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Astrologica athribitana: Four demotic-hieratic horoscopes from Athribis (O. Athribis 17-36-5/1741 and ANAsh. Mus.D.O.633 reedited)

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Abstract

This paper presents the edition of three new horoscopes from Athribis in Upper Egypt (O. Athribis 17-36-5/1741), and the reedition of ANAsh.Mus.D.O.633, identified as part of the same group of horoscopes originating from Athribis. The first three horoscopes date to the reign of Augustus (27, 21, and 6 BCE), and the Ashmolean text to year 8 of Cleopatra, 44 BCE. The Athribis group constitutes the earliest attestation of horoscopes from Egypt. They include the date of birth, name, and origin of the native, entries for the two luminaries and the planets, and the position of the four cardines and Places. Relevant features not commonly present in other Demotic horoscopes are a series of lunar dates following the 25-year cycle of P. Rylands IV 589, the complete listing of the Places, Term rulers in the longitudes, and a short phrase that may be connected to the calculation of the length of life.

Keywords

Athribis, Egyptian astrology, Egyptian astronomy, Graeco-Roman Egypt, Hellenistic astrology, History of science, horoscopes

Introduction

Athribis (Hut-Repit) in Upper Egypt has been known as a center for astronomy in the Graeco-Roman period at least since the beginning of the 20th century, with Petrie's publication of his archaeological work at this site. The so-called Zodiac tomb, first published

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by Petrie, contains two monumental horoscopes on its ceiling, which were analyzed and dated by Neugebauer and Parker to 148 and 141 CE.¹ In his publication, Petrie also mentioned his discovery of a series of ostraca, including some “interesting astronomical ones, with entries of stars,” which he said would be “worked up and reported on in future.”² This publication did not take place. Petrie’s handwritten notes indicate that he donated at least three ostraca from Athribis to the Ashmolean Museum, Oxford.³ However, their provenance seems to have been lost in the museum records at some point. In the present paper I demonstrate that ANAsh.Mus.D.O.633, published by Neugebauer and Parker in 1968,⁴ belonged originally to Petrie’s donation from Athribis. I reedit it together with O. Athribis 17-36-5/1741, which contains three very well-preserved horoscopes, recently found by the Athribis-Projekt of the University of Tübingen. Both ANAsh.Mus.D.O.633 and O. Athribis 17-36-5/1741 present the same structure and were written by the same hand. O. Athribis 17-36-5/1741 is part of a much larger find of mainly demotic, but also Greek, hieratic, hieroglyphic, Coptic and Arabic ostraca which are currently being worked on by an interdisciplinary research group⁵ of which this author is a member; the astrological ones, including those at the Ashmolean Museum,⁶ will be edited in full in one of the monographic volumes we are preparing. The reedition of ANAsh.Mus.D.O.633 here, together with the newly found horoscopes, is relevant in order to correct Neugebauer and Parker’s inaccurate conclusions, which have continued to be reproduced in recent studies of Hellenistic astronomy.⁷ This is the earliest published Demotic horoscope that has come down to us,⁸ and its analysis in parallel with the three new horoscopes of O. Athribis 17-36-5/1741 allows its complete reconstruction and the identification of its provenance, and that of the whole Ashmolean set of astrological ostraca, as Athribis. The variety of data recorded in these ostraca also sets them aside from other groups of horoscopes and constitutes a significant addition to our knowledge of Demotic horoscopic astrology.

Description of the ostraca

O. Athribis 17-36-5/1741 contains three horoscopes, two written on the outer side, and one on the inner side of the sherd (Plates 1–4). The ostrakon is of dark red color, and it measures 11 cm (height) × 9.8 cm (width), with a thickness of 0.5 cm. It was found on the 13th of March of 2019 in the extensive *sebakhin* dump to the west of the temple of Ptolemy XII.⁹ It is complete except for its lower right corner (as seen from the outer side), where some text has been lost on both sides. The outer side (convex) of the ostrakon appears to be the primary one, as it is usual with ostraca from Egypt. It contains two main texts (Texts 1 and 2) and two secondary inscriptions (Texts 1b and 2b). The outer surface of the ostrakon is eroded and covered in some areas by concretions. The main text on this side is Text 1, written with the same orientation as Text 3 on the inner side. The size of the signs of Text 1 is similar to that of Text 3, but the script is less bloaty after pen dippings, which could point toward a difference in the writing instrument, or just be the result of the different texture and degree of absorption of the writing surface. Text 2 is written on the free lower section after Text 1, with an orientation of 90° with respect to it, starting on the left side of the ostrakon. The signs in Text 2 are smaller in order to fit

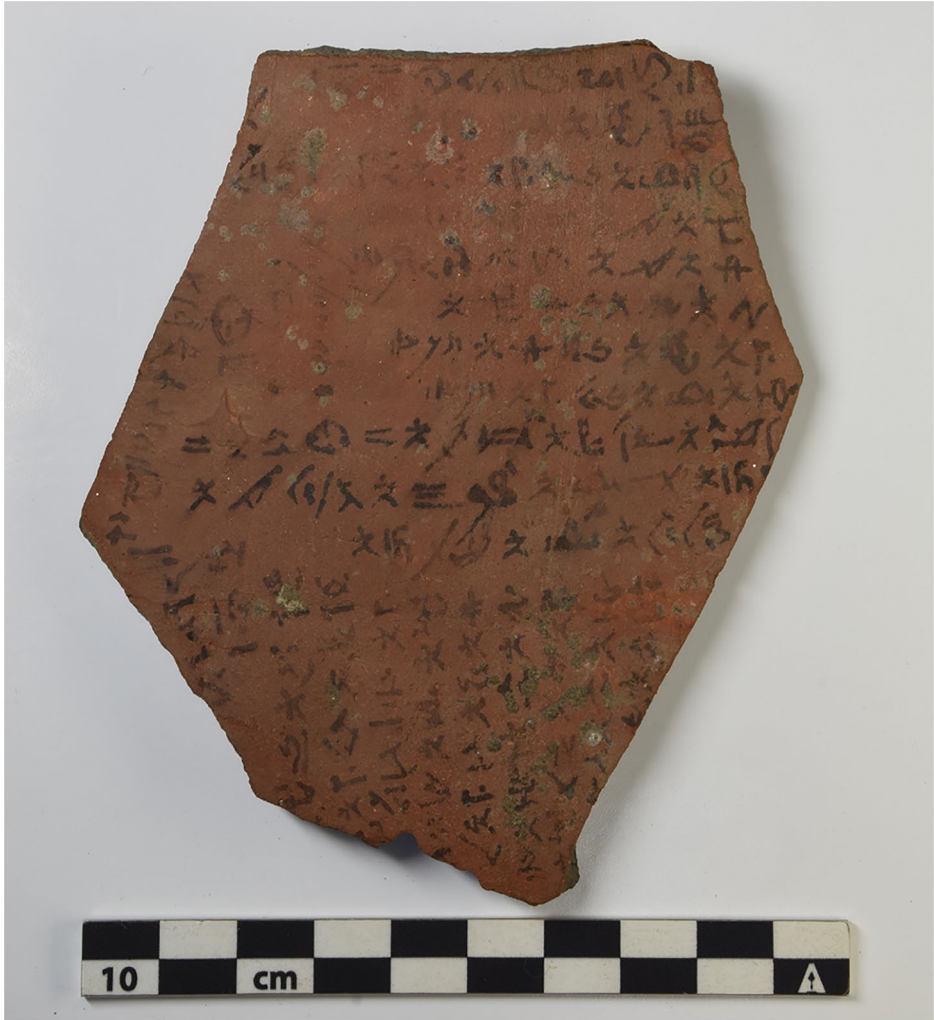


Plate I. Photograph of the outer side of O. Athribis 17-36-5/1741, with Texts 1, 1b, 2, and 2b.

in the available space, and its beginning is adapted to the oblique shape of the edge of the ostracon. The beginning of lines 9–11 of Text 1, and the ends of lines 10–12 (and a potential missing 13th line) of Text 2 have been lost due to the break indicated above. Two secondary inscriptions with the names and origins of the natives for the horoscopes on this side of the ostracon have been written in the free space at the end of lines 4–8 of Text 1 (Text 1b), and along the upper left edge of the ostracon (Text 2b). These are quite faint, but still mostly legible. They are placed at a 90° angle rotation clockwise with respect to Text 1, and 180° angle rotation with respect to Text 2.

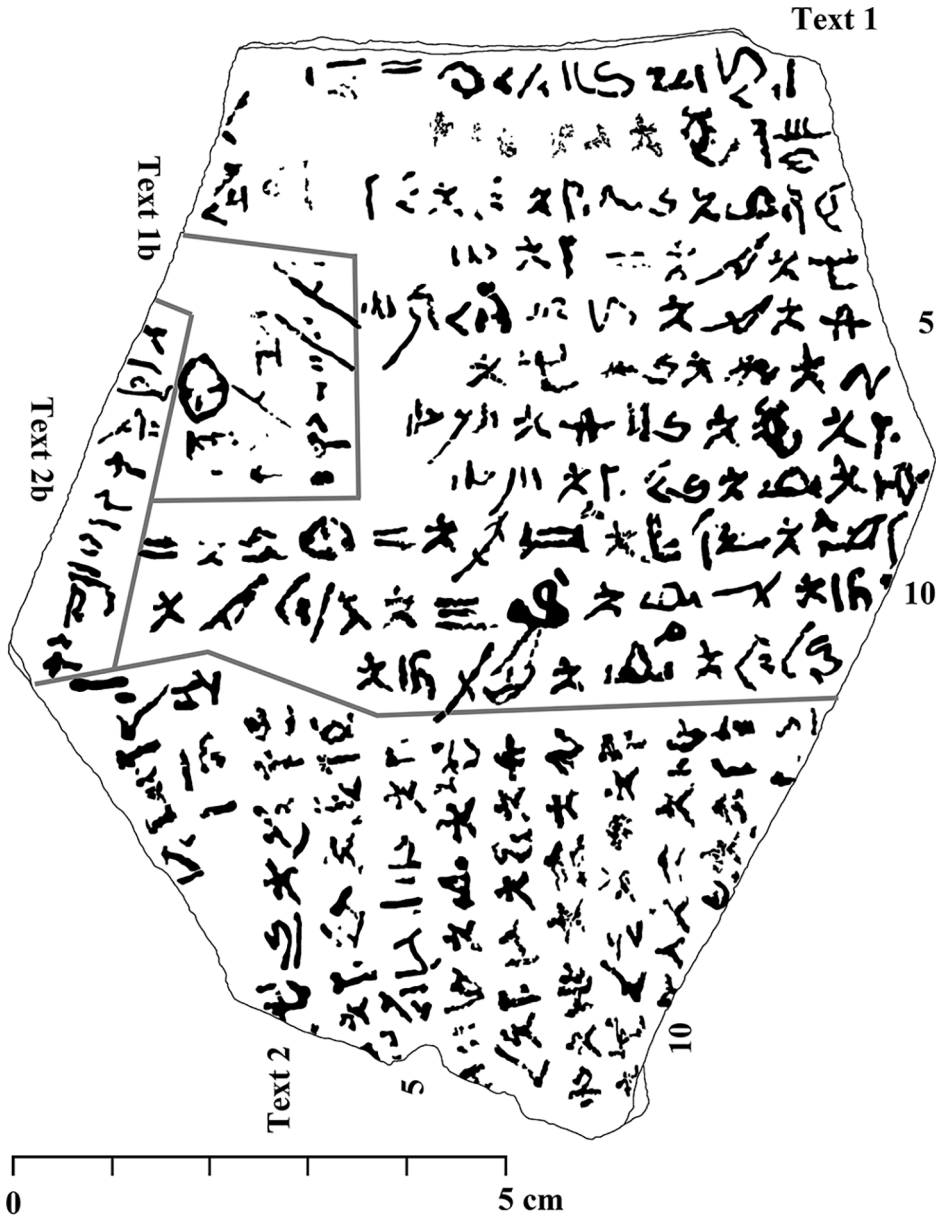


Plate 2. Facsimile of the outer side of O. Athribis 17-36-5/1741, with Texts 1, 1b, 2, and 2b.

On the inner side, although Text 3 is generally clear, the ink is quite diluted in water, which has resulted in an excess of ink and consequent smudginess of some signs. Good examples of this are the 24.t of line 1, the sign for Cancer on line 3, or the beginnings of

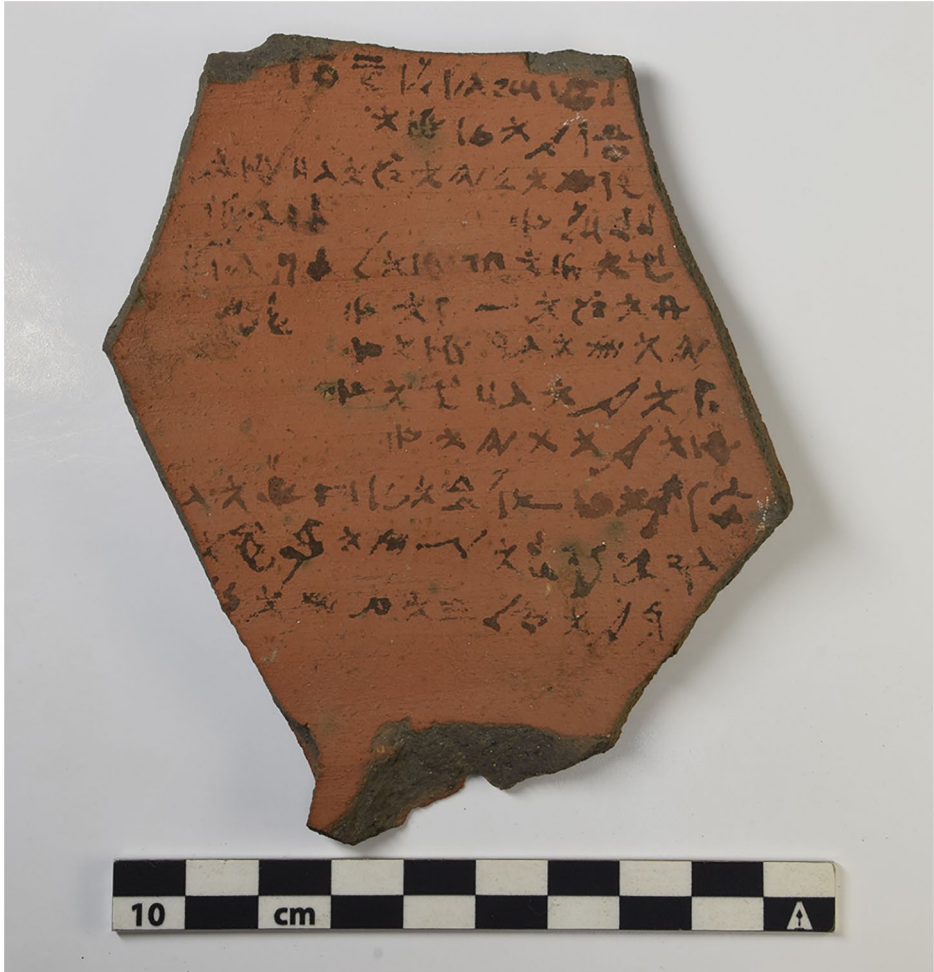


Plate 3. Photograph of the inner side of O. Athribis 17-36-5/1741, with Texts 3 and 3b.

lines 9 and 10, among others. While the first signs after each pen dipping are quite bloated, the pen runs out of ink quite fast, probably due to the high absorption of the writing surface, and consequently the following signs before the next pen dipping are light-colored and patchy. A secondary inscription, Text 3b, has been added to the left of lines 4–6, with the name of the native and her place of origin. This short three-line inscription is a good example of the aforementioned writing issues, with the beginning of each line displaying bloated signs, while the end is progressively fainter. Both texts on the inner side are written with the same orientation. The break on the lower left side of the ostracon has resulted in the loss of the end of lines 10–12. The writing in all texts combines hieratic and demotic signs throughout.





