td>
<td>14</td>
<td>10</td>
<td>Phaophi</td>
</tr>
<tr>
<td>III 3ḥt</td>
<td>12</td>
<td>12</td>
<td>Hathor</td>
</tr>
<tr>
<td>IV 3ḥt</td>
<td>10</td>
<td>14</td>
<td>Choiak</td>
</tr>
<tr>
<td>I prt</td>
<td>8</td>
<td>16</td>
<td>Tybi</td>
</tr>
<tr>
<td>II prt</td>
<td>6</td>
<td>18</td>
<td>Mechir</td>
</tr>
<tr>
<td>III prt</td>
<td>8</td>
<td>16</td>
<td>Phamenoth</td>
</tr>
<tr>
<td>IV prt</td>
<td>10</td>
<td>14</td>
<td>Pharmouthi</td>
</tr>
<tr>
<td>I šmw</td>
<td>12</td>
<td>12</td>
<td>Pachons</td>
</tr>
<tr>
<td>II šmw</td>
<td>12 [sic]</td>
<td>(blank)</td>
<td>[Payni]</td>
</tr>
<tr>
<td>III šmw</td>
<td>16</td>
<td>8</td>
<td>Epiphi</td>
</tr>
<tr>
<td>IV šmw</td>
<td>(blank)</td>
<td>6</td>
<td>Wp mpt</td>
</tr>
</tbody>
</table>

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 3ḥt 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 3ḥt then decreasing by two hours down to six for II prt, then ascending to 18 hours for IV šmw. The next column gives the hours.

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60 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).

61 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. 62

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. 63 Accordingly, Depuydt assigns dhwy (Thoth) to I 3ḥt as its missing month-name. The later names correspond to those in the civil Greco–Roman calendar where II 3ḥt, previously mnḥt, is replaced by p n ipt = Phaophi, 64 which refers to the important feast of Opet at Thebes. This took place in the second month at the time of the new Kingdom. 65 I prt, previously šf bdt, is replaced by t3 ḫbt = Tybi, apparently derived from “the banquet.” 66 II ḫt, previously rkḥwr, is replaced by p n ṣmn ḫty = Phamenoth, in honor of Amenhotep I. II ṣmn, previously ḫnt ḫty, 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” 67 (emphasis his). He points out that the designations of I, II, III and IV 3ḥt … are civil. 68

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. 69

**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 rnt 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 ḫm-ḥty, the latter being represented on the Karnak water clock and on the ceilings of the Ramesseum and Medinet Habu mortuary temples. Wp rnt was not superseded by R ḫm-ḥty 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. 70

**Birthday of Re on I 3ḥt 1**

The mystery of wp rnt’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 3ḥt 1!

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63 Depuydt, *Civil Calendar*, 116, fig 15 n. 1; 128-29.
64 Ḫt means “the one of” or “the month/feast of.”
67 Spalinger, “Calendars Real and Ideal,” 298.
69 See Table 6.4 on p. 99 below.
70 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 3ḫt 1 attributed to a good day and the birth of Re-Harakhty.71 The same papyrus (verso p. 21) has for I 3ḫt 1 the “Feast of Re. Do not cross the river.” The same injunction appears in O. Turin 57304 recto, 2–3, where I 3ḫt 1 is again designated the “Feast or Re.”72 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 ...”73 Since the Nehebkau feast is known to have occurred on I prt 1, why is it dated to I 3ḫt 1? Spalinger reasons, “Nehebkau is associated with the new year, rejuvenation, and a renewal of kingship, and rather than I prt 1, I 3ḫt 1 is understood, exactly as at Esna and in the Cairo papyrus.”74 This seems plausible.

However, it requires us to reconsider the situation in which the feast of Re, presumed to be associated with R' - Hr - 3ḥty the 12th month, is instead dated to I 3ḫt 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.75 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 3ḫt 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.76 Ramesses III has a heliacal rising of Sothis attributed to him on I 3ḥt, but the day of the month and his regnal year are not supplied.77 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 3ḫt 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.78 Among the figures on the frieze, 12 represent calendar months. The month designations, according to the seasons of 3ḥt, prt, and šmw,
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).

The deities begin with the month of ḫty, 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 Rc Ḥr ḫty not wp rnpt. According to Spalinger, the civil month designations, ḫt, 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.

