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On the demotic-hieratic horoscopes from Athribis*

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Abstract: In a previous issue of this journal (53/1), M. Escolano-Poveda published four elaborate demotic-hieratic horoscopes from Athribis. Three of the texts are new (O.Athribis 17-36-5/1741), and the fourth is reedited (ANash.Mus.D.O. 633). The present paper engages with two features of these texts. The first concerns the synchronization of the 25-year lunar cycle with the civil calendar. The editor of the horoscopes claims that the year count as it appears in the Greek *P.Ryl.* IV 589 is the basis for the correlation between lunar years and regnal years in these texts, but this paper shows that the horoscopes instead follow the cycle according to the scheme found in P.Carlsberg 9. The second issue is the nature of eight entities listed after the four cardinal points. Escolano-Poveda interprets them as an idiosyncratic system of arranging the places (in Greek, typically τόποι) in the *Dodecatropos*. Several of the readings for the names of these eight entities, however, must be revised, which leads in turn to a reconsideration of the identification as places. They are better understood as astrological lots (in Greek, typically κληροί), and the system partially overlaps with the one known from the canonical Hellenistic astrologers.

Key words: Astral Science, Astrology, Astronomy, Demotic, *Dodecatropos*, Graeco-Roman Egypt, Hieratic, Horoscopes, Lots, Lunar Calendar, P.Carlsberg 9.

Introduction

In Egyptology, it is often said that any first edition of a text, in particular a demotic one, requires a second edition or a *corrigendum* in order for it to be used more or less reliably as a historical source. One of the texts for which this certainly holds true is the elaborate demotic-hieratic horoscope ANash.Mus.D.O. 633. The astrological text, which we now know comes from Athribis, was first edited by O. Neugebauer and R. A. Parker in 1968.¹ The horoscope has since been discussed in the context of the astral sciences, and—as expected—a few new preliminary readings have been suggested.² Most recently, in this journal M. Escolano-Poveda offered a reedition of the abovementioned piece (Text 4) together with the publication of one other ostrakon (O.Athribis 17-36-5/1741) of the same kind containing three similar horoscopes (Texts 1–3). The piece is inscribed with two texts on one side and one on the other: a total of four horoscopes.³ In addition, she quotes extensively from a number of other texts of the same type and provenance kept by the Ashmolean Museum in Oxford.⁴

Although the editions of Escolano-Poveda clarify some issues of this corpus, the Egyptological *dictum* given above continues to hold. I will discuss some of the problems in a longer article in which the horoscopes kept by the Ashmolean Museum will be published;⁵ the aim of this paper is to correct a few misinterpretations that have found their way into the recent

publication. The intention here is not to provide a complete reedition or discuss every debatable reading or interpretation. Instead, I wish to clarify two points highlighted by the paper in question.

Which lunar scheme?

As has been recognized, seemingly independently by both Escolano-Poveda and me,⁶ the horoscopes correlate the date of the recorded nativity, given as a year of the solar civil calendar, with a year of the current lunar cycle. A lunar cycle is the time taken for the Moon to return to the same position relative to the Sun at a given date. Using the traditional Egyptian civil calendar of the *annus vagus*, the lunar cycle has a period of roughly 25 years, more precisely 309 synodic months or almost 9125 days.⁷

The Demotic P.Carlsberg 9 is the best known witness to lunar calendars for Egyptologists,⁸ but there is another example of such a text: the Greek *P.Ryl.* IV 589.⁹ There are many difficulties in the interpretation of these two texts, but it suffices here to recognise that they follow two discrete lunar cycles that began on different dates. Although the system must be several centuries older than the extant manuscript,¹⁰ the Egyptian papyrus, which was probably written sometime after year 7 of the reign of emperor Antoninus Pius (AD 143/144), is configured such that the first day of the first lunar year (New Moon) in the 25-year cycle coincides with the first day of the civil year, Thoth 1. The Greek manuscript, on the other hand, must have been written close to the year in which king Ptolemy VI Philometor ascended to the Egyptian throne (181/180 BC). Extrapolation of the dates of the first year of a lunar cycle in the latter text yields a coincidence with a “year 2” of the system found in the Demotic text, and thus the first day of the first lunar year according to that cycle falls on Thoth 20.¹¹ The reason seems to be that the cycle as represented by *P.Ryl.* IV 589 was devised in honour of the enthronement of Ptolemy VI. The fact that the system was constructed to accord with the beginning of a particular reign, or at least the year of the king’s coronation, should give pause regarding its wider (and later) applicability.

