

Agriculture among the Christian Population of Early Islamic Egypt: Practice and Theory

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AGRICULTURE IN EGYPT during the first centuries after the Muslim conquest was carried out by a predominantly Christian population under the administration of a Muslim élite. Scholarship has tended to focus on the administration and taxation of agriculture in post-conquest Egypt, evidence for which consists largely of Arabic and Greek documentary sources along with Arabic juridical texts and administrative handbooks. Agriculture in post-conquest Egypt as practised by its mostly Christian population, however, has not traditionally been the object of scholarly inquiry. This is partly due to the nature of the evidence, the relevant sources being predominantly Coptic texts and archaeological remains that are not as thoroughly known as the Greek and Arabic evidence. The documentation of the activities and concerns of Christians in post-conquest Egypt is also highly scattered and incomplete, but there is a substantial body of material from at least one region that is relevant for the subject. At present, it is most practical to examine the agricultural practices of a specific population in post-conquest Egypt through documentary and archaeological sources, and to place these practices into the context of contemporary literary sources that address the theoretical issues of how agricultural activity should be carried out.

The documentation of agricultural activity is something of a paradox in Coptic sources: although essential and central to the economy, agricultural practice leaves relatively little direct evidence in the written record. The administration of agriculture and the taxation of agricultural land by the Muslim rulers of Egypt are reasonably well documented, but the actual farming done by the

predominantly Christian inhabitants is not so well attested. Much more extensive is the indirect record of agriculture among the Christians in post-conquest Egypt. Indeed, much of the Coptic documentary source material has some relevance—letters, accounts and legal documents often concern agricultural products in some way. Similarly, agricultural land can appear in a number of contexts: something bought, sold, donated, or taxed.¹ But the actual work that took place on the land and that yielded the products is more elusive in the documentation. Much of the relevant evidence comes from a single region: the southern Egyptian town of Jême and the nearby monasteries, an interrelated group of communities opposite modern Luxor in the western Theban area.² The town of Jême itself was inhabited more or less continuously from its Pharaonic origin in the enclosure of the temple of Ramses III known as Medinet Habu; the nearby monasteries were of more recent foundation, similarly associated with Pharaonic temples and tombs. From the period of about 600–800 CE,³ an extensive body of Coptic-language sources documents in detail the activities of the inhabitants of the western Theban area, a predominantly Coptic-writing and speaking population which had little direct interaction with the Muslim rulers and administrators of Egypt.⁴ The region was abandoned around 800 and remained mostly uninhabited for long afterwards, resulting in extensively preserved archaeological remains of town site and monasteries. Although the Theban evidence does not always parallel that from larger sites primarily attested through Greek documentation, it does seem typical of smaller communities attested in Coptic sources. The western Theban area provides a large and diverse body of evidence for a Christian population for the century and a half after the Muslim conquest, and must be central for any discussion of agriculture among this population.

Western Theban sources attest to a wide variety of agricultural activity in the region, involving the growing, harvesting, and distribution of food crops, animal fodder and non-food crops. The documentation of this activity occurs in a range of texts; contracts to sow and harvest land are the most direct such attestations. Loan documents in which interest is charged in barley or oil and due after harvest are common, while the shipping of agricultural produce within the region is sometimes mentioned. Sales and transfers of agricultural land document the owners of the property, though not so often the uses to which it was put. Incidental references in letters often refer to crops as food, raw materials for crafts, commodities for sale, interest for loans, payment of debts, and under

¹ The taxation of agricultural land is a much larger issue that falls somewhat outside the scope of the present paper; the Coptic, Greek, and Arabic sources for this subject have been extensively studied in the literature, most recently by Hussein (1982) and Bæk Simonsen (1988)

² For Jême and the western Theban area, see Wilfong (forthcoming b), ch. 1.

³ Coptic documentary texts are known from the western Theban area from the mid-6th century, but dated documents do not become common until after the Muslim conquest.

⁴ Wilfong (forthcoming a) addresses the situation of Christians under early Muslim rule in Egypt.

many other guises. Accounts and lists often provide the most detailed listings of the extensive range of crops grown in the area. Wheat is by far the most commonly grown food crop in the area, whereas barley is much less frequent and is almost always used as fodder.⁵ Flax was commonly grown for weaving linen, but is also found for the oil from its seeds. Lentils, sesame, and *orax* are often mentioned in the texts, as are dates, leeks, and a number of (often unspecified) green vegetables; these appear to have been grown in the area. Vineyards are not uncommon, although wine-making seems to have been more common in the north.