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. Equally, it could be a civil month of 30 days.

In the Edfu frieze the solar month of IV šmw is named Rc Ḥr ḫty alongside its eponymous god Horus (= Re), the youthful sun-god. This is the third occasion we have noted the name Rc Ḥr ḫty 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

79 Spalinger, “Month Representations,” 118.
80 Ibid., 118.
81 Parker, Calendars, 43 §227.
82 Spalinger, “Month Representations,” 118.
he understands that *wp rnpt* was the original name of month 12.\(^83\) However, he notes that later Greek and Coptic designations replaced *wp rnpt* with Re.\(^84\)

Spalinger proposed that the deities *ptḥ*, *sḫmt*, 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 *mnḫt*, *k3 ḫr k3*, and *šf 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.

**RC ḫr 3ḫty Represents its Eponymous month**

If the three names of gods noted above actually refer to the month-names of *mnḫt*, *k3 ḫr k3*, and *šf bdt*, the use of RC ḫr 3ḫty and not *wp rnpt* suggests that the god RC ḫr 3ḫty 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 RC ḫr 3ḫty.

**Are RC ḫr 3ḫty and wp rnpt Interchangeable?**

That RC-Ḥr-3ḫty 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 ṣmw).\(^85\) 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 RC ḫr 3ḫty 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, RC ḫr 3ḫty, on the earlier Karnak water clock and the Ramesseum was representative of the month-named RC ḫr 3ḫty and not that of *wp rnpt*? Was the god Re used to represent the month-named RC ḫr 3ḫty 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 RC ḫr 3ḫty 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.\(^86\) The feast of Re was also dated to I 3ḫt 1 in the 20th Dynasty,\(^87\) 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 RC ḫr 3ḫty, seeming to be at variance with the dates of both feasts on I 3ḫt 1.

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\(^83\) Ibid., 119-20, 122, and elsewhere.
\(^84\) Ibid., 122.
\(^85\) For further discussion see p. 100.
\(^87\) 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, and on a water clock from the time of Philip Arrhidaeus (323–317 BCE), (who was a mentally retarded half-brother of Alexander the Great), and on the Tanis Geographical Papyrus of Roman times.

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**

<table>
<thead>
<tr>
<th>Month designations</th>
<th>Earlier names</th>
<th>From ca. 20th Dyn.</th>
<th>Greco–Roman</th>
</tr>
</thead>
<tbody>
<tr>
<td>I ȝḥt</td>
<td>ṯḥy (Tekhty)</td>
<td>ḫwty/</td>
<td>Thoth</td>
</tr>
<tr>
<td>II ȝḥt</td>
<td>Mnḥt (Menche)</td>
<td>ṭ n ỉpt</td>
<td>Phaophi</td>
</tr>
<tr>
<td>III ȝḥt</td>
<td>ḫt-hr (Hathor)</td>
<td>ḫt hr</td>
<td>Hathor</td>
</tr>
<tr>
<td>IV ȝḥt</td>
<td>k3 hr k3 (Kaherka)</td>
<td>k3 hr k3</td>
<td>Choiaik</td>
</tr>
<tr>
<td>I prt</td>
<td>ṣḥ-bdt (Shef bedet)</td>
<td>tḥ ỉ3ḥb</td>
<td>Tybi</td>
</tr>
<tr>
<td>II prt</td>
<td>ṭḥk-wr (Great Rokeh)</td>
<td>ṭ n Mḥhr</td>
<td>Mechir</td>
</tr>
<tr>
<td>III prt</td>
<td>ṭḥk nds (Small Rokeh)</td>
<td>ṭ n ḫmmḥtp</td>
<td>Phamenoth</td>
</tr>
<tr>
<td>IV prt</td>
<td>ṭhwtt (Renuet)</td>
<td>ṭ n ṭhwtt</td>
<td>Pharmouthi</td>
</tr>
<tr>
<td>I ṣmḥw</td>
<td>ḫḥsw (Chons)</td>
<td>ṭ n ḫḥsw</td>
<td>Pachons</td>
</tr>
<tr>
<td>II ṣmḥw</td>
<td>ḫḥt-ḥḥty (Khenty-kety)</td>
<td>ṭ n ḫḥty</td>
<td>Payni</td>
</tr>
<tr>
<td>III ṣmḥw</td>
<td>ḫḥt ḫḥmt (Hpt hèmêt)</td>
<td>ḫḥ ḫḥmt</td>
<td>Īpīphi</td>
</tr>
<tr>
<td>IV ṣmḥw</td>
<td>wp ṭḥwtt (Wep renpet)</td>
<td>ṭḥ ṭḥwtt</td>
<td>ṭḥ ṭḥwtt</td>
</tr>
</tbody>
</table>