In the Athribis horoscopes, the presence of the lunar cycle is indicated by the word *hsb.t*, lit. ‘numbering year’, followed by a digit indicating which year it was. The same terminology is found in the lunar calendar of P.Carlsberg 9. In the horoscopes, this notation is written after the date of the nativity, and usually following the positions of the two luminaries, the Sun and the Moon. Table 1 below gives the dates and the lunar years of Texts 2–4. The disposition of Text 1 will be considered further on. The first two nativities listed in Texts 2 and 3 date to the

reign of emperor Augustus, and the one in Text 4 took place in the reign of queen Cleopatra VII Philopator.

	Date of nativity	Lunar year
Text 2	May 15, 21 BC (<i>ḥsb.t 9.t tpy šmw sw 21</i>)	11
Text 3	Aug. 10, 6 BC (<i>ḥsb.t 24.t ibd-4 šmw sw 21</i>)	1
Text 4	Apr. 22, 44 BC (<i>ḥsb.t 8.t ibd-4 pr.t sw 22</i>)	13

Table 1.

Which of the two lunar schemes mentioned above would have been used at Athribis? According to Escolano-Poveda it was the one reflected in the Greek *P.Ryl.* IV 589. But does this claim hold up to scrutiny?

Given the dates of the nativities, the relevant lunar cycles are those that began in 57, 32, and 7 BC according to the scheme found in the demotic text (P.Carlsberg 9), or those that began in 56, 31, and 6 BC according to the system of the Greek papyrus. Escolano-Poveda notes that *P.Ryl.* IV 589 starts a new year in 6 BC (Thoth 20) and concludes from the dating of Text 3 to Aug. 10, 6 BC that the lunar cycle attested by the Greek papyrus was the one in use. Her method of calculation, however, is not explained. For Texts 2 and 4 she reaches a similar conclusion. The latter can be dated to April 22, 44 BC, which she suggests was year 13 of the cycle that started in 56 BC. Text 2 dates to May 15, 21 BC, which in her reckoning is year 11 of the 25-year lunar cycle that began in 31 BC.

A lunar year, however, certainly did not start on Jan. 1 of a Julian year. The lunar cycle described in the Carlsberg papyrus begins with a lunar conjunction (New Moon) on Thoth 1. The first mentioned cycle began on Sept. 6, 57 BC. The period from Jan. 1 of 57 BC until the new lunar cycle began was of course part of the previous lunar year, that is, year 25 of the previous lunar cycle. That year began in 58 BC. As for the first lunar year of the cycle that began in the autumn of 57 BC, it ended Sept. 25, 56 BC. Year 2 of the same 25-year cycle started on the same Julian date and lasted until Sept. 14, 55 BC. Year 3 began on the same date and lasted until Oct. 3, 54 BC.

A pattern should now be clear. The 13th year of the lunar cycle described in the Carlsberg papyrus would have begun on Sept. 23, 45 BC and ended on Sept. 15, 44 BC, at the time when lunar year 14 started. The nativity recorded by Text 4 would have fallen in the 13th lunar year following the scheme in the Demotic papyrus. The same applies to Texts 2 and 3. The lunar year that started in 21 BC following the Carlsberg cycle was lunar year 12, but only after lunar

year 11 ended, which ran from Sept. 10, 22 BC to Aug. 29, 21 BC. Text 3 dates to year 6 BC, when a new cycle would have started on Thoth 20 according to *P.Ryl.* IV 589. Nevertheless, the lunar year mentioned in the horoscope had begun in the previous Julian year on Aug. 25 (Thoth 1) and lasted until Sept. 13, 6 BC (Thoth 20), which is the date when the Greek papyrus would in theory begin a new cycle.