Plate 4. Facsimile of the inner side of O. Athribis 17-36-5/1741, with Texts 3 and 3b.

ANash.Mus.D.O.633 is inscribed with a single horoscope¹⁰ (Plate 5). It contains one main text (Text 4) and a secondary one written on the available space at the end of lines 2 and 3 (Text 4b), both with the same orientation. The signs are written with a pen (*kalamos*) and are clear, combining, as in O. Athribis 17-36-5/1741, hieratic and demotic signs. The ostracon presents a break on its lower right section, resulting in the loss of the beginnings of lines 7–13. The surface of the left side of the ostracon is eroded, and it presents some loss of text on its lower left side, affecting lines 11, 12, and perhaps 13, although the last section of the text may have been located on an entirely lost line 14.

Edition


Text I. O. Athribis 17-36-5/1741. Outer side. 27 BCE (Augustus 4).

	<i>h3.t-sp 4.t 3bd-3 3h.t sw 4</i>	Year 4, third month of Akhet (Hathyr), day 4, eighth (hour) of the day
	<i>8.t n hrw</i>	
	☉: <i>♏ 1° . .</i>	Sun (in) Scorpio 1°x° .°
	☿: <i>♌ 2°8' ♀ 8° 6' °♀ ° h3.t-sp 5.t mh-2.t mwt'</i>	Moon (in) Libra 2°8°, (Terms of) Venus; Taurus 6° (Terms of) Venus. Year 5, second, '(he) kills'
	♄: <i>♌ 8° °♀ ° w3h'</i>	Saturn (in) Leo 8°, (Terms of) Venus, (he) adds
5	♃: <i>♌ 4 t3y=f dni.t hcf=f w3h'</i>	Jupiter (in) Leo 4°, his own Terms (<i>scil.</i> Jupiter), (he) adds
	♂: <i>♋ 28° h</i>	Mars (in) Cancer 28°, (Terms of) Saturn
	♀: <i>♏ 2°2' ♀ iw=f w3h</i>	Venus (in) Scorpio 22°, (Terms of) Jupiter, he adds
	☿: <i>♌ 26 ♀ iw=f w3h</i>	Mercury (in) Libra 26°, (Terms of) Venus, he adds
	<i>(r-c)h^c] H '10' (r-c)htp]]</i>	Ascendant (in) Pisces 10°; Descendant (in) Virgo 10°;
	<i>'10' (šy n) p.t 8 (šy n)</i>	(Lake of the) Sky (in) Sagittarius 8°; (Lake of the) Duat
	<i>dw3.t II 8</i>	(in) Gemini 8°;
10	<i>shn nh] 9 sn 2 špsy.t ≈</i>	Provision of Life (in)] Aries; Brother (in) Libra; Good
	<i>wry.t 8l</i>	Fate (in) Aquarius; Bad Fate (in) Leo;
	<i>nh] mwt 8 šy' 2 ss(r) 9</i>	Life (in) Scorpio;] Death (in) Taurus; Good Daimon (in) Libra; Bad Daimon (in) Aries

1. 8°.t': Hieratic form of number 8, also used on Text 3, line 1. Cf. Möller n.621.
2.  1°. .': The signs after the star determinative of Scorpio are very faint, but the traces of the number 10 are still visible. The rest of the line, which might include another number in the units, as well as the Term ruler, is only very faintly visible using DStretch,¹¹ but except for a possible star determinative at the end, the signs are not legible.
3.  2°8': The number in the units is probably 8, which would agree with the range of Venus as Term ruler for Libra (21°–28°). The traces could be also interpreted as 9, but the long tail of this number tends to be more downward-slanting (cf. Text 2, line 1; Text 4, line 8). The Term ruler for Libra 29° is Mars.
The traces after Venus as Term ruler correspond to the second lunar longitude. Taurus is legible followed by a star determinative and number 6, with Venus again as Term ruler. This is the correct Term ruler for Taurus 0°–8°. The very end of the line corresponds to the lunar date. Under the concretions I propose reading the faint traces as *h3.t-sp 5.t*. At the end of the line, *mh-2.t* is visible (see discussion in the section “Moon data and lunar calendar dates”), and *mwt* is written above the line due to lack of space. For the translation of *mwt* as “he kills,” cf. the discussion in section “Indications possibly connected to the calculation of the length of life,” below.
4. The signs after Leo, including the star determinative, are very faint, but the traces can be identified as 8. Venus appears very faintly after, so the degree within Leo should be between 6°–11°. At the end of the line, the traces for *w3h* are visible.
6. The signs for the degree within Cancer are faint and covered in concretions, but the number in the tens is clearly legible as 20. The number in the units may be read as 8, and the Term ruler Saturn confirms that the degree within Cancer should be 26°–30°.
9. The scribe had originally forgotten to write the degrees within the zodiac sign for both *(r-c)h^c* “ascendant” and *(r-c)htp*, adding them later above the line.
11. The scribe has once again forgotten to write a sign, in this case *šy*, which has been added above the line.

Text 1b. O. Athribis 17-36-5/1741. Outer side. Name of the native and origin.

<i>T3-šr.t-P3-ꜥꜥ</i>	Tsenpelilis
<i>ta 'K'lnḏ'3' (?)</i>	Daughter of Kolanthes(?)
<i>'T3'-Rpy.t</i>	Athribis

1. *T3-šr.t-P3-ꜥꜥ*: Demotisches Namenbuch I 118.
2. This line is preserved quite faintly, but *ta*, indicating the native's filiation, is visible. The traces of the name following *ta* are very faint. Sandra Lippert suggests to me that this could perhaps be read as *Klnḏ3*, although the orthography would not be exactly the one normally attested at Athribis, where one practically always finds a single-arc *m* before the *ḏ* instead of the horizontal line *n* above the *ḏ*, as here.
3. *'T3'-Rpy.t*: The third line contains two hieratic signs which can be identified as  (Gardiner B7C, Möller n.62¹²) and the city determinative. The seated goddess is also the sign used for Virgo (cf. section "The luminaries and the planets"), and thus its reading here should also be *T3-Rpy.t*. This designation is attested as a toponym, corresponding to Greek Τρίφιον and Coptic ⲁⲧⲣⲓⲛⲉ, and corresponds to Athribis in Upper Egypt.¹³

Text 2. O. Athribis 17-36-5/1741. Outer side. 21 BCE (Augustus 9).

<i>ḥ3.t-sp 9.t tp šmw sw 21</i>	Year 9, first month of Shemu (Pachons), day 21,
<i>2.t n hrw</i>	second (hour) of the day
☉: ♂ 27 ḥ [Sun (in) Taurus 27°, (Terms of) Saturn [
☾: ♀ 16 ♀ ' Ḥ' (?) [Moon (in) Virgo 16°, (Terms of) Venus; Scorpio(?) [
5 <i>♀ w3ḥ ḥ3.t-sp 11.t mh-1.t</i>	(Terms of) Venus, (he) adds. Year 11, first.
<i>ḥ: ♂ 3 t3y=f dnḏ.t ḥ'c=f</i>	Saturn (in) Libra 3°, his [own Terms (<i>scil.</i> Saturn)
<i>♃: ♃ 11 ♀ mwt</i>	Jupiter (in) Capricorn 11°, (Terms of) Venus, (he) kills
<i>♂: ♂ 1' ♀ w3ḥ</i>	Mars (in) Gemini 1°, (Terms of) Mercury, (he) adds
<i>♀: ♀ 6' mwt ḥ [</i>	Venus (in) Cancer 6°, (he) kills, (Terms of) Saturn [
10 <i>♃: ♃ 10 ' 2' [</i>	Mercury (in) Gemini 10°, (Terms of) Jupiter [
<i>(r'-)ḥ'c II 2' 7' [(r'-)ḥtp x' 27</i>	Ascendant (in) Gemini 2'7°, [Descendant (in) Sagittarius 27°;
<i>(šy n) ' p.t [H 25 (šy n) dw3.t</i>	(Lake of the) Sky [(in) Pisces 25°; (Lake of the) Duat
<i>Ḥ 25 šhn 'nh Ḥ sn ♃ špsy.t</i>	(in) Virgo 25°; Provision of Life (in) Cancer; Brother
<i>♃ wry.t Ḥ 'nh ≈ mwt ḏ šy</i>	(in) Capricorn; Good Fate (in) Taurus; Bad Fate (in)
<i>♃ sš(r) Ḥ</i>	Scorpio; Life (in) Aquarius; Death (in) Leo; Good Daimon (in) Capricorn; Bad Daimon (in) Cancer

4. The last sign on this line is broken and written slightly lower than the rest of the line. While the traces fit with the shape of the sign for Saturn (the man with the arms up), here we expect instead a zodiac sign for the second lunar longitude. Of all the zodiac signs, the traces fit those of Scorpio best, preserving the tail and right claw. The line would continue with the degree within Scorpio, which should be between 7° and 11°, since the Term ruler, in the beginning of line 5, is Venus.
6. The line is broken, but the traces of *t3y=f dnḏ.t* are visible before the break. The Term ruler is thus Saturn.
9. In this line, *mwt* and Term ruler (Saturn) have switched places.
11. I have tentatively reconstructed 27 from the remaining traces at the end of the line. The sign under the 20 is a horizontal trace, with the same disposition as the 27 in line 3 of this same text.
12. The text had at least two or three more lines that have been lost. The text reconstructed here would have been distributed in these lines. For the reconstruction of the longitudes for *(šy n) p.t* and *(šy n) dw3.t*, cf. section "The four cardines and the Places," below.

Text 2b. O. Athribis 17-36-5/1741. Outer side. Name of the native and origin.

Ta-n3-wr.w-6w ta Sm3-b3.wy(?)

Tanaourouaou, daughter of Somtous(?)

I. *Ta-n3-wr.w-6w*: This name is attested also for the owner of P. Harkness,¹⁴ and on the mummy label CMA M.80.202.141.¹⁵ The name does not seem to be attested in Greek.

The name of the native is followed by her filiation, introduced by *ta*. The name of her father, despite appearing clearly written, is not easily decipherable. Sandra Lippert has suggested to me a possible semi-phonetic writing of *Sm3-b3.wy*, with *sm3* written with the bolt-s over *m3* instead of the usual *sm3*-sign. She notes that the downward curve at the left of the bolt-s is typical of the region.


Text 3. O. Athribis 17-36-5/1741. Inner side. 6 BCE (Augustus 24).

<p><i>h3.t-sp 24.(t) 3bd-4 smw sw 21 8.t</i> <i>n hrw</i> ☉: ♂ 21 ♀ ☾: ☉ 6 ♂ 8 12 ♀</p>	<p>Year 24, fourth month of Shemu (Mesore), day 21, eighth (hour) of the day Sun (in) Leo 21°, (Terms of) Mercury Moon (in) Cancer 6°, (Terms of) Mars; Taurus 12°, (Terms of) Mercury</p>
<p><i>h3.t-sp 1.t mh-2.t w3h</i> 5 ♂: ♀ 15 ♂ ♀ mwt ♁: ♂ 7 ♀ w3h ♂: ☉ 15 ♀ w3h ♀: ♂ 12 ♀ w3h ♃: ♂ 30 ♂ w3h</p>	<p>Year 1, second, (he) adds Saturn (in) Aries 15°, (Terms of) Mercury, (he) kills Jupiter (in) Taurus 7°, (Terms of) Venus, (he) adds Mars (in) Cancer 15°, (Terms of) Mercury, (he) adds Venus (in) Leo 12°, (Terms of) Saturn, (he) adds Mercury (in) Leo 30°, (Terms of) Mars, (he) adds</p>
<p>10 <i>(r6-)h6 x 21 (r6-)htp II 21 (sy n)</i> <i>p.t III 1[9 (sy n) dw3.t H</i></p>	<p>Ascendant (in) Sagittarius 21°; Descendant (in) Geminis 21°; (Lake of the) Sky (in) Virgo 1[9°; (Lake of the) Duat (in) Pisces</p>
<p><i>19 shn 6nh V3 sn ☉ špsy.t M.</i> <i>[wry.t ♂</i></p>	<p>19°; Provision of Life (in) Capricorn; Brother (in) Cancer; Good Fate (in) Scorpio; [Bad Fate (in) Taurus;</p>
<p><i>6nh ♂ mwt ≈ sy ☉ s[š(r) V3</i></p>	<p>Life (in) Leo; Death (in) Aquarius; Good Daimon (in) Cancer; Bad [Daimon (in) Capricorn.</p>

- I. *24.(t)*: Although the signs are smudged, the *24* is secure, with *4* written next to *20* and embracing the latter on the top, in an orthography normal for Roman Athribis: $\sqrt{25}$.¹⁶ This reading is confirmed by the astronomical data. For similar orthographies, cf. P. BM 10520, i.e. F/14, 15, and 16.¹⁷
3. ☉: The shape of this sign fits that of the sign for Cancer in these texts. The plausibility of this identification is confirmed by the astronomical data.
The end of the line shows Mercury followed by the star determinative as Term ruler. There may be some more traces after the star, which could belong to the short phrase for the calculation of the length of life, although this is unlikely, since this appears after the lunar date in line 4.
5. The degree within Aries can be read as a hieratic *15*. The Term ruler Mercury for Aries suggest a number between 12° and 20°,¹⁸ and the computed position is Aries 13°. The sign for the Term ruler has partially disappeared, but the vertical stroke to its left and the remaining traces make its identification as Mercury certain.
6. The degree within Taurus, written with a horizontal line, is *7*,¹⁹ which agrees with Venus as Term ruler (0°–8°).²⁰ For this shape cf. Text 2, lines 3 and 11, and Text 4, line 2. A different shape for *7* appears in Text 4, line 9.
7. The number in the units position for the degree within Cancer is quite faint, but the remaining traces allow its identification as *5*, for which cf. Text 4, line 6.

Text 3b. O. Athribis 17-36-5/1741. Inner side. Name of the native and origin.

<i>Ta-n3-wrš.w</i>	Tanorseus
<i>ta Pa-n3-wrš.w</i>	daughter of Panorseus
<i>T3-Rpy.t</i>	Athribis

1. *Ta-n3-wrš.w*: While this name is not attested in the *Namenbuch*, its masculine form is; the latter also appears in line 2 as the name of the native's father.
2. For this name, cf. *Demotisches Namenbuch* 378. Names with the elements *wrš* and *wrš.w* are quite common in the region of Athribis.²¹
3. Both the seated goddess  (Gardiner B7C, Möller n.62) and the city determinative are clearly visible here. These two signs also appear, in a clearer way, in Text 1b, perhaps shared between Text 1b and 2b.