The most noticeable feature of the agricultural activities attested in the evidence from Jême and surrounding sites in western Thebes is the extensive involvement of the local monasteries. This may seem to be a paradox, since farming was widely regarded as incompatible with the monastic vocation in early compositions like the *Apophthegmata patrum*.⁶ However, even these writings allowed that monks could help with harvesting and other tasks related to farming; moreover, there is no explicit (or implicit) prohibition against monasteries getting outsiders to cultivate monastic land.⁷ By the seventh century, when the western Theban documentary evidence picks up, it is clear that monasteries are the major landowners in the region.⁸ By the time of the Muslim conquest, there is considerable evidence for west Theban monastic institutions interacting with Jême residents in matters of land and farming; in general the pattern seems to have been for outside farmers to cultivate the monastic land, itself often donated to the monastery by town inhabitants. This trend is seen in documents relating to the Monastery of Phoibammon at Deir el Bahri: Jême residents donated land for farming to the Monastery of Phoibammon in a number of texts⁹ and even more frequently the monastery authorised people from outside to cultivate its land.¹⁰ Less frequently, monasteries also received authorisation to work land not owned by the institution¹¹, and individual monks could own private land themselves.¹² Other monasteries in the area seem to have had similar arrangements; the much smaller Monastery of Epiphanius held its own land and let it be worked by outsiders.¹³ Epiphanius text Ep. 85 provides great insight into how such farming was practised. It is a contract between two men and a priest, whereby the

⁵ Discussion of the known prices of these crops from west Theban documentation in Stefanski and Lichtheim (1952), 5; see also Till's notes in the introduction to *CPR* IV.

⁶ See references in Evelyn White (1932), 185, 262, the danger of sustained agricultural activity being inimical to meditation.

⁷ References in Evelyn White (1932), 184.

⁸ Winlock and Crum (1926), 161 and the discussion of Godlewski (1986), 81–5.

⁹ For example, *CO* Ad3; *ST* 60; *KRU* 107–11.

¹⁰ *BKU* 48; *CO* 138, 140, 185, 206, 303, 307, 482.

¹¹ *CO* 139, 308.

¹² Godlewski (1986), 82.

¹³ Winlock and Crum (1926), 160–2 concerning texts Ep. 85–6, 89.

two men agree to 'sow two fields with flax for you, in the sowing of this the twelfth year, and work them with the farmer's craft and to give them their waters, without any doubt', and in a broken passage agree to the maintenance 'of the canal' for irrigation.

Most of the texts known from the western Theban area are attributable, in some way, to monastic contexts, so it is not surprising to find monasteries playing a prominent role in agriculture. Documents found at the site of Jême itself, especially the Coptic ostraka from the excavation of Medinet Habu (*OMH*), also show consistent patterns of the interaction of town with local monasteries, including texts relating to the mechanics of farming. In *OMH* 81, for example, the Monastery of Phoibammon hires Jême men for sowing, the produce to be divided down the middle. Less direct links occur in *OMH* texts regarding loans and securities in agricultural produce between Jême inhabitants and monks, as well as, in the transport of agricultural items between town and monasteries. In general, inhabitants of Theban monasteries seem to have relied on informal supply networks of relatives outside the monastic environment to fulfill many of their needs,¹⁴ so the participation of Jêmeans in monastic agriculture fits this pattern well. If, indeed, the monks of the Theban monasteries were kept from regularly performing the sowing and harvesting themselves because of traditional religious restraints, the town of Jême and smaller neighbouring communities would have been the only likely source for such agricultural labour.

The archaeological evidence for farming among the Christian population of early Islamic Egypt is not particularly extensive, but is relatively straightforward. Again, the western Theban area provides many relevant sources. Agricultural implements are known from the Monastery of Epiphanius—threshing beams, winnowing fans and sieves that relate to the processing rather than the growing of grain.¹⁵ This site also yielded evidence for the processing of non-food plant products—looms and textiles, as well as basketry and its raw materials. Closer to the processes of agriculture are the remains of irrigation machinery—jars for water-wheels and pieces of *shadufs*.¹⁶ Such implements do not survive from town sites like Jême, although this may be an accident of preservation. Similarly, remains of agricultural food produce are not especially common, but are predictably primarily from monastic sites. Such remains were found at the Monastery of Epiphanius, covering the range of grains, fruits, and vegetables known from textual evidence.¹⁷ To date, the most exhaustive analysis of relevant vegetal remains is that from the 'second' Monastery of Phoibammon in the

¹⁴ Wilfong (forthcoming b), ch. 4.

¹⁵ Winlock and Crum (1926), 61–3. These artefacts are consistent with the kinds of material known from earlier non-monastic sites in Egypt, such as Karanis.