What about Text 1? The text dates to year 4 of the reign of emperor Augustus, day 4 of the month of Hathyr, which corresponds to Nov. 1, 27 BC. According to Escolano-Poveda, it was written in the fifth year of the lunar cycle. Given that the text dates to the first season of the Egyptian year, this would fit well with her proposal that the lunar scheme presented in the Greek papyrus was in use. The problem is that the numeral 5 cannot in fact be read after the second *ḥsb.t* indicating the year of the lunar cycle (l. 3). Neither the photograph nor the facsimile provided by the editor is clear at this point, but the numeral 6 appears to give a better fit with the scant traces of writing than 5. This result would in that case again agree better with the structure of P.Carlsberg 9.

Lots, not places

After the planets were listed with longitudes in the zodiac signs, the compilers of the horoscopes turned to the four cardinal points: Ascendant, Descendant, Upper Midheaven, and Lower Midheaven. These points are also provided with exact longitudes down to the degree. Then follows what Escolano-Poveda understands as the enumeration of the remaining eight places of the *Dodecatropos*, but in an alternative order, conceptualized as entities 180° opposite each other on the ecliptic, and with unusual orthographies of the names of the places. This analysis, however, is problematic. As discussed in detail below, several of the readings of the names require revision. The relation to the *Dodecatropos* itself should also be reconsidered. Two of the pairs fall in the same zodiac sign, which is unexpected for the suggested system. The twelve places are typically sequences of 30° each on the ecliptic arranged in a consecutive order from the Ascendant.¹² Furthermore, there are no parallels for the reconstructed system in any of the canonical astrologers, or in any of the published horoscopes from Egypt—of which some 350 are known in Greek alongside a smaller number in Egyptian.¹³

The first problematic reading is  (Text 3.11), which Escolano-Poveda interpreted as *shn-nḥ*, ‘Provisions of Life’. A parallel for the reading is given in writings of the word *shn* in wine jar labels from Athribis,¹⁴ but it is difficult to see the resemblance, particularly when one considers the other examples of this word attested in the texts that are kept in Oxford (e.g. ).

in ANAsh.Mus.D.O. 641). The word is explained as follows: ‘[t]he orthography of *šḥn* is a common demotic abbreviation of this word, with the tall *s* and the V36-sign ligated, followed by the hieratic forms of ‘*nḥ* and the divine determinative’. The last sign is correctly interpreted. The rest, however, is the hieratic pustule sign (Aa2) and the coiled string (Z7): .¹⁵ The word is to be read as *š;w* following standard phonetic values of the initial sign in the Graeco-Roman period.¹⁶

The second sign,  (Text 1.10) or  (Text 3.11), which represents an entity on the ecliptic 180° opposite *š;w*, is interpreted as  (X5) and read as *sn*,¹⁷ which would be the third place in the *Dodecatropos*: ‘(Place of the) Brother’. Nevertheless, there is another, more convincing reading. Even if the two signs can be next to identical in hieratic, it is better read as the arrow  (T11).¹⁸ A caveat, however, is the fact that the name of Sagittarius (*p;nty-;th*), which is also written with an arrow, looks as follows:  (e.g. ANAsh.Mus.D.O. 641). The sign can also be tilted, as  (Text 1.9) or  (Text 4.6).¹⁹ It is possible that the scribes employed varied orthographies for the same sign in order to distinguish between different entities.²⁰ The sign is surely to be read as *sšr/šḥr*.²¹

While there is no doubt that the words interpreted as *špšy.t* (*špsy.t*), *wr;(.t)* (*wry.t*), ‘*nḥ*, and *mwt* are correctly read,  (Text 1.11) and  (Text 3.12) cannot be taken as a snake and read as *š;y* as Escolano-Poveda proposes. The sign is the piece of flesh  (F51).²² It can be transliterated here as either *iwf(.w)* or *ḥ(.w)*. Both words would refer to limbs, and perhaps healthy limbs or a healthy body, but the latter rendering is perhaps more likely given the time period. It represents a position on the ecliptic 180° opposite  (Text 1.11). The latter word is understood by the editor as written with the hartebeest head  (F5) and a fallen enemy determinative, with a suggested sound value of *sš(r)*. The sign is in fact the horn  (F16) followed by the same determinative.²³ Considering the phonetic value that the horn can take, it should be read as *(y)ḥ(.t)*.