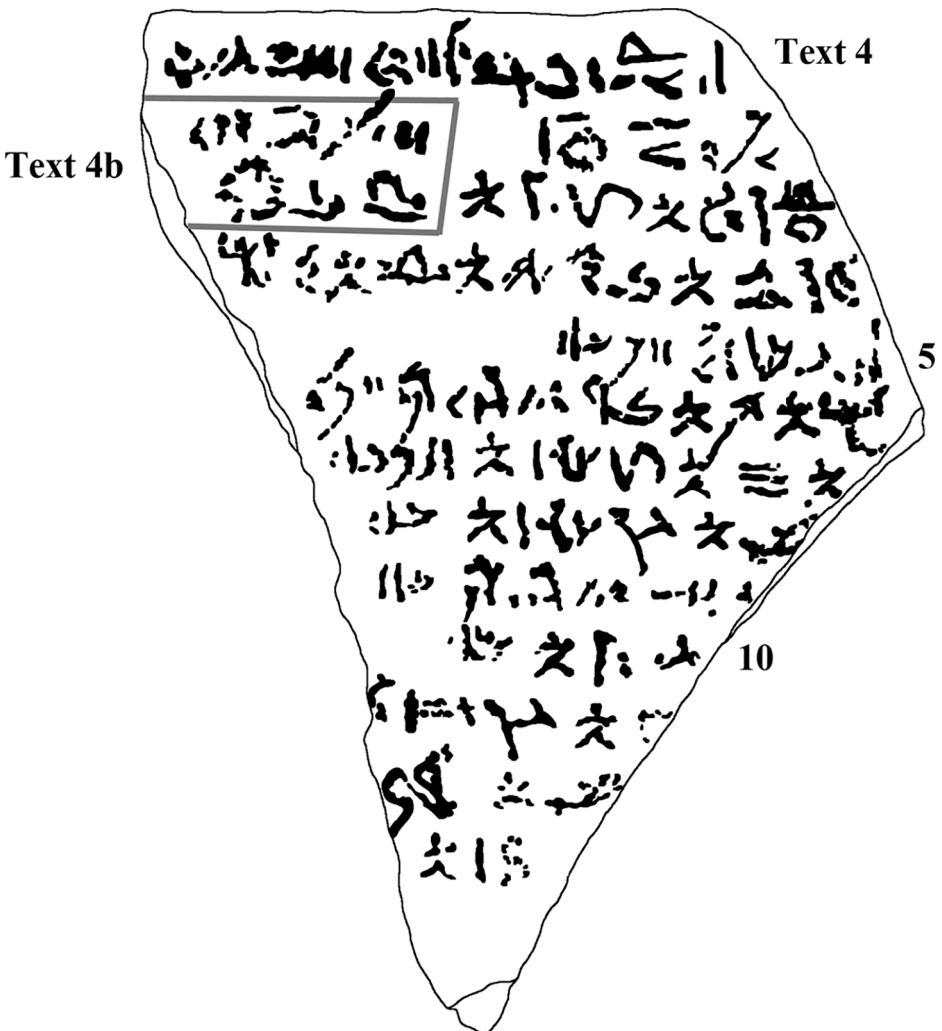


Plate 5. Facsimile of ANAsh.Mus.D.O.633, with Texts 4 and 4b.

Text 4. ANAsh.Mus.D.O.633. 44 BCE (Cleopatra 8).

	<i>h3.t-sp 8.t n t3 Pr-c3.t 3bd-4 pr.t</i>	Year 8 of the Queen, fourth month of Peret (Pharmouthi),
	<i>sw 22 7.t n hrw</i>	day 22, seventh (hour) of the day
	☉: ☿ 4 ♀	Sun (in) Taurus 4°, (Terms of) Venus
	☾: ♀ 20 ½ ♂ ♂ 6 ♀	Moon (in) Gemini 20° 30', (Terms of) Mars; Libra 6°, (Terms of) Saturn
5	<i>h3.t-sp 13 mh-1.t iw=f w3h</i>	Year 13, first, he adds
	♄: ♂ 25 t3y=f dn.t h-c=f iw=f mwt	Saturn (in) Sagittarius, his own Terms (<i>scil.</i> Saturn), he kills
	♃: ≈ 4 ♀ iw=f w3h	Jupiter] (in) Aquarius 4°, (Terms of) Mercury, (he) adds
	♂: † 19 ♀ w3h	Mars] (in) Pisces 19°, (Terms of) Mercury, (he) adds
	♀: ☿ 7 t3y=f dn.t h-c=f w3h	Venus in Taurus] 7°, his own Terms (<i>scil.</i> Venus), (he) adds
10	☿: .] 10 ♀ w3h	Mercury in .] 10°, (Terms of) Venus, (he) adds
	(r-c-)h-c δl 19 (r-c)-h[tp] r ≈ 19	Ascendant (in) Leo 19°; Descendant in] Aquarius 19°;
	(šy n) p.t r ☿ [17 (šy n)	(Lake of the) Sky (in) Taurus [17°; (Lake of the) Duat
	dw3.t m. 17	(in) Scorpio 17°;
	<i>shn cnh m sn] † špsy.t [☿</i>	Provision of Life in Virgo; Brother in] Pisces; Good Fate [in Cancer;
	[wry.t VŠ] r cnh r p [mwt ♂ šy †	Bad Fate (in) Capricorn;] Life (in) Aries; [Death (in)
	sš(r) m]	Libra; Good Daimon (in) Pisces; Bad Daimon (in) Virgo.

1. Comparison with Texts 1–3 shows that Neugebauer and Parker did not understand the structure of this horoscope, due to its incomplete state and the lack of comparanda at the time.²² What they interpreted as the hand over a cross ☿ (Gardiner Z9) is actually the year number 8.t, written in demotic. Winker has noted this correction as well,²³ offering the Julian date 22nd of April of year 44 BCE for this horoscope, which agrees with my own assessment (cf. section “Sun data and civil calendar dates”).
2. After the day number, Neugebauer and Parker read ☾ n.t in what actually is 7.t, with 7 written just as a horizontal line, as in Text 3, line 6; or Text 2, line 3 (in the number 27).²⁴ Neugebauer and Parker read *slns* at the end of the line.²⁵ However, in my understanding, this is actually part of the side text giving the name of the native, and thus line 1 of Text 4b. Cf. the commentary on this line for a discussion of the reading.
3. Neugebauer and Parker did not identify the presence of the Term rulers in these entries. They interpreted the sign for Venus as Jupiter,²⁶ and merged in this entry the Term ruler with the second line of Text 4b, the identification of the native.
4. The structure for the Moon entry was also not understood by Neugebauer and Parker, who divided it into two entries, taking the Term ruler (Mars, which they left without transliteration or translation) as the beginning of a new entry. They read the sign for the first longitude of the Moon as Capricorn, when comparison with the other horoscopes and the astronomical data show that it should be interpreted as Gemini, as Winkler has also suggested.²⁷ They also misunderstood the sign for Saturn, the man with the arms up, as that for Midheaven. The actual entry for Midheaven, (šy n) p.t, is preserved in line 11.²⁸
5. Since Neugebauer and Parker could not make sense of the date in line 1, they took the date in line 5 as the main date of the horoscope, in the civil calendar, adding the season Shemu from their calculations of the equivalence between lunar and civil calendars.²⁹ They thus interpreted the date in line 1 (fourth month of Peret, day 22) as a lunar date.³⁰ Granted

(Continued)



Text 4. (Continued)

- that their conclusions are wrong, it is still truly surprising how they made the astronomical data work with these erroneous parameters.³¹ They left *w3h* untranslated, noting that they were uncertain of its meaning in all the lines in which it appears. In their comment to line 7 they proposed *w3h* as a reading for this group there, translating it as “added,” but they considered it as perhaps an afterthought.
6. Here Neugebauer and Parker read Saturn again as Midheaven. The rest of the line is read correctly, but they did not identify *t3y=f dn.t h3=f* as referring to the Term ruler. They translated *hw=f mwt* as “he being dead,” and they did not connect this with *w3H* in the other entries. For my interpretation of this phrase, cf. section “Indications possibly connected to the calculation of the length of life,” below.
 7. Neugebauer and Parker’s reading for this line is correct, but they did not interpret the sign for Mercury correctly, translating the heart-sign as “a center.”³² For a discussion of the reading of the sign cf. section “The luminaries and the planets,” below.
 8. Neugebauer and Parker read Pisces correctly, but for Mercury they gave once again the interpretation “a center.” In this line they did not transliterate or translate *w3h*. The same happens in lines 9 and 10. The group *w3h* is less clear in the latter, but still legible.
 9. Neugebauer and Parker’s transliteration is correct, but they again did not transliterate or translate *w3h*.
 11. Here we have the longitude for *r3-h3*, which is lost, followed by (*šy n*) *p.t* “Midheaven,” written with the hieratic sky-sign. Comparison with the other horoscopes allows the complete reconstruction of this and the following lines.
 12. Here Neugebauer and Parker take the cobra-sign as Scorpio, which indeed is a writing for this sign in other astronomical documents such as the Stobart Tablets, among others.³³ However, here it should be read as one of the Places, *špsy.t*, as proposed already by Winkler.³⁴ However, Winkler is not certain of this reading, and also proposes *ntr.t* as an alternative.
 13. Neugebauer and Parker read the traces in this line as the heart-sign with the star determinative, which they have been translating incorrectly as “a center.”³⁵ Winkler incorrectly reads it as Leo.³⁶ The correct reading is Aries (cf. section “Moon data and lunar calendar dates” for the discussion of this orthography).

Text 4b. ANAsh.Mus.D.O.633. Name of the native and origin.

Klm3d3
 . . . [place]

Kolanthes
 . . . [place]


















1. *Klm3d3*: The name is written alphabetically with the *k3*-sign,³⁷ followed by *l*, *m/n*, a broken *d*, and *3*.³⁸ The name is rendered in Greek as Kolanthes.³⁹ It is derived from that of the child-god of Athribis who was part of a triad as son of Repit and Min.⁴⁰ Winkler read the name as *klm(y)s* “Kronios.”⁴¹ Neugebauer and Parker read this line as *slns*, taking it as part of line 2 of Text 4, and considering it as a demotic rendering of the Greek *σελήνης*.⁴² They have been followed in this incorrect reading by Ross,⁴³ who uses it to support the possibility of Greek influence in these horoscopes at this early time.
2. : This line is composed by three signs, the third one of which is the place determinative. The previous two signs are not clear. The second one resembles a seated figure, but it is different from the seated goddess attested in Texts 1b and 3b for *Rpy.t*, Athribis. The name of the native, Kolanthes, seems to indicate that this person was from the neighboring area, so this place name may refer to a nearby village. Neugebauer and Parker considered these signs as the end of line 3 (Text 4).⁴⁴ They transcribed them , and translated them as “in ([*m*]-*hnmw*) Cancer.” Winkler indicated for this group that it “is Demotic and mentions, among other, Leo (*M3y*).”⁴⁵ However, the appearance of Leo in this section of the text does not make sense.







The notes at the end of each text edition focus on the discussion of problematic or uncertain readings. The orthographies used for the celestial bodies, zodiac signs, cardines, and Places will be discussed below, in the sections on “Terminology” and “The four cardines and the Places.”

Terminology








The four horoscopes are written in a succinct way, using abbreviated forms for most of the terminology employed in them. Here I discuss the terminology for the luminaries, the planets, and the zodiac signs. The four cardines and the twelve Places will be discussed in a different section, below.

The luminaries and the planets

- Sun   (*p(β)-R^c*) and Moon   (*T^ch*): In all the horoscopes, the Sun and the Moon are written in hieratic. In the case of the Sun, the name appears preceded by the article, as is common since the early New Kingdom.⁴⁶ Both names are followed by the divine determinative.
- Saturn  : The name of Saturn consistently contains the element *k3* “bull” throughout all its attestations (*Hr-p3-k3*; *Hr-k3-p.t*).⁴⁷ The sign used here,  (Gardiner A28), originally *q3* “to be high,” is also used in the Graeco-Roman period for *k3*.⁴⁸ It is relevant to note, as pointed out by Neugebauer and Parker,⁴⁹ that one of the epithets of Saturn, *sb3 ʿb.ty d3 p.t* “the eastern star which crosses the sky” is written with  for  (Gardiner R15).
- Jupiter   : The name of Jupiter presents many variations.⁵⁰ The orthography here corresponds to (*Hr-*)*št3* “Horus the mystery,” connected with a name for the planet attested since the New Kingdom: *Hr-št3-T3.wy* “Horus-mystery-of-the-Two-Lands.”⁵¹
- Mars  : The identification of the sign used here is unclear. Winkler has suggested the hieratic form of  (Gardiner Aa5; Möller n.390), but he does not provide an interpretation for it.⁵² Since the name of Mars is generally *Hr-dšr* “Horus-the-red,”⁵³ the sign could be interpreted as a shape derived from the demotic writing of the individual *š* and *r* signs in *šr*,⁵⁴ although this is not likely, as none of the other abbreviations are based on alphabetic demotic signs. Another possibility, connected with Mars’s epithet *sqddšf m htht* “he travels backward,”⁵⁵ could be as a stylized version of the hieratic form of the *ht*-sign  (Gardiner M3), or perhaps the walking-legs facing backward  (Gardiner D55; Möller n.121). Another possibility would be to read the sign as the man-with-stick (Gardiner A24; Möller n.15), interpreting the “red” Horus as an aggressive and thus malefic planet.⁵⁶ This is consistent with the perception of Mars in Roman astrology.⁵⁷

- Venus  $\star \bar{\Gamma}$: This orthography is not problematic, clearly deriving from the Late Period name of the planet as *ntr-dw3.y* “Morning God,” as noted already by Winkler, who points out the previous incorrect interpretations of the planet as Jupiter, especially in the materials from Narmuthis.⁵⁸
- Mercury  $\star \bar{\Gamma}$: This orthography corresponds to Mercury for the identification of this planet with Thoth.⁵⁹ Quack suggests that the Egyptian name of the planet, *sbg.w*, the meaning of which is unknown, may be connected to Hebrew  *sekwi* in Job 38:36.⁶⁰ This word is rendered in some translations of the Hebrew Bible as “cock,” and set in parallel with “ibis,” one of the animals associated to the god Thoth, concerning wisdom. The *interpretatio graeca* of Thoth is Hermes, the name of the planet in Greek (Latin Mercury). *BDB* interprets the word as “perhaps a celestial appearance, phenomenon,” which could also connect it with Mercury.⁶¹ Winkler notes the identification between the ibis and the heart in Horapollo 1.36.⁶² Boylan indicates that the name , also written as , appears in Dendera for Thoth, and points out that this is actually an epithet connected to the plummet of the balance,  *th*.⁶³ Wilson⁶⁴ adds that this weight at the end of the plumb line of the balance was shaped as a heart by the addition of the two little handles, since Thoth, as the heart of Re (*ib-n-Rc* “heart of Re”⁶⁵) was responsible for the accurate weighing of the deceased’s heart, in his role of *ip-ib* “the one who assesses the heart.”⁶⁶ In the hieroglyphic-sign handbook P. Carlsberg 7, the entry for the ibis sign is interpreted as *h3-ib-i* “my heart descended.”⁶⁷

The zodiac signs

- Aries  $\star \bar{\Gamma}$: Aries is generally called *p3 isw* “the ram,”⁶⁸ and is written with the hieratic version of the animal determinative,  (Gardiner F27, Möller n.166). In these horoscopes, however, the name of the sign is written as *tp*, “head,” in hieratic. This designation is unattested elsewhere as far as I know. It could have two layers of meaning. Aries was the first sign of the zodiac, which could justify its designation as *tp(.y)* “first.”⁶⁹ The head-sign can also be read as *cnh* in Ptolemaic,⁷⁰ which is the Egyptian designation of the billy-goat.⁷¹ This was in Demotic the abbreviated designation for Capricorn, for which see below. The ram (*sr/isw*), a male sheep, could be replaced by a billy-goat (*cnh*) in some occasions, as both the ram of Amun, and the Ba of Mendes.⁷²
- Taurus  $\star \bar{\Gamma}$: Taurus, *p3 k3*, is written here with the hieratic bull-sign (Gardiner E1, Möller n.142).
- Gemini  $\star \bar{\Gamma}$: The orthography of Gemini, *n3 htr.w* “the Twins” here is unusual. Winkler has suggested the plausible reading $\star \bar{\Gamma}$, but he does not give an explanation for it.⁷³ A more common Roman period orthography for this sign is  (Stobart Tablet A obv. V.11), which could be a hieratic form of the *htr*-sign .⁷⁴ The word may also be written just with the *h*-sign,⁷⁵ which has the same shape as the demotic group for *hr:t* “eye” (). If the two vertical strokes of the *htr*-sign

of the Stobart Tablet are interpreted as two *h*-signs, they could then, in another step, have been seen as a double writing of the demotic *ir:t* ligature and then transcribed into hieratic as two superimposed hieratic eye signs $\star\text{𐀀}$.