¹⁶ Winlock and Crum (1926), 64–7.

¹⁷ Winlock and Crum (1926), 61.

desert nearer Armant than Jême.¹⁸ The study of plant fibres used for weaving and the scant remains of food plants is very instructive and will provide a useful source of comparison when remains from other sites are investigated.¹⁹ The archaeological investigation of cultivated areas possible in other parts of the world is often impractical in Egypt simply because most of these areas are still being cultivated.

Documentary and archaeological sources constitute one side of the evidence for the actual practice of agriculture among the Christians of early Islamic Egypt; the other side of the evidence—the Coptic literary and technical sources—shows how agricultural work was understood among these same people. As in the case of the documentary sources, there are Arabic sources—literary, juridical, and administrative treatises that are relevant for the period, but do not give the perspective of the Christian population of post-conquest Egypt. It is the Coptic literary and technical texts that provide us with aspects of the ‘theory’ of agriculture among the Christians in this period: how farming should be carried out, by whom, when, and with what expected results. These non-documentary sources have a geographical range well beyond the western Theban area, although many are attested as having been known there and most come from southern Egypt. Distribution of and access to literary and technical texts, moreover, is a different situation from that of documentary texts and archaeological evidence; the literary texts circulated in multiple copies in a way that the other evidence did not. Literary texts survived long after initial authorship, so the reading audience of post-conquest Egypt also had access to texts from much earlier times. It is important to bear in mind the context of Coptic literature and the extent to which literary manuscripts circulated and where they were available. Fortunately, the literary environment of western Thebes is well understood and an idea, at least, of what was available to the monastic population in that area is clear.²⁰ Moreover, many monastic sites in southern Egypt have yielded libraries or parts thereof that show the kinds and ranges of written materials available in their collections. For example, the White Monastery at Sohâg has yielded an extensive post-conquest library that is gradually being reconstructed in detail;²¹ many of the texts under discussion here are known from manuscripts originating at Sohâg.

¹⁸ Bachatly *et al.* (1961); food plants 3–38 and non-food plant remains from cloth, basketry, etc., 41–52. Note also the graffiti from this site, Greek–Coptic vocabularies consisting of lists of food plants: leeks, lettuce, endive, barley, clover, sesame, garlic, onion, rue (Bachatly *et al.* (1965), 40–2, graffiti 19 and 21).

¹⁹ An analysis of the botanical remains from the monastic site of Kom el Nana (near Tell el Amarna) is currently in progress by Delwen Samuel.

²⁰ See the discussion in Winlock and Crum (1926), 196–208, with the notes in Wilfong (forthcoming b), ch. 2.

²¹ See most recently Emmel (1993); also for detailed information on the codices containing the works of the monastery’s most famous leader, Shenute.

There is no comprehensive treatise on agriculture known in Coptic, although it would be possible to assemble a fairly extensive collection of relevant extracts from Coptic texts, both original compositions and translations from Greek. The array of sources theoretically available to the Coptic-literate reader (and secondarily available to any Coptic-speaker to whom they were orally read) abounds in incidental reference and allusion to agriculture. From the Coptic translation of the Bible to post-conquest sermons, agriculture was a central part of the environment in which such texts were composed, copied, translated, or adapted. Agriculture can be part of the scenery (as when saints' lives are set against a backdrop of fields and farming), it can be a part of the plot (martyrs are sometimes farmers in the pre-persecution part of a martyrdom, for example), or it can be an easily recognisable metaphor (the frequent use of agricultural imagery to make points unrelated to farming). Thus, the martyr Paêse, for example, is described as a farmer, who is so rich that he gives away sheep and wheat to the poor.²² The monastic author Horsiesios writes of 'farmers of righteousness' who replenish the 'spiritual wine', and quotes the words of Christ in the New Testament: 'I am the true vine, and my father is the cultivator',²³ while Shenute sometimes used more general agricultural metaphors in his works.²⁴

Texts that specifically address issues relating to agriculture are much less common, but are occasionally found in the context of monastic rules and instruction. Given the general perception that active farming was not compatible with the monastic life, such references are most frequently concerned with organisation of non-monastic workers, access to monastic lands, and the cultivation of small gardens and vineyards. The earliest such texts (mostly known from post-conquest copies) are by Pachomius, the Egyptian originator of monastic instructions. Farming is not a major concern in the surviving writings of Pachomius, but does occur in the context of general discussions of monastic discipline. Access to the monastery's farms by the monks is an issue, as is the protocol for the gathering of fruits by monks and similar issues. More oblique are the glimpses of monks' farm-related activities among Pachomius' extensive regulations of monastic behavior. For example, in the rules ultimately designed to prevent sexual activity between monks, they are enjoined not to touch each other while engaged in certain farming-related activities.²⁵ Similar casual references are found in the writings of Pachomius' successors. As one would expect, the subject of agriculture did not escape the attention of the most prolific monastic writer—Shenute, abbot of the White Monastery at Sohâg. In the extensive series of compositions devoted to the monastic life, Shenute makes many pertinent

²² Reymond and Barns (1974), 33.