The result is four pairs of opposing entities, which should be identified as the Egyptian version of the astrological lots. Lots are points in an astrological chart calculated according to various formulae (see below).²⁴ *š;w* is the Lot of *Daimon*, and *sšr/šḥr* is a lot with the opposite effect on the native’s life, thus the Lot of Evil *Daimon*.²⁵ Greek astrologers often called the first one κληρος δαίμονος. *špšy.t* and *wr;(.t)* are understood to be the Lot of Fortune and Lot of Misfortune respectively.²⁶ In Greek texts, the first of these often corresponds to κληρος τύχης. The other pairs of opposites are the Lot of Life (‘*nḥ*) and the Lot of Death (*mwt*)²⁷ as

well as the Lot of Limbs (*h'(.w)*)—considering its name and the lot with which it is paired, one can assume that it has to do with physical soundness—and the Lot of Disease (*(y)·b(.t)*).

The Lot of *Daimon* and the Lot of Fortune are well known from the canonical astrologers, such as Dorotheus of Sidon (*fl.* 1st cent. AD), Vettius Valens (*fl.* 2nd cent. AD), and Paul of Alexandria (*fl.* 4th cent. AD), but the opposite lots are not. The two additional pairs also seem not to have survived in the Graeco-Latin tradition in such a configuration.²⁸ It can further be observed that while the horoscopes from Athribis place the Lot of *Daimon* before the Lot of Fortune, the common order in the Greek sources is reversed. This indicates that there were at least two distinct traditions in Egypt of how to arrange these points.²⁹

Traditionally the Lot of *Daimon* and the Lot of Fortune were calculated as follows:

Chart	Lot of Fortune	Lot of <i>Daimon</i>
☉	$\lambda_{Asc.} + (\lambda_{\zeta} - \lambda_{\odot})$	$\lambda_{Asc.} - (\lambda_{\zeta} - \lambda_{\odot})$
☾	$\lambda_{Asc.} - (\lambda_{\zeta} - \lambda_{\odot})$	$\lambda_{Asc.} + (\lambda_{\zeta} - \lambda_{\odot})$

In other ostraca from the site now kept by the Ashmolean Museum, the first two pairs are usually provided as points on the ecliptic. That is, their respective longitude is specified as a degree in a zodiac sign. In the newly edited material, they appear instead to have been simplified to full sign lots, similarly to how the last two pairs of lots are arranged.³⁰ That is, as full sign lots. The same pattern, however, can still be observed.

This same method appears to have been used to assign the two lots in Text 1, where lines 10–11 should be read as follows:

𐩧𐩣𐩔𐩀] 𐩠𐩠 sšr 𐩠𐩠 špšy.t 𐩠𐩠 wrꜣ(.t) 𐩠𐩠 |⁽¹¹⁾ [ꜣnh 𐩠𐩠] mwt 𐩠𐩠 h'(.w) 𐩠𐩠 (y)·b(.t) 𐩠𐩠

/(Lot of) *Daimon*: Aries; (Lot of) Evil *Daimon*: Libra; (Lot of) Fortune: Aquarius; (Lot of) Misfortune: Leo |⁽¹¹⁾ [(Lot of) Life: Scorpio]; (Lot of) Death: Taurus; (Lot of) Limbs: Libra; (Lot of) Disease: Aries.