- Cancer $\star\text{𐀀}$ $\star\text{𐀀}$ $\star\text{𐀀}$: Cancer, $p^3 gnhd$, is normally written in abbreviated form with the *g*-sign, or with a beetle sign in the Stobart Tablets.⁷⁶ The writing here uses the back-sign 𐀀 (Gardiner extended list F37B; Möller n.174), which might have been derived from the hieratic form of the *g*-sign (cf. Möller n.395). In hieroglyphic inscriptions of the Graeco-Roman period, the back-sign is used as substitute for others of similar shape.⁷⁷ Sandra Lippert notes to me that this sign was also used for the centipede, which may connect it with crustaceans through their having many legs.
- Leo $\star\text{𐀀}$ $\star\text{𐀀}$: The writing for Leo, $p^3 m^3y$, with the hieratic knife-sign (Gardiner T30-31, Möller n.441) is well-known from other astronomical and astrological texts.⁷⁸ This sign was already identified by Spiegelberg in his pioneering study of the symbols for the zodiac signs.⁷⁹ As far as I know, this orthography has not been explained. It could be connected with the god $\check{S}smw$, which is also the name of one of the decans. In his lion form, he is designated as $m^3y \check{S}smw$.⁸⁰ The name of this god is written in a few instances with the knife-sign,⁸¹ but it also presents orthographies that employ the lion-sign.⁸² Another possibility would derive from the similar shape between the hieratic form of the lion-sign 𐀀 (Gardiner E23, Möller n.125) and that of phallus 𐀀 (Gardiner D52, Möller n.95) as part of the writing of $\text{𐀀} s\check{s}m$, which can also be written as 𐀀 .⁸³
- Virgo $\star\text{𐀀}$ $\star\text{𐀀}$: The sign used for Virgo, $t^3 rpy.t$,⁸⁴ here is the hieratic version of 𐀀 (Gardiner B7C, Möller n.62).
- Libra $\star\text{𐀀}$ $\star\text{𐀀}$: The sign used for Libra, $3ht$, the horizon-sign, is the one present in most sources,⁸⁵ and was already identified by Spiegelberg.⁸⁶
- Scorpio $\star\text{𐀀}$ $\star\text{𐀀}$: Scorpio, $t^3 dl.t$, is represented here with the hieratic writing of the scorpion-sign (Gardiner extended list L19, Möller n.262), while in other sources the common sign is the snake (Möller n.247).
- Sagittarius $\star\text{𐀀}$ $\star\text{𐀀}$: The orthography used here for Sagittarius, $p^3 nty 3th$ ⁸⁷ is also the regular one, with the arrow-sign.
- Capricorn $\star\text{𐀀}$ $\star\text{𐀀}$: The abbreviation used here for Capricorn appears in other sources such as P. Berlin 8279⁸⁸ and was interpreted by Spiegelberg as the hieratic form of the animal determinative 𐀀 .⁸⁹ This is not correct, as comparison with the sign for Aries in Spiegelberg's own table shows.⁹⁰ Instead, it should be interpreted as the hieratic sign for *hr* "face" (Gardiner D2, Möller n.80), as an abbreviation of the name of the sign, $p^3 hr n \text{ } ^c nh.t$. The other sign used to abbreviate the name is $\text{ } ^c nh$.⁹¹
- Aquarius $\star\text{𐀀}$ $\star\text{𐀀}$ $\star\text{𐀀}$: The orthography for Aquarius, $p^3 mw$, is the one attested also in the Stobart Tablets, with the triple water line.⁹²
- Pisces $\star\text{𐀀}$ $\star\text{𐀀}$ $\star\text{𐀀}$: Pisces, $n^3 tbt.w$,⁹³ written with a single hieratic fish sign, follows the orthographies of P. Berlin 8279 and the Stobart Tablets.⁹⁴

Commentary

The four horoscopes edited here (O. Athribis 17-36-5/1741: Texts 1–3; ANAsh. Mus.D.O.633: Text 4) present the same structure, consisting of the following elements, which will be individually discussed in the next sections:

- Date of birth of the native, with regnal year, month and season, day, hour.
- Entry for the Sun, with longitude including zodiac sign, degree, and Term ruler.
- Entry for the Moon with two longitude indications including Term ruler, a lunar date, and short phrase after (Text 1, 3, and 4) or before (Text 2) the lunar date.
- Entries for the five planets, with zodiac sign, longitude, Term ruler, and a short phrase.
- Position of the 4 cardines with longitude including zodiac sign and degree.
- Position of the rest of the Places, with zodiac sign.
- Side notes with the name and filiation of the native, and the location, which is specified as Athribis (*T³-Rpy.t*) in the horoscopes on O. Athribis 17-36-5/1741. The place name on ANAsh.Mus.D.O.633 may be a village close to Athribis, since the name of the native is Kolanthes (cf. notes to Text 4b).

Sun data and civil calendar dates

The dates in all four texts give a regnal year, followed by the month in the Egyptian calendar with ordinal number within its respective season, day of the month, and hour of birth of the native, identified as hour of the day or night. For Texts 1–3, no indication is made as to whose regnal year the horoscopes refer to, while in Text 4 the date corresponds to regnal year 8 of *b³ Pr-ḥ.t* “the Queen.” The astronomical data in the horoscopes confirms that the dates on Texts 1, 2, and 3 correspond to years 27, 21, and 6 BCE, that is the regnal years 4, 9, and 24 of Augustus, respectively. The Queen mentioned in Text 4 is Cleopatra VII. The calendar used in these horoscopes is in all cases the Egyptian calendar.

The dates of the horoscopes are thus the following:

- Text 1: Year 4 of Augustus, third month of Akhet (Hathyr), day 4, eighth hour of the day = 1 November 27 BCE.
- Text 2: Year 9 of Augustus, first month of Shemu (Pachons), day 21, second hour of the day = 15 May 21 BCE.
- Text 3: Year 24 of Augustus, fourth month of Shemu (Mesore), day 21, eighth hour of the day = 10 August 6 BCE.
- Text 4: Year 8 of Cleopatra VII, fourth month of Peret (Pharmouthi), day 22, seventh hour of the day = 22 April 44 BCE.

The dates presented here seem to indicate that we are dealing with four natives belonging to 3 generations—although not necessarily to the same family—, roughly separated by 20 years, and born during the reigns of Cleopatra VII and Augustus. The three horoscopes on O. Athribis 17-36-5/1741 are all for women, from two successive generations.⁹⁵ The fact that the texts seem to have been written by the same hand suggests a composition date close to the last date recorded, 6 BCE, at least for the horoscopes on O. Athribis 17-36-5/1741. This would explain why Augustus, as the current ruler, did not require to be mentioned in the text, while the distinction of his regnal years from those of the previous ruler, Cleopatra VII, indicated on Text 4, may suggest that the Ashmolean ostracon was also written during Augustus’ reign. Her designation as *b’ Pr-ḳ.t* “the Queen” rather than by her name could perhaps derive from an unwillingness to mention her during the reign of her former opponent, Augustus.⁹⁶

The data for the Sun presented in the text corresponds, with minimal error, to computed data according to the *Almagest* tables⁹⁷:

Text 1		Text 2		Text 3		Text 4	
Text	Computed	Text	Computed	Text	Computed	Text	Computed
☉: ♍ 1x	☉: ♍ 13	☉: Ḳ 27° ḥ	☉: Ḳ 28	☉: ♏ 21 ḳ	☉: ♏ 20	☉: Ḳ 4 ♀	☉: Ḳ 6

Moon data and lunar calendar dates

The entries for the Moon in the horoscopes give a series of data: two indications of longitude with zodiac sign, degree, and Term ruler; a lunar date; and a short phrase that might be connected to the calculation of the length of life. Leaving the discussion of the short phrases for a later section (“Indications possibly connected to the calculation of the length of life,” below), I focus here on the first three elements. The first indication of longitude in each horoscope corresponds, with some margin of error, to the position of the Moon for the date and time given in the civil calendar date. The error is generally inferior to 10°, except in the case of Text 2, in which there is more than one sign (33°) of difference between the longitude in the text and the computed one. The degrees for the second entry on Text 2 have been reconstructed on the basis of the Term ruler:

Text 1		Text 2		Text 3		Text 4	
Text	Computed	Text	Computed	Text	Computed	Text	Computed
☾: ♀ 2°8’ ♀ Ḳ 6° ♀	☾: ♀ 27	☾: ♍ 16 ♀ ‘ ♍’ [7–11] ♀	☾: ♀ 19	☾: ‘♄’ 6 ♂ Ḳ 12 ḳ	☾: ♀ 30	☾: ♀ 20 ½ ♂ ♁ 6 ḥ	☾: ♀ 23

The second line in each one of the text entries on the previous table corresponds to a second indication of longitude, complete with zodiac sign, degree, and Term ruler. I have not been able to find any parallels for the presence of this second indication of

longitude in the extant Demotic and Greek horoscopes. The data do not correspond to the lunar nodes (☾ Text 1: Gemini 1°; Text 2: Aquarius 14°; Text 3: Aries 19°; Text 4: Taurus 10°). They also do not correspond to the position of the Moon in the full Moon previous or following the date of birth of the native. I propose to interpret these longitude indications as the positions of the Moon at the moment of conception of the native. The rule attributed to Petosiris for this calculation says that the Moon was located at conception where the Ascendant is at birth.⁹⁸ This, however, does not correspond to the data presented in our four horoscopes. Other methods for the calculation of the date of conception, using the position of the Moon, are reported by Antiochus of Athens, Hephestion, and Proclus.⁹⁹ It is interesting to note that, if we plot all the data of the horoscopes into diagrams (cf. Figures 2–5 in section “Diagram for each horoscope,” indicated by a black Moon symbol), we obtain only two positions within the Places for these second longitude indications for the Moon. Texts 2 and 3 locate the Moon in Place 6, with a longitude not preserved for Text 2, and of 12° within the sign for Text 3; and Texts 1 and 4 locate it in Place 3, both with a longitude of 6° within the sign. As I will discuss in section “The four cardines and the Places,” these are the Places of *mwt* “Death” (Place 3) and *wry.t* “Bad Fortune” (Place 6). While these correspondences could be due to coincidence, they may actually have a particular meaning within each astrological diagram. Comparison with more horoscopes should help clarify this issue.¹⁰⁰

The third element in the Moon entries corresponds to a new date. This date starts with a year number, and it is followed by either *mḥ-1.t* “first” or *mḥ-2.t* “second” (see discussion below). The location of these dates suggests a connection with the Moon, and brings to mind the 25-year lunar cycle of P. Carlsberg 9 (Demotic) and P. Rylands IV 589 (= P. Rylands inv. 666; Greek). According to P. Carlsberg 9, a successive series (jumping one, 44 CE) of five 25-year lunar cycles started on years 19,¹⁰¹ 69, 94, 119, and 144. P. Rylands IV 589 presents a different arrangement for the designated first years of each cycle, starting in 181 BCE.¹⁰² According to P. Carlsberg 9 the beginning of this cycle should take place in 182 BCE. Thus, year 1 of the cycle in P. Rylands IV 589 corresponds to year 2 in P. Carlsberg 9.¹⁰³ If we set the lunar dates in our texts in parallel with the civil calendar ones that open each horoscope, we obtain the following table:

	Civil Date	Lunar Date
Text 1	Year 4 of Augustus, third month of Akhet (Hathyr), day 4, eighth hour of the day = 1 November 27 BCE	Year 5, <i>mḥ-2.t</i>
Text 2	Year 9 of Augustus, first month of Shemu (Pachons), day 21, second hour of the day = 15 May 21 BCE	Year 11, <i>mḥ-1.t</i>
Text 3	Year 24 of Augustus, fourth month of Shemu (Mesore), day 21, eighth hour of the day = 10 August 6 BCE	Year 1, <i>mḥ-2.t</i>
Text 4	Year 8 of Cleopatra VII, fourth month of Peret (Pharmouthi), day 22, seventh hour of the day = 22 April 44 BCE	Year 13, <i>mḥ-1.t</i>

If we extend the cycles on P. Carlsberg 9 back, we see that the previous cycles to that of 19 CE started in years 7, 32, and 57 BCE. In the case of P. Rylands IV 589 the years would be 6, 31, and 56 BCE. Thus, the lunar years in the four horoscopes correspond to the enumeration presented on P. Rylands IV 589: year 1 of the cycle that starts in 6 BCE (Text 3), years 5 and 11 of the cycle that starts in 31 BCE (Texts 1 and 2 respectively: 27 and 21 BCE), and year 13 of the cycle that starts in 56 BCE (Text 4: 44 BCE). The explicit mention of specific years within the 25-year lunar cycle according to P. Rylands IV 589 in our four horoscopes is proof that this cycle had a practical use beyond the theorization presented in this papyrus and P. Carlsberg 9.

Following these dates are the indications *mḥ-1.t* “first” and *mḥ-2.t* “second.” These correspond to the two halves of the lunar cycle: waxing and waning. If we check the positions of the Sun and the Moon in each horoscope, we can confirm that in Text 1 (Sun in Scorpio 1x, Moon in Libra 28) and 3 (Sun in Leo 21, Moon in Cancer 6) the Moon was waning, and in Texts 2 (Sun in Taurus 27, Moon in Virgo 16) and 4 (Sun in Taurus 4, Moon in Gemini 20 ½) it was waxing (cf. Figures 2–5 in section “Diagrams for each horoscope”). This interpretation is also valid for ANAsh.Mus.D.O.641 (Sun in Libra, Moon in Scorpio, indicated in the text as *mḥ-1.t* = waxing Moon), and ANAsh.Mus.D.O.685 (Sun in Scorpio, Moon in Piscis, in the text as *mḥ-1.t* = waxing Moon). The inclusion of the lunar phases in these horoscopes may have correspondence in the astrological manual called “Nechepsos Astrology” (P. CtYBR inv. 422 vo.).¹⁰⁴ In this text the Moon is said to be “on (*hr*) its small *hl̥3(.t)*,”¹⁰⁵ a word which the editors do not translate, but for which Sandra Lippert convincingly suggests “sustenance” (*hl̥3.t*).¹⁰⁶ Although it is never preserved in the text, Lippert suggests the existence of a *hl̥3(.t) ʿ3(.t)* “large sustenance” in contrast to *hl̥3(.t) hm(.t)* “small sustenance,” and interprets the expression “(the Moon) being on its large/small sustenance” as the waxing and waning sections of the lunar cycle respectively.

Planetary positions


After the entries for the two luminaries, the horoscopes list the position of the five planets indicating their longitude with zodiac sign, degree, and Term ruler. The latter element will be discussed in the next section, but here it is relevant to note that the presence of the Term ruler in the entries allows in some cases the confirmation of doubtful readings, or the estimation of the interval corresponding to the degree (I have marked these instances in bold in the following table). The table collects the data for the position of the planets in the four horoscopes, contrasting them with the computed positions using the *Almagest* tables:

The data for Saturn and Jupiter show a high degree of accuracy with respect to the computed longitudes, with a margin of error of less than 5°. In the case of Mars and the two inferior planets, Venus and Mercury, this margin of error expands in some cases up to 10°. The entries for Venus and Mercury in Text 4 only preserve the degree and Term ruler. In the case of Venus, we can securely reconstruct Taurus through its indication of degree and Term ruler from the computed data. In the entry for Mercury, with 10° and Venus as Term ruler, however, according to the Egyptian system, the sign should be either Aries (♀ 6°–12°), which I have tentatively added to the table, or Cancer (♀ 7°–13°), of those close to the computed Taurus 25°. Taurus has Mercury as Term ruler for 10°, and Gemini has Jupiter. The error is thus quite significant in this case, and it may be due to a mistake either in the indication of the Term ruler or the degree. As I note in the following section, while most of the Term rulers are correct, Text 2 gives the wrong Term ruler for the position of Jupiter and Venus.