**Dyn = dynasty.**

In the Greco–Roman calendar, the first month is Thoth, apparently replacing ḫwty (Djehuty), otherwise ṯḥy in the earlier month-lists. Then follows Phaophi replacing the earlier mnḥt (otherwise ṭḥp) for II ȝḥt; then come Hathor, Choiaik, and Tybi (the latter replacing the earlier ṣḥ bdt (otherwise mn) for I prt); then Mechir and Phamenoth for earlier ṭḥk wr and ṭḥk nds, respectively, for II and III prt; then Pharmouthi replacing ṭhwtt for IV prt; then Payni for earlier ḫḥt ḫḥty for II ṣmḥw; then Mesore for earlier ṭḥ-Hṛ-ȝḥty.

Mesore, meaning “the birthday of Re” comes from Egyptian ṣmḥw ṭḥ, 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.” ṭḥ Mesore, as a late derivative of ṭḥ-Hṛ-ȝḥty, is not unexpected in the 12th month position since it has the Re component. Depuydt notes six instances in which ṣmḥw ṭḥ or its variants are designations for I ȝḥt 1. He writes, “The only one dating to before the Ptolemaic period, concerns the longer variant ṣmḥw ṭḥ ṭḥ ṭḥty found in a New Kingdom ‘necropolis

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88 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.
89 Depuydt, *Civil Calendar*, 116-17, recorded in his fig. 15.
90 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 ṯḥ, ḫḥ, and ḫḥt ḫḥty following each other horizontally (p. 117). These refer to the months of Thoth, Phaophi, and Hathor (I, II and III ȝḥt).
91 Depuydt, *Civil Calendar*, 95.
journal’ transmitted in a Turin papyrus.” This is a reference to I 3ḥt 1, birthday of Re-Harakhty in the 13th year of the reign of Ramesses IX.

“Re Corresponds to Ancestral Feast of Wp Rnpt”

We also note that the feast of wp rnpṭ is found in an inscription from the festival calendar of Esna dating to about the first century CE. Referring to I 3ḥt 9 it notes, “Feast of Amun; feast of Re, corresponding to what the ancestors called the Feast of Wp Rnpt.” In this statement the feast of Re has replaced the feast of wp rnpṭ of an earlier time.

The dating of the feast of wp rnpṭ to a day in I 3ḥt in the time of the ancestors, points back to when wp rnpṭ “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 3ḥt 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 Ṣ-Hr-3ḥty on day nine, referring to IV šmw 9, one month earlier than in the previous citation.

Ostracon 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 ostracon 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 Tadjepehu to a woman Henutshe in certain months. See Table 6.5, which is derived from the ostracon.

Table 6.5: Ostracon British Museum 29560 (formerly 5639a)

<table>
<thead>
<tr>
<th>Line</th>
<th>Month/feast name</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>p3 šmt n Ḥr</td>
<td>“going forth of Horus”</td>
</tr>
<tr>
<td>8</td>
<td>Ḥwyty</td>
<td>Djehuty = Thoth</td>
</tr>
<tr>
<td>12</td>
<td>Pt ipt</td>
<td>Phaophi</td>
</tr>
<tr>
<td>15</td>
<td>Ḥwt-Ḥr</td>
<td>Hathor</td>
</tr>
<tr>
<td>18</td>
<td>Ṣ-Ḥr k3</td>
<td>Choiak</td>
</tr>
<tr>
<td>Verso 4</td>
<td>p3 šmt Mwt</td>
<td>“periplous of Mut”</td>
</tr>
<tr>
<td>6</td>
<td>Pt-p3-Mḫyr</td>
<td>Mechir</td>
</tr>
<tr>
<td>8</td>
<td>Pt-šm-n-ḥp</td>
<td>Phamenoth</td>
</tr>
<tr>
<td>–</td>
<td>[Not given]</td>
<td>[Pharouthi]</td>
</tr>
<tr>
<td>–</td>
<td>[Not given]</td>
<td>[Pachons]</td>
</tr>
<tr>
<td>–13</td>
<td>[Not given]</td>
<td>[Payni]</td>
</tr>
<tr>
<td>–</td>
<td>Pt-qpt</td>
<td>Epiphi</td>
</tr>
</tbody>
</table>