Considering that the Ascendant was in 10° of Pisces, a longitudinal arc of at least 21° is required to obtain these values. A smaller distance is not possible. The Moon was in 28° of Libra. Given that only the numeral 10 of the Sun's position in Scorpio (l. 3) is preserved, its longitude has to be between 10° and 19°. Any value below the latter would place the Lot of *Daimon* in the same zodiac sign as the Ascendant. Applying the measured distance between the Sun and the Moon according to the formula given above leaves the Lot of *Daimon* in Aries

(1°) and the Lot of Fortune (19°) of Aquarius. The fact that the solar longitude would exceed the expected range compared with the computed one (13°) is a complicating factor, but one can compare the two positions of the Moon at the time of birth in Text 2: the given  16° vs. the computed  19°. Slight “miscalculations” of the longitudes of the lots can also be found in the material in the Ashmolean Museum.

The first four lots found in Text 2 should be restored as follows according to the formula above:

Sun	Moon	Distance	Asc	<i>Daimon</i>	Evil <i>Daimon</i>	Fortune	Misfortune
 27°	 16°	109°	 27°	 (8°)	 (8°)	 (16°)	 (16°)

As a general rule, the Lot of Life (L₁) seems to be placed in the zodiac sign following the one in which the Moon was, while the Lot of Limbs (L₂) is found in the zodiac sign preceding the position of the Sun. This can be seen in Texts 1 and 3 and also, where preserved, in the texts in the Ashmolean Museum. *Ipsa facto*, the Lots of Death (D₁) and Disease (D₂) are always 180° opposite these locations (see Table 2).

			L ₁	D ₁	L ₂	D ₂
Text 1						
Text 2						
Text 3						
Text 4						
ANash.Mus.D.O. 519obv.						
ANash.Mus.D.O. 641						
ANash.Mus.D.O. 685						

Table 2. In addition to the published texts, the table contains the Ashmolean horoscopes (arranged according to inv. nos.) where the positions of the two luminaries and at least one of the lots in question are preserved. The positions of the Sun and the Moon are given here only in relation to a full zodiac sign.

Text 3 poses a problem with respect to the formula for calculating the first four lots given above. As it stands, the longitudinal arc is 45° between the luminaries, and the Ascendant is in 21° of Sagittarius. We would expect the Lot of *Daimon* and the Lot of Fortune to be in 6° of Aquarius and 6° of Scorpio respectively. Only the latter position fits the data of the horoscope.

Since the longitude of the Sun (21°) was rather carelessly written (𐩧𐩢), it can perhaps be assumed that after writing it down, the astrologer misinterpreted it as 11° when he was calculating the lots. An arc of longitude of 35° between the Sun and the Moon would indeed produce the results that are found on the ostrakon:

Sun	Moon	Distance	Asc	<i>Daimon</i>	Evil <i>Daimon</i>	Fortune	Misfortune
𐩧𐩢 21°	𐩠𐩢 6°	45° (35°)	𐩧𐩢 21°	𐩧𐩢 (26°)	𐩠𐩢 (26°)	𐩠𐩢 (16°)	𐩧𐩢 (16°)

The latter is merely a suggestion and should be approached with caution. The ancient astrologers were not always as diligent as a modern scholar would wish. Thus, one also has to be cautious when following the proposed restoration of Text 4 in the recent edition.

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¹ O. Neugebauer and R. A. Parker, ‘Two Egyptian horoscopes’, *Journal of Egyptian archaeology*, 54 (1968), 231–5.

² The text is discussed on the basis of the *ed. pr.* by, for instance, S. Heilen, “*Hadriani genitura*”: *Die astrologischen Fragmente des Antigonos von Nikaia* (Berlin: De Gruyter, 2015), 316; D. Gieseler Greenbaum, ‘The Hellenistic horoscope’, in A. C. Bowen and F. Rochberg (eds), *Hellenistic astronomy: The science in its context* (Leiden: Brill, 2020), 452–3 and 467; M. Ross, ‘Demotic horoscopes’, in Bowen and Rochberg (eds), *op. cit.*, 414–15. A few new readings or interpretations were offered in J. F. Quack, ‘Egypt as an astronomical-astrological centre between Mesopotamia, Greece, and India’, in D. Brown (ed.), *The interactions of ancient astral science*, (Bremen: Hemen Verlag, 2018), 100; A. Winkler, ‘A starry summer night in AD 142: A demotic horoscope (MSS Griffith 3.59) in context’, in F. A. J. Hoogendijk, K. Donker van Heel, and C. J. Martin (eds), *Of making many books there is no end: Festschrift in honour of Sven P. Vleeming* (Leiden: Brill, 2018), 304, n. 34; id., ‘Stellar scientists: the Egyptian temple astrologers’, *Journal of ancient Near Eastern history*, 8 (2021), 130–1, nn. 208 and 211.