Term rulers

The entries for the two luminaries and the planets indicate their positions by giving their longitude with zodiac sign and degree. They also include two more elements, the Term ruler and a short phrase. These horoscopes use the Egyptian System of Terms¹⁰⁷ (ὄριον, pl. ὄρια, called *dn̄.t* “share,” in Demotic¹⁰⁸). In those cases in which the Term ruler is the same as the planet for which it is being indicated, it is recorded as *t̄y=f dn̄.t ḥc=f* “his own Terms” (Text 1, line 5; Text 2, line 6; Text 4, lines 6 and 9). The indications for the Term rulers are correct according to this system except for the entries for Jupiter and Venus on Text 2 and perhaps that for Mercury on Text 4. For Jupiter, Capricorn 11° appears as ruled by Venus, while the correct ruler should have been Jupiter (7°–14°). It should thus appear as *t̄y=f dn̄.t ḥc=f*. For Venus, Cancer 6° appears as ruled by Saturn, while the correct ruler should be Mars (0°–7°). These Term ruler attributions do not correspond to the Chaldean system,¹⁰⁹ that of Ptolemy,¹¹⁰ or any of the variants recorded by Vettius Valens, Firmicus Maternus, or the *Liber Hermetis*.¹¹¹ In the case of the entry for Jupiter, the Term ruler for Sagittarius 11° and Aquarius 11° is Venus, and the third Term ruler of Capricorn (14°–22°) is also Venus, so the astrologer may have made a mistake when consulting his tables. In the case of Venus, the previous Term ruler to Cancer 0°–7°, Gemini 24°–30°, is Saturn, so a mistake is also possible here. It is important to note that, as far as I know, those in the Athribis group are the only Demotic horoscopes that include Term rulers in their data. They also constitute the earliest attestation of the Terms on horoscopes in the Graeco-Egyptian context.¹¹²

Indications possibly connected to the calculation of the length of life

Most of the entries for the Moon and the planets conclude with an indication composed by a short phrase (in most cases abbreviated to a single word). The nature of these short phrases is not completely clear. In the four horoscopes we find two options: (*iw=f*) *w̄ḥ* and (*iw=f*) *mwt*. The main problem in the interpretation of these short phrases is the polysemy of the term  *w̄ḥ*, which has a variety of meanings connected to “to put, place.”¹¹³ It can also be understood as “to interpret,”¹¹⁴ intransitively as “to endure,”¹¹⁵ and as “to

add.”¹¹⁶ While (*iw=f*) *mwt* is unambiguously negative, the meaning of (*iw=f*) *wʒh* is less obvious.




With the range of meanings available for *wʒh*, these short phrases could be understood as brief astrological interpretations of each entry, constituting the astrologer’s own notes.¹¹⁷ These would have to be complemented later on by a more thorough interpretation using an astrological manual. Thus, *wʒh* understood as “to interpret” could act as a cue to the astrologer for further discussion. To my knowledge, only one other Demotic horoscope includes brief interpretations. This is O. Glasgow D 1925.96,¹¹⁸ a horoscope from Medinet Habu dating to year 36 of Augustus (6/7 CE). The interpretations are brief notes of only one kind: *nʒ-nfr=f* “it is good.”¹¹⁹ No negative outcomes are attested in it. As Quack has pointed out in his edition of this text, these brief notes are not otherwise attested, although some Greek horoscopes on some occasions include a global interpretation either at the end or at the beginning of the text. He indicates that the closest element to these brief notes is a specific indication of the danger of the position of Mars at the end of P. Oxy. 804.¹²⁰ The different notation in the Athribitan horoscopes and O. Glasgow D 1925.96, which all date to the reign of Augustus, could point toward the existence of different astronomical/astrological traditions contemporaneously in Egypt. This is evidenced as well in the different structure, choice of elements for inclusion in the horoscopes, as well as different symbols used for the indication of the celestial bodies and zodiac signs, in the Demotic astronomical and astrological texts attested so far in different geographical locations in Egypt.

There is, however, a problem with the understanding of these short phrases as brief interpretations referring to the native. In the case of Texts 1, 2, and 3, the natives for whom the horoscopes have been composed are all women, and thus we would expect the short notes, in those cases in which they are written in full (Text 1, l. 7, 8), to appear in the feminine: *iw=s wʒh*. A possible explanation could be a mistake of the scribe, used perhaps to employing the abbreviated writings, and perhaps influenced by the use of the third person masculine singular pronoun in the phrase *dn.t h^c=f* (Text 1, l. 5) two lines above in the indication of the Term ruler, in that case referring to the planet.

A solution to this problem, which I have followed in my translation, is to consider these short phrases as referring to the planets and the luminaries themselves, which are all masculine in Egyptian, and not to the natives. In this case, a different interpretation for these short phrases according to classical astrology is possible. They could be considered as indications connected to the calculation of the length of life of the native.¹²¹ In the case of our horoscopes, the two short phrases attached to the Moon and the planets would characterize these celestial bodies as the *datores vitae* “givers of life,” providing the individual with a certain number of years of life depending on a number of factors.¹²² Thus, those entries with the short phrase (*iw=f*) *wʒh* “he adds,” would indicate that a certain number of years should be added, counting toward the total lifetime of the native. This information could be derived from the celestial body to which the entry refers, or perhaps from the Term ruler indications, which appear next to the short phrases in every case. In Texts 1, 3, and 4, all the entries that include one of these short phrases correspond to (*iw=f*) *wʒh* except for one in each case, which is designated as (*iw=f*) *mwt* (Text 1: Moon; Text 3: Saturn; Text 4: Saturn). Text 2 contains two of such entries, corresponding to Jupiter and Venus. However, it is worth noting that both entries give the wrong Term ruler, and thus the short phrase might also be erroneous. If this is the case, the entries





corresponding to Saturn (Texts 3 and 4), the Moon (Text 1), and either Jupiter or Venus (Text 2) would be the only ones designated in each horoscope with (*iw=f*) *mwt*. Here, *mwt* could be interpreted as the transitive form “to kill,” as in Coptic ΜΟΥΟΥΤ,¹²³ and the entries translated as “he kills,” perhaps signaling the celestial body that would determine the type of death.¹²⁴ Since these horoscopes do not give a result for calculation of the length of life of the natives, I refrain from attempting here an explanation of how these calculations would work, as the systems were notoriously convoluted already in Antiquity.¹²⁵ The translations for both phrases, according to this interpretation, would thus be:

- (*iw=f*) *w3h* “(he) adds.”
- (*iw=f*) *mwt* “(he) kills.”

A third option for these short phrases appears in the horoscopes recorded on ANash. Mus.D.O.634 and ANash.Mus.D.O.641. In both cases, the hieratic sign  (ANash. Mus.D.O.634, line 4, entry for Saturn)  (ANash.Mus.D.O.641, line 4, entry for Saturn) has been added after the Term ruler. I propose to read this sign as  (Gardiner P6, Möller n.380), standing for (*iw=f*) *ch*^c. This expression could be translated as “he stands/stays/stops,” perhaps indicating that no years are to be added in this case.¹²⁶ The term *ch*^c is used in the planetary table P. Monts.Roca inv. 314 to indicate the stations of the planets, and thus, lack of movement on their part.¹²⁷ A further nuance to this meaning may be found in the hemerological texts.¹²⁸ The term *ch*^c (alternatively written as *ch3*)¹²⁹ is used in them in contrast to *nfr*. The latter indicates that a day is “good,” while *ch*^c is interpreted in these texts as “uncertain.” In the context of the horoscopes, this could mean that the influence of the planet on the length of the native’s lifespan is unclear. This may provide further insight into the meaning of the previously mentioned short phrases in O. Glasgow D. 1925.96, which may refer not just to the influence of each planet in general, but to indications concerning the lifetime of the native. The term used in the Glasgow ostrakon, *n3-nfr=f*, parallels the terminology of the hemerologies, and may be equivalent to our (*iw=f*) *w3h* “(he) adds.” The dichotomy *ch3-nfr* in hemerologies was still in use in the Roman period.¹³⁰ If the interpretation suggested here is correct, these short phrases would constitute the only predictive section of these horoscopes, and thus it would make sense that the astrologers would have had recourse to terminology from a preexisting Egyptian predictive genre in order to implement it to the new horoscopic texts.

The four cardines and the twelve Places










The last section of each horoscope gives the longitude of the four cardines (κέντρα), with zodiac sign and degree. It is relevant to highlight that these are the oldest horoscopes that register the cardines and the Places.¹³¹ The cardines are labeled as follows:

1. Ascendant:  (*r*^c)-*h*^c “(Place of) Ascension.”
2. Descendant:  (*r*^c)-*htp* “(Place of) Rest.”
3. Midheaven:  (*šy n*) *p.t* “(Lake of the) Sky.”
4. Lower Midheaven:  (*šy n*) *dw3.t* “(Lake of the) Duat.”

	Ascendant	Descendant	Midheaven	Lower Midheaven
Text 1	(<i>r^c-</i>) <i>h^c</i> 𐀨 10	(<i>r^c-</i>) <i>h^c</i> 𐀓 10	(<i>šy n</i>) <i>p.t</i> 𐀠 8	(<i>šy n</i>) <i>dw3.t</i> 𐀓 8
Text 2	(<i>r^c-</i>) <i>h^c</i> 𐀓 2 ^r 7	(<i>r^c-</i>)<i>h^c</i> 𐀠 27	(<i>šy n</i>) <i>p.t</i> 𐀨 25	(<i>šy n</i>) <i>dw3.t</i> 𐀓 25
Text 3	(<i>r^c-</i>) <i>h^c</i> 𐀠 21	<i>h^c</i> 𐀓 21	(<i>šy n</i>) <i>p.t</i> 𐀓 19	(<i>šy n</i>) <i>dw3.t</i> 𐀨 19
Text 4	(<i>r^c-</i>)<i>h^c</i> 𐀓 19	(<i>r^c-</i>)<i>h^c</i> 𐀠 19	(<i>šy n</i>) <i>p.t</i> 𐀠 17	(<i>šy n</i>) <i>dw3.t</i> 𐀓 17

The elements highlighted in bold in the table have been reconstructed using the preserved data. In Texts 1 and 3 at least one of the pairs of cardines preserves the indication of degree, so the reconstruction is straightforward. The interval between the Ascendant and Midheaven in Texts 1 and 3 is 92°, and that between Midheaven and the Descendant 88° (92+88=180°). Following this rule, I have reconstructed the missing longitudes for Text 2 and Text 4 as indicated in the table above.

The four cardines are followed by an indication of the remaining eight Places (τόποι). These are the following, listed in the order in which they appear in these horoscopes:

5.  *shn* *cnh* “Provision of Life”: The orthography of *shn* is a common demotic abbreviation of this word, with the tall *s* and the V36-sign ligatured, followed by the hieratic forms of *cnh* and the divine determinative. A similar writing (with an additional feminine .*t*) is attested in wine jar labels from Athribis, read as *shn.t* “provision, delivery” by Lippert.¹³²
6.  *sn* “Brother”: The hieratic form of the sign  (Gardiner X5, Möller n.571), which has the phonetic value *sn*, in this case used unorthographically for *sn* “brother.”
7.  *špsy.t* “Good Fortune”: The hieratic cobra sign is the determinative of the word, used here to represent the complete word.¹³³
8.  *wry.t* “Bad Fortune”: Written here as demotic *wr3*.¹³⁴
9.  *cnh* “Life”: Written with the hieratic form of *cnh*.
10.  *mwt* “Death”: The orthography of *mwt* here is the standard demotic one.¹³⁵
11.  *šy* “Good Daimon”¹³⁶: One of the common determinatives for the word *š3.w* in the Graeco-Roman period was the snake,¹³⁷ and it is the consistent determinative for the word in demotic,¹³⁸ where we find orthographies that consist of just the snake sign plus divine determinative.¹³⁹ Thus, the sign here may be a simplified version of the snake sign, written in this way to graphically distinguish it from the cobra sign used in *špsy.t*. It is interesting to point out that the snake sign is used in other astronomical texts to designate Scorpio,¹⁴⁰ while here the scorpion sign is used. The shape of the sign for *šy* in these horoscopes is very similar to writings of *hry*.¹⁴¹ Another common writing of the name of the god Shai uses the pustule-sign  (Gardiner Aa2), but the hieratic form of this sign

does not correspond with the writing in the horoscopes (cf. Möller n.566, n.582).

- 12. *šš(r)* “Bad Daimon”: The first sign here appears in the hieratic orthography for *šš* in P. London-Leiden.¹⁴² The sign does not correspond to the hieratic form of the writing palette (Gardiner Y3, Möller n.537). Instead, the hieratic sign used here is the head of bubalis *𓆏* (Gardiner F5, Möller n.151), which has the phonetic value *šš*, originally from *ššʕ*.¹⁴³ The second sign is the hieratic dying man (Gardiner A14, Möller n.49), as determinative.¹⁴⁴

Thanks to the combination of the fairly complete lists on Texts 1 and 3, the whole list can be reconstructed in the four horoscopes, and the zodiac signs distributed (Figure 1). The representation of the data in a diagram, however, shows an intriguing detail (the black numbers indicate the order in which the Places are given in the four horoscopes; the gray numbers show the traditional order for the twelve Places¹⁴⁵):

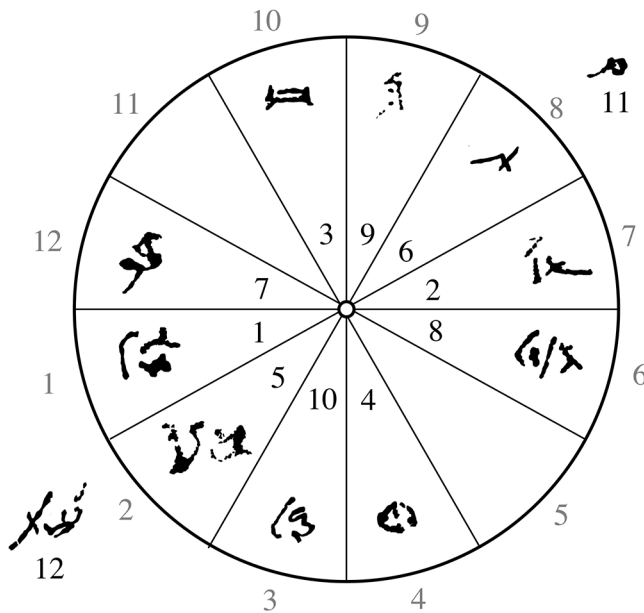


Figure 1. Distribution of the four cardines and the Places.

The distribution of the Places in the diagram shows that, although they are listed consecutively in the horoscopes, they are organized as pairs of opposites, much like the cardines, and located facing each other. This distribution is different to that used in the other known Demotic horoscope that gives us a complete list of the Places, O. Neugebauer 3.¹⁴⁶ O. Neugebauer 3 lists the four cardines first, followed by the *swšp* and *twr*,¹⁴⁷ and a list of 11 Places, in which three of the cardines (minus the Ascendant) appear mentioned

a second time with different names. These Places are distributed in counterclockwise order starting with the second position after the ascendant, “Provision of Life.” Thus, the Place *sn* “Brother,” located opposite to “Provision of Life” in our horoscopes, in the traditional position 8, is in O. Neugebauer 3 located in the traditional position 3, which is occupied in our horoscopes by “Death.” The distribution in O. Neugebauer 3 corresponds to that found in Greek and Latin horoscopes later on. This difference seems to point toward two different traditions, one attested in Thebes (O. Neugebauer 3) and an Athribitan one. Another text that preserves a complete list of the names of the Places in Demotic is P. Berlin 8345,¹⁴⁸ but since this is an astrological handbook, it does not provide data for their distribution. Nevertheless, the names used for the Places in P. Berlin 8345 are the same, although written with different orthographies, as those used in our horoscopes, except for number 9, which is called *ntr* in P. Berlin 8345 and O. Neugebauer 3, and *ḥnh* in our horoscopes.