92 Ibid., 96.
95 Idem, “Esna to Ebers,” 761.
The numbers in the left column refer to the lines of the ostracon. In line numbered 4, the first month/feast is “the going forth of Horus” (Re, the youthful sun-god), synonymous with \( R^-\text{Hr-3\text{h}ty} \), 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 ostracon. The verso of the ostracon 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 3\( \text{h}t \), then the last month/feast must be Epiphi or IV \( \text{šm}w \) as in the Ebers calendar. However, in Ebers, the first month is \( \text{wp rnpt} \), not the “going forth of Horus”. As we have seen above, the months of \( \text{wp rnpt} \) and \( R^-\text{Hr-3\text{h}ty} \) can both be month 12 or IV \( \text{šm}w \), but their feasts have been dated to I 3\( \text{h}t \).

It is not certain whether the names on the ostracon refer to months or monthly feasts, but Erman, Gardiner, van Walsem, and Depuydt 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, suggested that the “going forth of Horus” was the last month of the year, and only put at the beginning of the ostracon 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 \( \text{prt} \) in the Greco–Roman calendar, but he says this does not mean that the feast took place in I 3\( \text{h}t \). 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 ostracon from Deir el-Medina designated O. BM 1265 that began with the month of \( \text{dhwty} \) (Thoth) in first place giving its civil designation as I 3\( \text{h}t \), in which the feast of Thoth was held. He notes, “This is the only ostracon that gives the feast/month-names side-by-side with their correct month-numbers.” The text is quite damaged and gives only seven names of months/feasts in 26 lines of text. From the palaeographical features of the ostracon, 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 ostracon to argue by analogy that the “going forth of Horus” on O. BM 29560 refers to IV \( \text{šm}w \) and not I 3\( \text{h}t \).

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 3\( \text{h}t \) is named \( \text{mswt r} \), synonymous with “the going forth of Horus” or \( R^-\text{Hr-3\text{h}ty} \) “Re Horus of the Two Horizons”. If “going forth of Horus” is in the first month position in O. BM 29560, it replaces \( \text{wp rnpt} \) as shown in the Ebers calendar. These two lists of month-names are the only lists that do not start with \( \text{th}y \) or its synonyms \( \text{dhwty} \) or Thoth.

The “going forth of Horus” on the ostracon cannot unequivocally be assigned to a month or a feast on I 3\( \text{h}t \), but nor can it be assigned to IV \( \text{šm}w \) on the present evidence.

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99 Van Walsem, “Month-Names,” 242-44.
100 Ibid., 234 n. 23; 242.
101 Ibid., 217.
102 Ibid., 216-17, 242.
103 Ibid., 217.
the “going forth of Horus” refers to a feast in I 3ḥt why was it moved from Rê-Ḥr-3ḥty (IV ḥsmw), 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 rnt and Rê-Ḥr-3ḥty

The above discussion highlights a problem concerning wp rnt and Rê-Ḥr-3ḥty, which are both attested as the 12th month in the preceding lists of month-names, while wp rnt is also placed as the first month in the Ebers calendar. However, there is no corresponding attestation of Rê-Ḥr-3ḥty as the month of I 3ḥt in any of the lists unless it occurs in O. BM 29560 in the synonymous “going forth of Horus.” If Rê-Ḥr-3ḥty 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 rnt to the 12th month. Calendric “evolution” may explain why msrw r ḥr3ḥty in the Turin necropolis journal, dating to the reign of Ramesses IX of the 20th Dynasty, fell on I 3ḥt 1.

The problems raised by the analysis of the calendars centered in Ebers having wp rnt as the first month and 'ipt hmt (Epiphi) as the last—while the others have thy (Thoth) first and wp rnt or Rê-Ḥr-3ḥty last—continues in the next chapter in a wider application.