³ M. Escolano-Poveda, ‘Astrologica athribitana: Four demotic-hieratic horoscopes from Athribis (O. Athribis 17-36-5/1741 and ANAsh.Mus.D.O. 633 Reedited)’, *Journal for the history of astronomy*, 53 (2022), 49–87.

⁴ These are ANAsh.Mus.D.O. 519, 634, 641, 685, 741. The publication of this ensemble, together with ANAsh.Mus.D.O. 633, was first announced by me in *Fs. Vleeming*, 304, nn. 34–35 (where 519 and 685 were wrongly printed as 619 and 585, respectively).

⁵ The ostraca mentioned in the footnote above are to be published in *Studien zur altägyptischen Kultur*, 51 (2022). The article was accepted for the 2021 issue but due to its length had to be postponed to the following year. For the preparation of that paper, I had no access to the newly discovered and at the time still unpublished material from Athribis now edited by Escolano-Poveda.

⁶ Winkler, *Journal of ancient Near Eastern history*, 8 (2021), 131, n. 211.

⁷ E.g. 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—Studies dedicated to the memory of Jan Quaegebeur*, vol. II (Leuven: Peeters, 1998), 1279.

⁸ O. Neugebauer and R. A. Parker, *Egyptian astronomical texts III: Decans, planets, constellations and zodiacs* (Providence: Brown university press, 1969), 220–5. Additional fragments have since been added by K.-Th. Zauzich, ‘Drei neue Fragmente zu Pap. Carlsberg 9’, *Enchoria*, 4 (1974), 157–8; F. Hoffmann, ‘Astronomische und astrologische Kleinigkeiten II: P. Heidelberg Inv. Dem. 40 und 41’, *Enchoria*, 24 (1997/1998), 34–37. Recent analyses with extensive bibliographies are provided by Depuydt, *art. cit.* (ref. 7), 1277–97; id., ‘The regnal years of the “mathematical astronomical” demotic Papyrus Carlsberg 9 reinterpreted’, in R. Landgráfová, and J. Mynářová (eds), *Rich and great: Studies in honour of Anthony J. Spalinger on the occasion of his 70th Feast of Thot* (Prague: Charles University-Faculty of Arts, 2016), 39–60.

⁹ See O. Neugebauer and E. G. Turner, ‘Gymnasium debts and New Moons’, *Bulletin of the John Rylands library*, 32 (1949), 82–87; D. Lehoux, *Astronomy, Weather, and Calendars in the Ancient World: Parapegmata and Related Texts in Classical and Near-Eastern Societies* (Cambridge: Cambridge University Press, 2007), pp. 179–80.

¹⁰ Depuydt, *art. cit.* (ref. 7), 1294–7. See also A. Spalinger, ‘The cycle of 309 Egyptian months’, in C. Di Biase-Dyson et al. (eds), *The cultural manifestations of religious experience: Studies in honour of Boyo G. Ockinga* (Münster: Ugarit-Verlag, 2017), 377–81.

¹¹ See Depuydt, *art. cit.* (ref. 7), 1292, for dates of the New Moon according to P.Carlsberg 9.

¹² See e.g. Heilen, *op. cit.* (ref. 2), 689–702; Winkler, *art. cit.* (ref. 4), 302, n. 26.