The distribution in the Athribitan horoscopes is as follows. The cardines are the first two pairs given in the horoscopes [*(r^c)-h^c* (1) and *(r^c)-h^{tp}* (2); *(šy n) p.t* (3) and *(šy n) dwš.t* (4)]. The next two pairs [*šhn ḥnh* (5) and *sn* (6); *špsy.t* (7) and *wry.t* (8)] are distributed on both sides of the first pair of cardines, with 5 and 6 being the *ἐπιναφοραί* of 1 and 2, and 7 and 8 their *ἀποκλίματα*. The fifth pair of Places [*ḥnh* (9) and *mwt* (10)] are the *ἀποκλίματα* of the second pair of cardines. One would expect the sixth pair of Places [*šy* (11) and *sšr* (12)], only preserved in Texts 1 and 3, to be in turn the *ἐπιναφοραί* of the second pair of cardines. However, they are given the same zodiac signs as the third pair but reversed (*šy* with *sn*, and *sšr* with *šhn ḥnh*). They are located in the traditional Places 2 and 8. Thus, the zodiac signs for the traditional 5th and 11th Places, the *ἐπιναφοραί* to the fourth and third cardines respectively, are not indicated in any of the two horoscopes. The fact that this occurs in both Texts 1 and 3 either indicates that this was done deliberately,¹⁴⁹ although I cannot think of a reason for it, or that there was some kind of mistake in the astrologer’s notes, or perhaps in his use of astrological handbooks organized according to the Classical system. However, the mistaken positions used for “Good Daimon” and “Bad Daimon” do not correspond to their positions in this system either, where they are located in opposite quadrants. ANAsh. Mus.D.O.685 singles out *šy* and *sšr*, which may indicate that special relevance was given to these two places. It is interesting to remark that in the system followed in the Athribitan horoscopes, good concepts such as “Life,” “Good Fortune,” and “Good Daimon” are placed in the upper half of the diagram, while “Death,” “Bad Fortune,” and “Bad Daimon” are located in the lower, underground section. In the Classical system these opposite Places are located next to each other, with instead an opposition between Fortune and Daimon, and opposite pairings of “Good Fortune”-“Good Daimon,” and “Bad Fortune”-“Bad Daimon.” The distribution in the Athribitan horoscopes, which displays a clear opposition between the world of the living vs. the underworld, shows a duality that is genuinely Egyptian.¹⁵⁰

Diagrams for each horoscope

The following diagrams collect the data of the four horoscopes (Figures 2–5):

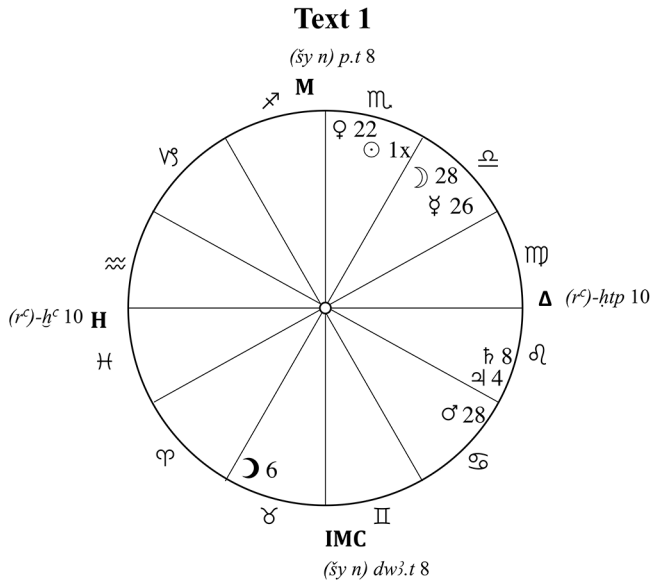


Figure 2. Diagram with representation of the data for Text 1.

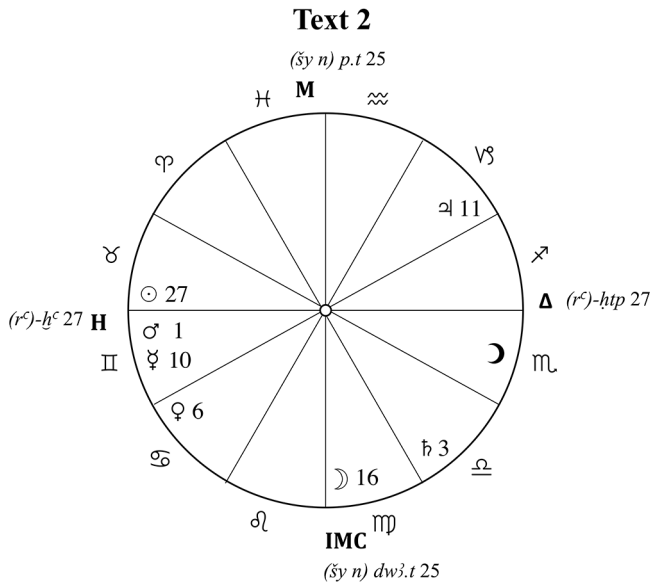


Figure 3. Diagram with representation of the data for Text 2.

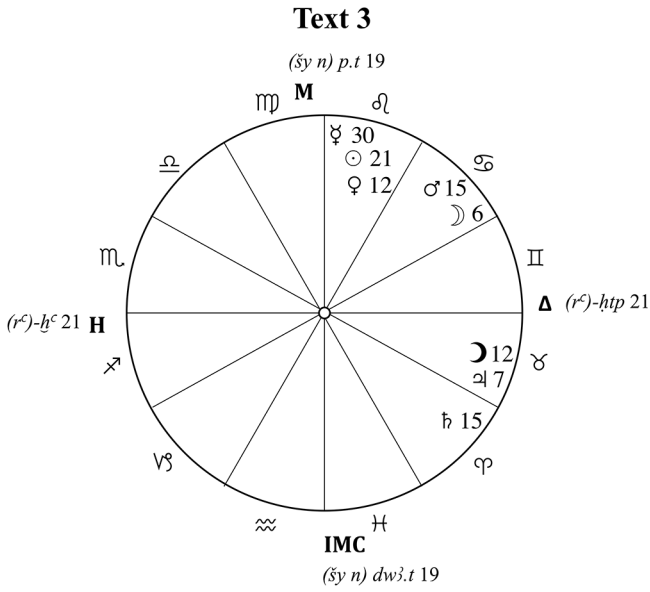


Figure 4. Diagram with representation of the data for Text 3.

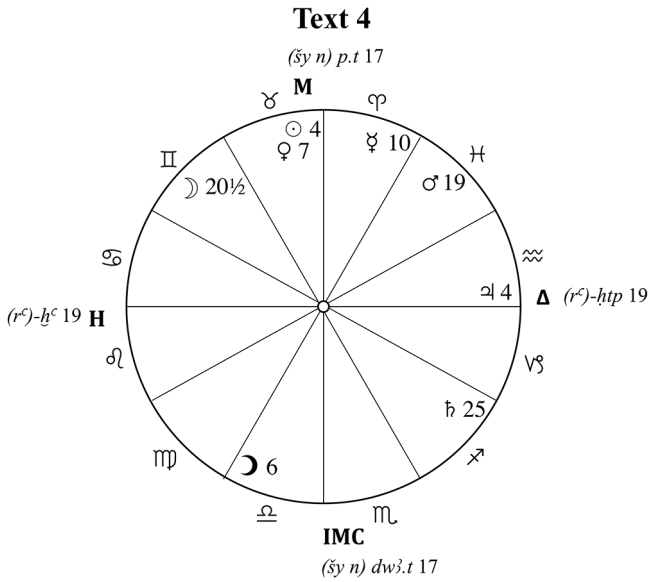
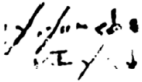
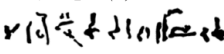

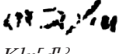


Figure 5. Diagram with representation of the data for Text 4.

Names of the natives and location

Each horoscope includes a note on the side with the name of the native and his/her origin. The latter in the three horoscopes on O. Athribis 17-36-5/1741 is Athribis (*T3-Rpy.t*). The names are the following (for commentary on each name, cf. the individual text editions *supra*):

	Transliteration	Translation
Text 1b	 <i>T3-šr.t-P3-ḳl</i> <i>ta Ḳlnḏ3(?)</i>	Tsenpelilis, daughter of Kolanthes(?)
Text 2b	 <i>Ta-n3-wr.w-w ta Sm3-t3.wy(?)</i>	Tanaourouaou, daughter of Somtous(?)
Text 3b	 <i>Ta-n3-wrš.w</i> <i>ta Pa-n3-wrš.w</i>	Tanorseus, daughter of Panorseus
Text 4b	 <i>Ḳlnḏ3</i>	Kolanthes

Conclusion

The texts presented in this paper are a significant addition to the corpus of ancient horoscopes, constituting the earliest group attested so far in Egypt. Ancient western horoscopes are currently known in Akkadian, Demotic, Coptic, Greek, and Latin.¹⁵¹ According to a recent census, 60 Demotic horoscopes have come down to us on 49 ostraca.¹⁵² To this should now be added O. Athribis 17-36-5/1741 with its three new horoscopes, forming with ANash.Mus.D.O.633 and the still unpublished ANash.Mus.D.O.519, 634, 641, 685, 741 a new Athribitan group that will be expanded with the edition of further newly discovered astrological ostraca from this site, currently in progress.

The complexity of the structure of these horoscopes demonstrates that the discipline of astrology was well developed in this region already by the first century BCE. These horoscopes confirm that the so-called Egyptian system of Term rulers was already in place as we know it at this point. A remarkable element of this group of horoscopes is the entry for the Moon, which in each case contains two longitude indications and a further date, as well as a short phrase that may be connected to the calculation of the length of life. While the first longitude corresponds quite well with the position of the Moon at the date of birth of the native, the second one is more difficult to interpret. I have proposed

here that this second longitude may be identified with the position of the Moon at the conception of the individual, but I have not been able to relate the positions in the four horoscopes with any of the known ancient theories for the calculation of this date. I have pointed out, nevertheless, that the positions recorded correspond to only two specific locations in the Places: those identified as *mwt* (“Death”) and *wry.t* (“Bad Fortune”). This may indicate negative outcomes for the native, but only further research into more horoscopes of this group will clarify these issues. The other relevant element in the Moon entries is the inclusion of a lunar date, which corresponds to the 25-year cycle outlined in P. Rylands IV 589. While other lunar double dates are attested in different Egyptian documents,¹⁵³ these are generally indicated by a number from 1 to 30 referring to the day within the lunar month. The format of the lunar dates present in these horoscopes is unique in its explicit mention of a particular year within the 25-year cycle. They demonstrate the practical use of this cycle attested also in other Demotic documents such as P. Carlsberg 9, in this case for astrological calculations. Unfortunately, the relevance and meaning of the inclusion of this date within the horoscopes is unknown. The second indication in these lunar dates, *mḥ-1.t* “first” and *mḥ-2.t* “second,” may refer to the two sections of the monthly lunar cycle, the waxing and waning of the Moon.

Another unique element of these horoscopes is the presence of a brief phrase within the entries for the Moon and the planets, with three possibilities: (*ḥw=f*) *w3ḥ* “(he) adds,” (*ḥw=f*) *mwt* “(he) kills,” and (*ḥw=f*) *ḥc* “(he) stands/stays/stops” (attested in ANASh. Mus.D.O.634 and 641). I have proposed to identify these as indications for the calculation of the length of life of the native and her/his type of death. The masculine pronouns in these phrases would thus refer to the celestial bodies.

These horoscopes provide new orthographies for the two luminaries and the five planets, as well as for the twelve zodiac signs. They also offer a complete register of the cardines and the Places in Demotic, with orthographies different from those attested in other documents such as P. Berlin 8345¹⁵⁴ or O. Neugebauer 3.¹⁵⁵ The distribution of the Places is different from that attested in O. Neugebauer 3 and in the Classical system, and seems to follow a logic in which those Places connected with positive concepts, such as Life, Good Fortune, and Good Daimon are located in the regions above the horizon, while Death, Bad Fortune, and Bad Daimon, are placed in the underworld.

All the differences attested in the Athribitan horoscopes with respect to roughly contemporary ones, such as those from Medinet Habu, demonstrate the existence of various astrological traditions in Egypt in this early period, a reality that was attested later on in Graeco-Roman astrological literature.

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Notes

1. First publication in W.M.F. Petrie, *Athribis* (London: British School of Archaeology in Egypt; Bernard Quaritch, 1908), pp. 12–3, pls. 36–8. In this publication, the dating of the horoscopes was performed by Knobel, pp. 23–4, who proposed years 59 and 52 CE for zodiac A and B respectively. Neugebauer and Parker corrected this dating to 148 and 141 CE, cf. O. Neugebauer and R.A. Parker, *Egyptian Astronomical Texts III: Decans, Planets, Constellations and Zodiacs* (London: Brown University Press, 1969), pp. 96–8, pl. 51.
2. Petrie, *op. cit.* (Note 1), pp. 11–2.
3. Petrie’s handwritten notes, digitized on the platform “Artefacts from Excavation. British Excavations in Egypt 1880-1980,” list: “3 Inscribed potsherds. Athribis” <http://egyptartefacts.griffith.ox.ac.uk/pmawfp/1d1611>, accessed 27 August 2020. I would like to thank Dr. Sandra Lippert for pointing this reference out to me. I am aware of at least six ostraca with horoscopic content kept at the Ashmolean Museum at present: ANAsh.Mus.D.O.633, re-edited here, plus unpublished ANAsh.Mus.D.O.519, 634, 641, 685, and 741. I wholeheartedly thank Dr. Liam McNamara for granting me access to images of these ostraca.
4. O. Neugebauer and R.A. Parker, “Two Demotic Horoscopes,” *Journal of Egyptian Archaeology* 54 (1968), 231–235.
5. Coordinated by Dr. Sandra Lippert (UMR 8546, AOROC, CNRS-ENS-EPHE-PSL, Paris). I want to wholeheartedly thank Dr. Lippert and Prof. Dr. Christian Leitz (IANES, Eberhard Karls Universität Tübingen), director of the Athribis-Projekt (DFG), for offering me the study and publication of the astronomical/astrological ostraca from Athribis. For a recent overview of the ostraca from Athribis, cf. S.L. Lippert and M. Schentuleit, “Demotic Ostraca and Their Use in Egyptian Temple Context from the Greco-Roman Period: Soknopaiou Nesos and Hut-Répit,” in C. Caputo and J. Lougovaya (eds), *Using Ostraca in the Ancient World. New Discoveries and Methodologies* (Berlin; Boston: De Gruyter, 2020), pp. 183–208; and A. Boud’hors *et al.*, “Les dépotoirs à tessons de Hout-Répit / Atripé et leur matériel inscrit. Rapport préliminaire (mission 2019/2020),” *Bulletin de l’Institut français d’archéologie orientale* 121 (2021), 69–145.
6. Cf. Note 3.
7. Cf. i.e. D.G. Greenbaum, “The Hellenistic Horoscope,” in A.C. Bowen and F. Rochberg (eds), *A Brill Companion: Hellenistic Astronomy. The Science in Its Contexts* (Leiden; Boston: Brill, 2020), pp. 443–71, 452–3 and 467–9, where Neugebauer and Parker’s incorrect translation of ANAsh.Mus.D.O.633 is reproduced; and M.T. Ross, “Demotic Horoscopes,” in A.C. Bowen and F. Rochberg (eds), *A Brill Companion: Hellenistic Astronomy. The Science in Its Contexts* (Leiden; Boston: Brill, 2020), pp. 509–26, p. 513, where Neugebauer and Parker’s wrong reading of *slns* instead of the name of the native, Kolanthes (see my re-edition here: Text 4b), is incorporated into a hypothesis about Greek influence on Demotic horoscopes.
8. The earliest horoscope attested so far is ANAsh.Mus.D.O.641, dated to year 5 of Cleopatra VII (48 BCE), which is part of the Athribis corpus (cf. Note 3).
9. See for the archaeological context of this excavation the contribution by M. Müller, “1. Der archäologische Kontext der Ostraka,” in Boud’hors *et al.*, *op. cit.* (Note 5).

10. Due to the impossibility to view the original as a result of the current pandemic, my analysis of ANash.Mus.D.O.633 is based on a photograph of it kindly provided by Dr. Liam McNamara, the Lisa and Bernard Selz Curator for Ancient Egypt and Sudan, Ashmolean Museum. The ostrakon was previously published by Neugebauer and Parker (Neugebauer and Parker, *loc. cit.* [Note 4]). The side of the ostrakon on which the horoscope is written is not clear from the photograph, and Neugebauer and Parker do not indicate this in their publication.
11. DStretch is a plugin written by Dr. Jon Harman (www.dstretch.com). It uses decorrelation stretch, an image enhancement technique that brings out to the naked eye details by enhancing subtle differences in hue, creating false color images. It works with the image processing program ImageJ.
12. Gardiner = A.H. Gardiner, *Egyptian Grammar. Being an Introduction to the Study of Hieroglyphs*, 3rd ed. (Oxford: Griffith Institute, 1957); Möller = G. Möller, *Hieratische Paläographie*, vol. 3 (Osnabrück: Otto Zeller, 1965).
13. For the toponym *T3-Rpy.t*, cf. M. Chauveau, “Rive droite, rive gauche. Le nome panopolite au IIe et IIIe siècles de notre ère,” in A. Egberts, B.P. Muhs and J. van der Vliet (eds), *Perspectives on Panopolis. An Egyptian Town From Alexander the Great to the Arab Conquest* (Leiden; Boston; Köln: Brill, 2002), pp. 46–53, p. 47. For another attestation, cf. C. Arlt, *Deine Seele möge leben für immer und ewig. Die demotischen Mumienschilder im British Museum* (Leuven; Paris; Walpole, MA: Peeters, 2011), 100 (no 153, b l. 5). I thank Sandra Lippert for these references.
14. Cf. M. Smith, *Papyrus Harkness (MMA 31.9.7)* (Oxford: Griffith Institute, 2005), pp. 12–3; instance included in E. Lüddeckens, W. Brunsch, H.-J. Thissen, G. Vittmann, and K.-Th. Zauzich, *Demotisches Namenbuch* (Wiesbaden: Dr. Ludwig Reichert, 1980–2000), p. 1190. This publication is referred to throughout the article and in following references as *Demotisches Namenbuch*.
15. Cf. S.P. Vleeming, *Demotic and Greek-Demotic Mummy Labels and Other Short Texts Gathered From Many Publications (Short Texts II 278–1200)* (Leuven; Paris; Walpole, MA, 2011), pp. 407–8, n. 779.
16. The consistency with other Roman Athribitan orthographies has been kindly confirmed to me by Sandra Lippert.
17. R.A. Parker, *Demotic Mathematical Papyri* (Providence, RI; London: Brown University Press; Lund Humphries, 1972), p. 70 and pl. 23. In his edition, Parker notes that the provenance of this papyrus is unknown, but that museum records suggested Memphis as possible origin (Parker, *Demotic Mathematical Papyri* [Note 17], 2). Many of the number orthographies in this text correspond to those from the Athribitan ostraca, which has led Sandra Lippert to propose the Akhmim region, and perhaps even Athribis, as its origin (cf. in Boud’hors *et al.*, *op. cit.* [Note 5]). This origin has also been recently suggested by Joachim Quack, who draws his interpretation from the comparison of the hands and the mixing of fragments from P. BM 10520 and P. BM 10508, which was bought in Akhmim. Quack further notes that: “eine erste Sichtung der Personennamen in den Abrechnungen zeigt viele Zusammensetzungen mit Min oder Repit, was hervorragend zu einer Herkunft aus Achmim oder seiner Umgebung paßt” (J.F. Quack, “Neue Fragmente der einleitenden Erzählung des Lehre des Chascheschonqi,” *Enchoria* 36 [2018/2019], pp. 129–43, p. 131).
18. A. Jones, *Astronomical Papyri From Oxyrhynchus*, vol. 1 (Philadelphia: American Philosophical Society, 1999), p. 351.
19. *Chicago Demotic Dictionary* (<https://oi.uchicago.edu/research/publications/demotic-dictionary-oriental-institute-university-chicago>), *Numbers*: 40–1.
20. Jones, *op. cit.* (Note 18), p. 351.

21. Cf. M. Claude and S.L. Lippert, “La table d’offrande Louvre D 69. Un monument pour « faire venir le ba au corps »,” *Bulletin de l’Institut français d’archéologie orientale* 118 (2018), 47–81, pp. 65–6. I thank Sandra Lippert for this reference, as well as for the correct reading of the names here.
22. Neugebauer and Parker, *op. cit.* (Note 4), pp. 231–4.
23. A. Winkler, “A Starry Summer Night in AD 142: A Theban Horoscope (Griffith MSS 3.59) in Context,” in C. J. Martin, F.A.J. Hoogendijk and K. Donker van Heel (eds), *Hieratic, Demotic and Greek Studies and Text Editions. Of Making Many Books There Is No End: Festschrift in Honour of Sven P. Vleeming* (Leiden: Brill, 2018), pp. 298–308, p. 304 fn. 34.
24. For examples of this orthography for 7.t cf. *Chicago Demotic Dictionary* (Note 19), *Numbers*: 41. Cf. also Winkler, *op. cit.* (Note 23), p. 304 fn. 34, who identifies this group with the 7th hour as well. He takes the group as the hieratic sign for 7, so it is unclear if he is reading the lower part as .t or as part of number 7.
25. Neugebauer and Parker, *op. cit.* (Note 4), pp. 231–2.
26. Noted also in Winkler, *op. cit.* (Note 23), p. 304 fn. 4.
27. Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
28. Noted also correctly in Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
29. Cf. their notes to line 5 in Neugebauer and Parker, *op. cit.* (Note 4), p. 232.
30. Neugebauer and Parker, *op. cit.* (Note 4), p. 233.
31. Neugebauer and Parker’s erroneous interpretation is followed in later analyses of lunar dates such as R. Krauss, “Babylonian Crescent Observation and Ptolemaic-Roman Lunar Dates,” *PalArch’s Journal of Archaeology of Egypt/Egyptology* 9 (2012), pp. 1–95, p. 40.
32. Neugebauer and Parker, *op. cit.* (Note 4), p. 232. Ross has incorporated *ib* as the Demotic designation for the κέντρα in his chapter on Demotic astrology, which should now be corrected (cf. Ross, *op. cit.* [Note 7], p. 515).
33. Cf. Neugebauer and Parker, *op. cit.* (Note 1), p. 219.
34. Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
35. Neugebauer and Parker, *op. cit.* (Note 4), p. 232.
36. Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
37. For the use of this sign in demotic texts from the region of Akhmîm, see G. Vittmann, “Zum Gebrauch des k₃-Zeichens im Demotischen”, *Studi di Egitologia e di antichità puniche* 15 (1996), 1–12, who proposed the transliteration as *k*.
38. I thank Sandra Lippert for correcting my reading of the last signs of this name. She has pointed out that the normal writing of the name at Athribis is with a simple arc and not the round *n*, which justifies the choice of *m* in the transliteration. The Greek form Kolamthos exists in Athribis.
39. s.v. *qlnd³*, *Demotisches Namenbuch* 994.
40. s.v. *Qrnd³-p³-hrd*, C. Leitz (ed.), *Lexikon der ägyptischen Götter und Götterbezeichnungen*, vol. 7. (Leuven: Peeters), p. 222.
41. *Demotisches Namenbuch* 981. Winkler, *op. cit.* (Note 23), p. 304 fn. 4.
42. Neugebauer and Parker, *op. cit.* (Note 4), pp. 231–2.
43. Ross, *op. cit.* (Note 7), p. 513.
44. Neugebauer and Parker, *op. cit.* (Note 4), pp. 231–2.
45. Winkler, *op. cit.* (Note 23), p. 304 fn. 4.
46. *Wb*. II, 401.8 (*Wb* = A. Erman and H. Grapow, *Wörterbuch der ägyptischen Sprache* [7 vols. and 5 vols. Belegstellen, Leipzig: J. C. Hinrichs; Berlin: Akademie-Verlag, 1971]).
47. Neugebauer and Parker, *op. cit.* (Note 1), p. 178.
48. D. Kurth, *Einführung ins Ptolemäische. Eine Grammatik mit Zeichenliste und Übungsstücken. Teil 1* (Hützel: Backe-Velag, 2009), 127, 1.4.

49. Neugebauer and Parker, *op. cit.* (Note 1), p. 178.
50. Neugebauer and Parker, *op. cit.* (Note 1), pp. 177–8; J.F. Quack, “The Planets in Ancient Egypt,” *Oxford Research Encyclopedia of Planetary Science* [Published online 2019: <https://doi.org/10.1093/acrefore/9780190647926.013.61>], pp. 6–7.
51. Neugebauer and Parker, *op. cit.* (Note 1), p. 177.
52. Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
53. Neugebauer and Parker, *op. cit.* (Note 1), p. 179.
54. *Chicago Demotic Dictionary* (Note 19), T: 301–2.
55. Neugebauer and Parker, *op. cit.* (Note 1), p. 179.
56. I thank Sandra Lippert for the suggestion of these two latter interpretations.
57. A. Bouché-Leclercq, *Astrologie grecque* (Paris: Ernest Leroux, 1899), 98–9; R. Beck, *A Brief History of Ancient Astrology* (Malden, MA; Oxford; Victoria: Blackwell Publishing, 2007), pp. 76–9.
58. Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
59. Already noted by Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
60. Quack, *op. cit.* (Note 50), p. 7.
61. F. Brown, S.R. Driver, C.A. Briggs and J. Strong, *A Hebrew and English Lexicon of the Old Testament* (Oxford: The Clarendon Press, 1906).
62. Winkler, *op. cit.* (Note 23), p. 304 fn. 14. For Horapollon, cf. H.-J. Thissen, *Des Niloten Horapollon Hieroglyphenbuch. Band I: Text und Übersetzung* (Munich: K. G. Saur, 2001), pp. 24–5.
63. P. Boylan, *Thoth the Hermes of Egypt. A Study of Some Aspects of Theological Thought in Ancient Egypt* (London: Oxford University Press, 1922), p. 9. Boylan understood *th* as the tongue of the balance, but this term actually refers to the weight at the end of the plumb line, for the parts of the balance, cf. A.H. Gardiner, “The Eloquent Peasant,” *Journal of Egyptian Archaeology* 9 (1923), 10 fn. 4. I thank Sandra Lippert for this reference.
64. P. Wilson, *A Ptolemaic Lexicon. A Lexicographical Study of the Texts in the Temple of Edfu* (Leuven: Peeters, 1997), p. 1149.
65. Cf. Boylan, *op. cit.* (Note 63), p. 180.
66. *Wb.* I, 66.18–19.
67. J.F. Quack, “Ein alphabetisch sortiertes Handbuch der Hieroglyphenzeichen,” in K. Ryholt (ed.), *Demotic Literary Texts From Tebtunis and Beyond* (Copenhagen: Museum Tusulanum Press, 2020), pp. 77–106, pl. 16–9, pp. 80–2. I thank Christian Leitz for bringing this reference to my attention.
68. *Chicago Demotic Dictionary*, *op. cit.* (Note 18), I: 222–3.
69. W. Erichsen, *Demotisches Glossar* (Copenhagen: Ejnar Munksgaard, 1954), pp. 626–7; *Chicago Demotic Dictionary*, *op. cit.* (Note 18), T: 170–5.
70. C. Leitz, *Quellentexte zur ägyptischen Religion I: Die Tempelinschriften der griechisch-römischen Zeit*, 3rd ed. (Berlin: LIT, 2009), p. 158; Kurth, *op. cit.* (Note 48), p. 167 n. 1.
71. *Wb.* I, 205.13–14. I thank Sandra Lippert for pointing this reading out to me.
72. Cf. D. Kessler, *Die heiligen Tiere und der König. Teil I: Beiträge zu Organisation, Kult und Theologie der spätzeitlichen Tierfriedhöfe* (Wiesbaden: Harrassowitz, 1989), p. 191. On the identity of the living animal representing the Ba of Mendes as a billy-goat, cf. Kessler, *Die heiligen Tiere und der König* (Note 72), 183.
73. Winkler, *op. cit.* (Note 23), p. 304 fn. 14.
74. This sign is coded as A80 (Leitz, *op. cit.* [Note 70], p. 155), and it is not present in Gardiner and Möller’s lists. I thank Sandra Lippert for this interpretation. In Kurth’s list, the sign is 1.14 (Kurth, *op. cit.* [Note 48], p. 130). While he argues against the reading *htr* (Kurth, *op. cit.* [Note 48], 150 note 132), Leitz (*op. cit.* [Note 70], p. 155) includes *htr* as a value for this

- sign. *Wb.* III 199.6-7 clearly shows the sign as a determinative of the word *htr*, which favors its reading as such.
75. Cf. Neugebauer and Parker, *op. cit.* (Note 1), p. 218, the orthography from P. Berlin 8279.
 76. Neugebauer and Parker, *op. cit.* (Note 1), p. 218.
 77. Cf. Kurth, *op. cit.* (Note 48), p. 240 n. 299.
 78. Erichsen, *op. cit.* (Note 67), p. 148; *Chicago Demotic Dictionary*, *op. cit.* (Note 19), M: 20.
 79. W. Spiegelberg, "Die ägyptischen Namen und Zeichen der Tierkreisbilder in demotischer Schrift," *Zeitschrift für ägyptische Sprache und Altertumskunde* 48 (1910), pp. 146–51, p. 147.
 80. Leitz, *op. cit.* (Note 40), col. 121b. I want to thank Sandra Lippert suggesting the connection with the god *Šsmw* to me.
 81. The name written with the knife appears in the Coffin Texts (CT III, 144c; CT VI, 8c-e and 32 e-h), but Christian Leitz notes to me that it is not attested in this orthography later on (Leitz, *op. cit.* [Note 40], pp. 121–2).
 82. Cf. Leitz, *op. cit.* (Note 40), col. 121a.
 83. I thank Christian Leitz for this suggestion.
 84. *Chicago Demotic Dictionary*, *op. cit.* (Note 19), R: 29; Spiegelberg, *op. cit.* (Note 79), p. 147.
 85. Neugebauer and Parker, *op. cit.* (Note 1), p. 219.
 86. Spiegelberg, *op. cit.* (Note 79), p. 147.
 87. Spiegelberg, *op. cit.* (Note 79), p. 148.
 88. Neugebauer and Parker, *op. cit.* (Note 1), p. 219.
 89. Spiegelberg, *op. cit.* (Note 79), p. 148.
 90. Spiegelberg, *op. cit.* (Note 79), table IV.
 91. As in the Stobart tablets, Neugebauer and Parker, *op. cit.* (Note 1), p. 219; and in P. Carlsberg 638 and P. Monts.Roca inv. 314, probably written by the same scribe, cf. F. Hoffmann, "Astronomische und astrologische Kleinigkeiten V: Die Mondephemeride des P. Carlsberg 638," *Enchoria* 30 (2006/2007), 10–20; and M. Escolano-Poveda, "Astronomica Montserratensis I: A Demotic monthly almanac with synodic phenomena (P. Monts.Roca inv. 314)," *Enchoria* 36 (2018/2019), 1–36, respectively.
 92. Neugebauer and Parker, *op. cit.* (Note 1), p. 219.
 93. *Chicago Demotic Dictionary*, *op. cit.* (Note 19), T: 157–8.
 94. Neugebauer and Parker, *op. cit.* (Note 1), p. 219.
 95. If the reading suggested by Sandra Lippert for the father of the native in Text 1b is correct (cf. note to l. 2), and it is to be read as Kolanthes, this individual could perhaps be identical with the native in ANAsh.Mus.D.O.633. However, the name Kolanthes is extremely common in Athribis, so this identification is by no means obligatory.
 96. ANAsh.Mus.D.O.641 is dated to year 5 of 22, first month of Akhet (*lege* second month of Akhet, according to the astronomical data), day 17, 9th hour of the day. The astronomical data show that this corresponds to year 5 of Cleopatra VII, who reigned for a total of 22 years. This appears to be another way of referring to her reign without mentioning her name, while distinguishing it from Augustus' regnal years.
 97. All the computed data in this article have been obtained through the simulator of the *Almagest* tables by R. van Gent at <https://webpace.science.uu.nl/~gent0113/astro/almagestephemeris.htm>, accessed 31 August 2020, with a sidereal frame of reference.
 98. Bouché-Leclercq, *op. cit.* (Note 57), p. 379.
 99. Cf. the specific passages in Bouché-Leclercq, *op. cit.* (Note 57), pp. 381–3.
 100. In ANAsh.Mus.D.O.641 three longitudes are provided for the Moon. The first one, as in the horoscopes edited here, corresponds to the position of the Moon at the birth of the native