¹³ An index of such texts in both Greek and Egyptian is offered by Heilen, *op. cit.* (ref. 2), 213–326. See Quack, *art. cit.* (ref. 2), 100–3, for additional texts in Egyptian, and Winkler, *art. cit.* (ref. 4), 298–308; E. N. E. Abbas, ‘A new demotic horoscope from Medinet Habu’, *Journal of Egyptian archaeology*, 107 (2021), 239–48. Addenda in Greek include: *BKT IX* 102; *X* 29; *O.Petr.Mus.* 68; *P.Kramer* 17; *P.Monts.Roca* IV 64; and *P.Berl.* 21347 (with Heilen, *op. cit.* [ref. 2], 644).

¹⁴ S. L. Lippert, ‘Of pots, sherds, and drachmas: Demotic ostraca from *Hw.t-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* (Berlin: De Gruyter, 2019), 156–9.

¹⁵ Möller, *Hierat.Pal.* no 566.

¹⁶ The reading values can be found in, for instance, D. Kurth, *A Ptolemaic sign list: Hieroglyphs used in the temples of the Graeco-Roman period of Egypt and their meaning* (Hützel: Backe-Verlag, 2010).

¹⁷ Möller, *Hierat.Pal.* no 571.

¹⁸ Möller, *Hierat.Pal.* no 439.

¹⁹ Note that the names of the zodiac signs are as a rule written with a star determinative in the original.

²⁰ The writing of Mars () might also represent an arrow of sorts.

²¹ L. M. Azzam, 'Šsr and W3y: Two ancient Egyptian demons', *Göttinger Miszellen*, 227 (2010), 9–13.

²² Möller, *Hierat.Pal.* no 178.

²³ Möller, *Hierat.Pal.* nos 151 and 157.

²⁴ E.g. A. Bouché-Leclercq, *L'astrologie grecque* (Paris: Leroux, 1899), 288–97; O. Neugebauer and H. B. van Hoesen, *Greek horoscopes* (Philadelphia: American philosophical society, 1959), 8–9; Heilen, *op. cit.* (ref. 2), 1158–82; D. Gieseler Greenbaum, *The daimon in Hellenistic astrology: Origins and influence* (Leiden: Brill, 2016), 6–7 *et passim*.

²⁵ Cf. the Egyptian names of places 11 and 12 in the *Dodecatropos*: šy (Gr. ἀγαθὸς δαίμων) and šsr/shr (Gr. κακὸς δαίμων).

²⁶ Cf. the Egyptian names of places 5 and 6 in the *Dodecatropos*: špšy.t (Gr. ἀγαθὴ τύχη) and wry.t (Gr. κακὴ τύχη).

²⁷ In the system of the *Dodecatropos*, šhn-nḥ and (šhn)-mwt are still 180° opposite each other. The first one is the second place while the second one is in the eight place.

²⁸ Note, however, that Doroth.Sid. 4.1.74–75 speaks about the κληρος σίνους, 'Lot of Injury', which relates to bodily illnesses and is described as a whole-sign lot. It is, however, established through another method than the Lot of Disease in the Athribis horoscopes (see Table 2). It is calculated by measuring the distance between Saturn and Mars or Mars and Saturn depending on the chart and applying that distance from the Ascendant. See also Vett.Val. 5.1.2; Heph.Theb. 2.14 (*fl.* 5th cent. AD). Also Firm.Mat.Math. 6.32.40 (*fl.* 4th cent AD) speaks about the 'Place (lot) of defects and (ill) health' (*vitiorum ac valitudinis locus*). In Heliodorus' (*fl.* sixth cent. AD) commentary on Paul of Alexandria (Chap. 22), there is mention of the Lot of Injury, but with the reversed calculation to the one presented above, the Lot of Death (κληρος θανάτου), the Lot of Life (κληρος ζωῆς), and the Lot of Livelihood (κληρος βίου) among others. PSI XII 1289.1.24 also mentions the Lot of Life.

²⁹ Note that the names of the first three pairs of lots are shared by some of the places in the *Dodecatropos* (see the nn. 26–27 above), which indicates that these two concepts are closely related. It is probable that these two concepts were developed from the same set of ideas (see the n. below).

³⁰ The connection between the lots and the places of the *Dodecatropos* is discussed further in my forthcoming edition of the Ashmolean horoscopes (*Studien zur altägyptischen Kultur*, 51 [2022]).