- (Scorpio, with a longitude in the twenties, perhaps 21, Terms of Jupiter, which correspond to 19–24°). The two other longitudes place the Moon in the 12th degree of Cancer and in the 12th degree of Pisces. The first one of these longitudes locates the Moon in Place 6, as in Texts 2 and 3, corresponding to *wry.t* “Bad Fortune.”
101. The first date listed in the papyrus was originally interpreted as Year 6 of Tiberius by Neugebauer and Volten in their first edition of the text (O. Neugebauer and A. Volten, “Untersuchungen zur antiken Astronomie IV. Ein demotischer astronomischer Papyrus [Pap. Carlsberg 9],” *Quellen und Studien zur Geschichte der Mathematik, Astronomie und Physik, Abteilung B: Studien* 4.4 [1938], 383–406), and followed by Parker (R.A. Parker, *The Calendars of Ancient Egypt* [Chicago: The University of Chicago Press, 1950], p. 15), and thus 19 CE. Later on, Grzybek proposed Year 5 of Tiberius Claudius, followed in this reading by Depuydt (L. Depuydt, “The Demotic Mathematical Astronomical Papyrus Carlsberg 9 Reinterpreted,” in W. Clarysse, A. Schoors and H. Willems (eds), *Egyptian Religion. The Last Thousand years II. Studies Dedicated to the Memory of Jan Quaegebeur* [Leuven: Peeters, 1998], pp. 1277–97, p. 1281). Lippert has more recently noted that “the visible remains of ink fit the reading ‘6’ much better than ‘5’” (S.L. Lippert, “Au clair de la lune – The Organisation of Cultic Service by Moon Calendar in Soknopaiou Nesos,” in D. Devauchelle and G. Widmer (eds), *Actes du IXe Congrès International des Études Démotiques: Paris, 31 août – 3 septembre 2005* (Cairo: Institut français d’archéologie orientale, 2009), pp. 183–94, pp. 189–90). Being exactly 25 years apart, both year 6 of Tiberius and year 5 of Tiberius Claudius were indeed the first years of successive lunar cycles, so if the reading 6 is correct, the table would have jumped the cycle beginning in 44 CE.
 102. Although the actual first regnal year of Ptolemy VI Philometor, according to which the cycle is organized, is 180 BCE, Neugebauer and Turner think that it could have been considered as extending back to 181 BCE: “Now Philometor succeeded to the throne in summer -179 [. . .] and his first year in the Egyptian reckoning, which we believe to be the only one worth taking into account here, ran from the date of his accession to -179, Thoth 1, but could retrospectively be regarded as extending back to -180, Thoth 1. This fictitious retrospective extension we hold to be intended, and to be indicated by the unusually circumstantial description of the year. This makes the first year of the cycle run from -180 to -179” (O. Neugebauer and E.G. Turner, “Gymnasium Debts and New Moons,” *Bulletin of the John Rylands Library* 32 [1949], 80–96, p. 84).
 103. Of course, as already noted by Neugebauer and Turner, any year within the cycle could be chosen as the first (Neugebauer and Turner, *op. cit.* [Note 102], p. 85).
 104. For the edition of this text cf. J.F. Quack and K. Ryholt, *Demotic Literary Texts From Tebtunis and Beyond* (Copenhagen: Museum Tusulanum Press, 2019), pp. 161–83 and plates 10 and 11.
 105. The word *hl̥* appears in this text on lines 13, 14, 15, and 16. The editors note that: “Another technical term is the noun *hl̥(t)*, which apparently designates a place where the moon might be positioned, but rests enigmatic for now” (Quack and Ryholt, *op. cit.* [Note 104], p. 176).
 106. *Chicago Demotic Dictionary*, *op. cit.* (Note 18), *H*: 62–4. I want to thank Sandra Lippert for pointing out this connection with the “Nechepsos Astrology,” and for sharing with me her interpretation of *hl̥(t)*.
 107. Bouché-Leclercq, *op. cit.* (Note 57), pp. 206–15. A Demotic table of Terms appears in P. CtYBR inv. 1132, cf. L. Depuydt, “A Demotic Table of Terms,” *Enchoria* 21 (1994), 1–9. For a useful table of the terms in the Egyptian System cf. Jones, *op. cit.* (Note 18), p. 351. On the doctrine of Terms, cf. also B. Bohleke, “In Terms of Fate: A Survey of the Indigenous Egyptian Contribution to Ancient Astrology in Light of Papyrus CtYBR inv. 1132(B),” *Studien zur Altägyptischen Kultur* 23 (1996), 11–46.

108. Cf. Erichsen, *op. cit.* (Note 69), pp. 638–639, *Chicago Demotic Dictionary, op. cit.* (Note 19), *T*: 237–245, and esp. 242, where it is translated as “lot.”
109. Bouché-Leclercq, *op. cit.* (Note 57), p. 210, tabulated from Ptol. *Tetrabiblos* I, 21.
110. Bouché-Leclercq, *op. cit.* (Note 57), p. 211, tabulated from Ptol. *Tetrabiblos* I, 21.
111. For these variants, cf. A. Jones and J.M. Steele, “A New Discovery of a Component of Greek Astrology in Babylonian Tablets: The ‘Terms’,” *Institute for the Study of the Ancient World Papers* 1 (2011, <http://doi.org/2333.1/k98sf96r>), section 1 (unpaginated).
112. Jones and Steele, *Institute for the Study of the Ancient World Papers* 1 (Note 111), note 8 (unpaginated) had recorded as the earliest examples two horoscopes of people born in 46 CE, written on P. Oxy. 2.307 and P. Oxy. 31.2555.
113. *Chicago Demotic Dictionary, op. cit.* (Note 19), *W*: 7–15.
114. *Chicago Demotic Dictionary, op. cit.* (Note 19), *W*: 14.
115. *Chicago Demotic Dictionary, op. cit.* (Note 19), *W*: 8.
116. *Chicago Demotic Dictionary, op. cit.* (Note 19), *W*: 11.
117. Jones, *op. cit.* (Note 18), p. 249.
118. J.F. Quack, “Ein astrologisches Ostrakon der frühen Kaiserzeit (oGlasgow D 1925.96),” *Enchoria* 31 (2008/2009), 104–12. The Medinet Habu group is so far composed of 6 horoscopes in 5 ostraca (cf. Ross, *op. cit.* [Note 7], p. 509 fn. 1).
119. For a discussion of these brief interpretations in O. Glasgow D 1925.96, cf. Quack, *op. cit.* (Note 118), pp. 108–10.
120. Quack, *op. cit.* (Note 118), p. 109; for the text cf. O. Neugebauer and H.B. van Hoesen, *Greek Horoscopes* (Philadelphia: The American Philosophical Society, 1959), p. 17.
121. Cf. Bouché-Leclercq, *op. cit.* (Note 57), pp. 404–22.
122. Cf. Bouché-Leclercq, *op. cit.* (Note 57), p. 410.
123. W.E. Crum, *A Coptic Dictionary* (Oxford: The Clarendon Press, 1939), p. 201a; J. Černý, *Coptic Etymological Dictionary* (Cambridge: Cambridge University Press, 1976), p. 95. While Černý noted that the transitive form is not attested in pre-Coptic, Smith suggested in his review of Černý, *Coptic Etymological Dictionary* (Note 123), that “some demotic forms spelt *mw.t.ꜥ* may be translated as transitive” (H. Smith, “Review of J. Černý [1976]: Coptic Etymological Dictionary. Cambridge: Cambridge University Press,” in *Bulletin of the School of Oriental and African Studies* 41.2 [1978], pp. 358–362, p. 361), although he does not give any references. This meaning has been included in *Chicago Demotic Dictionary* (Note 19), *M*: 81. While here the *ꜥ* is not written, the abbreviated character of these phrases may allow this transitive interpretation.
124. Cf. Bouché-Leclercq, *op. cit.* (Note 57), pp. 422–8.
125. Cf. for example Bouché-Leclercq, *op. cit.* (Note 57), p. 422, referring to Ptolemy “*dédale des exceptions*.”
126. *Chicago Demotic Dictionary, op. cit.* (Note 19), *o*: 115–23. With this meaning, cf. *ḥꜥ n ms.t* “interest stands (still)” (*Chicago Demotic Dictionary, op. cit.* (Note 19), *ꜥ*: 118). Another possible interpretation would be to take *ḥꜥ* as “lifetime” (*Chicago Demotic Dictionary* (Note 19), *ꜥ*: 123–4), but one wonders how it would fit with the interpretation of the other two short phrases.
127. Cf. Escolano-Poveda, *op. cit.* (Note 91), p. 24.
128. I want to thank Sandra Lippert for her suggestion of this connection, and Christian Leitz for providing further insight into it by means of his expertise in the study of hemerological texts.
129. Cf. C. Leitz, *Tagewählerei. Das Buch ḥꜥt nḥḥ ꜥḥ.wy ꜥt und verwandte Texte* (Wiesbaden: Harrassowitz, 1994), pp. 480–2.

130. Cf. i.e. S. Sauneron, *Le Temple d'Esna II* (Cairo: Institut français d'archéologie orientale, 1963), 55.1, which refers to 10 Thoth as *ḥʿ nfr*; and Sauneron, *Le Temple d'Esna II* (Note 130), 55.4: 10 Hathor: *ḥʿ nfr*.
131. Cf. Greenbaum, *op. cit.* (Note 7), p. 467, where ANAsh.Mus.D.O.633 is identified as “the oldest extant documentary chart to contain an Ascendant,” with the wrong date proposed by Neugebauer and Parker of 38 BCE.
132. Cf. S.L. Lippert, “Of Pots, Sherds, and Drachmas. Demotic Ostraca from *Hwt-Rpy.t* (with a Detour to Soknopaiou Nesos),” in F. Naether (ed.), *New Approaches to Demotic Studies. Acts of the 13th International Conference of Demotic Studies* (Boston; Berlin: De Gruyter, 2019), pp. 151–74 and 156–9. I thank Sandra Lippert for pointing out this connection to me.
133. *Chicago Demotic Dictionary, op. cit.* (Note 19), C: 110–1.
134. *Chicago Demotic Dictionary, op. cit.* (Note 19), W: 117–118.
135. *Chicago Demotic Dictionary, op. cit.* (Note 19), M: 78–81.
136. On Shai, apart from the comprehensive study by J. Quaegebeur, *Le dieu égyptien Shaï dans la religion et l'onomastique* (Leuven: Peeters, 1975), cf. also D.G. Greenbaum, *The Daimon in Hellenistic Astrology. Origins and Influence* (Leiden; London: Brill, 2016).
137. *Wb.* 4, 403.11–404.11.
138. Erichsen, *op. cit.* (Note 69), 485–486; *Chicago Demotic Dictionary, op. cit.* (Note 19), Š: 12–13.
139. Cf. W. Spiegelberg, “Aus der Straßburger Sammlung demotischer Ostraka,” *Zeitschrift für ägyptische Sprache und Altertumskunde* 49 (1911), p. 34–41, p. 35, l. 12 and 14; referenced in Quaegebeur, *op. cit.* (Note 134), p. 57.
140. This is the case in the Stobart Tablets, P. Berlin 8279, P. Carlsberg 638, and P. Monts. Roca inv. 314. Cf. Neugebauer and Parker, *op. cit.* (Note 1), p. 219 for the first two, and Hoffmann, *op. cit.* (Note 91); and Escolano-Poveda, *op. cit.* (Note 91), for the two latter ones.
141. Cf. especially *Chicago Demotic Dictionary, op. cit.* (Note 18), *H*: 228, in particular P. Cologne 2411, 12.
142. Cf. F.L. Griffith and H. Thompson, *The Demotic Magical Papyrus of London and Leiden*, vol. 3. (London: H. Grevel & Co, 1909), p. 76 n. 776.
143. Leitz, *op. cit.* (Note 70), p. 162; Kurth, *op. cit.* (Note 48), p. 222 n. 10. I thank Sandra Lippert for the interpretation of this sign.
144. This sign looks like the *l*-sign in other instances, but Sandra Lippert points out to me that in the Demotic texts from Athribis, the small stroke of the *l*-sign always appears on top of the long oblique stroke, and often does not even touch it.
145. Bouché-Leclercq, *op. cit.* (Note 57), pp. 280–8, esp. 280 fig. 31; Neugebauer and van Hoesen, *op. cit.* (Note 120), pp. 7–8.
146. O. Neugebauer, “Demotic Horoscopes,” *Journal of the American Oriental Society* 63.2 (1943), 115–27, pp. 116–17.
147. These divisions are only attested so far in Demotic horoscopes from Medinet Habu (Greenbaum, *op. cit.* [Note 7], p. 461). Their identification is still not clear, although there have been some proposals. Cf. M. T. Ross, “All’s DUR That Ends *Twr*,” in M.T. Ross (ed.), *From the Banks of the Euphrates. Studies in Honor of Alice Louise Slotsky* (Winona Lake: Eisenbrauns, 2008), pp. 245–55; Ross, *op. cit.* (Note 7), p. 516.
148. G.R. Hughes, “An Astrologer’s Handbook in Demotic Egyptian,” in L. Lesko (ed.), *Egyptological Studies in Honor of Richard A. Parker. Presented on the occasion of his 78th Birthday, December 10, 1983* (Hanover, NH: University Press of New England, 1986), pp. 53–69.
149. This is also the case in ANAsh.Mus.D.O.641.

150. On the concept of duality in Egypt, cf. W. Westendorf, "Zweiheit, Dreiheit und Einheit in der altägyptischen Theologie," *Zeitschrift für ägyptische Sprache und Altertumskunde* 100.2 (1974), 136–41.; E. Otto, "Dualismus," in W. Helck and E. Otto (ed.), *Lexikon der Ägyptologie*, vol. 1. (Wiesbaden: Otto Harrassowitz, 1975), columns 1148–50.
151. Greenbaum, *op. cit.* (Note 7), p. 452.
152. Ross, *op. cit.* (Note 7), p. 509. In footnote 1, Ross notes that these horoscopes are from Medinet Habu (single scribe): six horoscopes on five ostraca, 13–35 CE, composed around 50 CE); Medinet Madi: 46 horoscopes on 40 ostraca, 129–196 CE; Thebes (including the coffin lid of Heter); two unprovenanced ostraca published by Neugebauer and Parker (one of them, ANAsh.Mus.D.O.633, now from Athribis). Another census is that published by Heilen (S. Heilen, *Hadriani genitura - Die astrologischen Fragmente des Antigonos von Nikaia* [2 vols, Berlin; Boston, MA: De Gruyter, 2015], pp. 316–26), who lists 51 Demotic horoscopes, dating from 38 BCE (the wrong date of Neugebauer and Parker for ANAsh. Mus.D.O.633) to 196 CE, providing their basic information and secondary literature. I thank Friedhelm Hoffmann for this reference.
153. Cf. Parker, *op. cit.* (Note 101), pp. 17–23; L. Depuydt, *Civil Calendar and Lunar Calendar in Ancient Egypt* (Leuven: Peeters, 1997); Krauss, *op. cit.* (Note 31), pp. 23–43 (with ANAsh.Mus.D.O.633 included in the data following Neugebauer and Parker's 1968 erroneous interpretation).
154. Hughes, *op. cit.* (Note 148).
155. Neugebauer, *loc. cit.* (Note 146).