²³ Lefort (1956), 70–1; the quote is John 15:1.

²⁴ For example, in *MPPER* XXII 21 (=Young (1993), 123–37).

²⁵ See, for example, the rules translated in Veilleux (1982), 162 in the context of Wilfong (forthcoming c).

asides; again, as with Pachomius, Shenute is concerned with issues of access and protocol, less with the farming itself.

Perhaps the most illuminating, or at least the most pertinent, of the Egyptian monastic compositions on the subject of agriculture is attributed to Horsiesios, who followed Pachomius' successor Theodore as head of the Pachomian community. In the course of a much longer collection of regulations on food preparation and related subjects, Horsiesios has a section headed 'The regulations for farming'.²⁶ This section begins with a general injunction to those who are involved to observe times of worship, but also to take pains and care with their work. He addresses specifically 'The one who is in charge of the irrigation' with detailed and specific instructions on the watering of the land, on not watering too much, on keeping the irrigation ditches clear, and inspecting the ditches for problems. Horsiesios also addresses 'The housemaster of the farmers,' the person who is to inspect the irrigation and keep it working. The text becomes fragmentary, but goes on to address issues of animal husbandry and an isolated sentence picks up the issue of farming again—'And if there be negligence in the farm work because of the deed of any man, he will not be excused concerning it.' The concerns of Horsiesios with regard to farming are clear from the text, and it is significant to note the similarities in the language of his regulations and the sowing contract already mentioned (Ep. 85), in which the sowers agree with the priest to sow the land and take great care in its watering and with the irrigation ditches.

In addition to monastic instructions, other kinds of Coptic texts address the theoretical aspects of agriculture. A mathematical instructional treatise in Coptic in a codex in the British Library²⁷ teaches the kinds of calculations required for agricultural planning and administration: field measures, money for agricultural goods, grain measures, and crop yields of fields. The codex can be dated to around the tenth century and is likely to come from a monastic context. The teaching and use of mathematics in the codex is clearly treated as a series of agriculturally related problems, calculated with a wide range of variables. The title of the composition ('These are the methods of the school of reckoning...') implies that these were the major uses for mathematics. A further (perhaps more tenuous) connection to agriculture can be found in the collection of fractional tables from the same codex²⁸ which are illustrated with unusual marginalia that include farm animals and growing plants. Mathematical texts, aside from lists of numbers, are otherwise relatively uncommon in Coptic though there are good

²⁶ See the full edition in Lefort (1956), 98–9, most recently translated Veilleux (1981), 217–20. Originally this composition was attributed to Shenute and published as his work; see the discussion in Emmel (1993), 1205. To Shenute himself is attributed a discourse 'Concerning the Days of Sowing', known only from a mention in an incipit-listing of his work; see Emmel (1993), 984.

²⁷ Most recently republished and illustrated Hasitzka (1990), 274–84 (=MPER XVIII 331).

²⁸ Hasitzka (1990), 285–312 (=MPER XVIII 332); see especially the facsimiles on pls 131–8.

precedents for mathematical instructional texts from Egypt that use examples drawn from agriculture, in earlier Greek texts as well as even earlier Egyptian-language mathematical texts. Perhaps the closest of such parallels is to be found in the Chester Beatty Library codex 1390²⁹, in which are found both mathematical exercises in Greek that use agricultural examples and a portion of the gospel of John in Subakhmimic Coptic.

It is the genre of Coptic literary texts known as 'farmers' almanacs' that are the most relevant for the theory of agriculture among the Christian inhabitants of post-conquest Egypt. This collective title is applied to a number of compositions that interpret calendrical and meteorological omina, very frequently in terms of their importance for agricultural work. These Coptic farmers' almanacs are compositions of a type well known from Byzantine Greek examples, known collectively as *calandologia*.³⁰ The Coptic almanacs appear, for the most part, to be free adaptations rather than direct translations of the Greek versions,³¹ the Coptic versions show distinct regional variations and moreover seem to have occasional parallels with much earlier Egyptian calendrical omina.³² The Greek and Coptic almanacs in turn were adapted into later Arabic compositions, many of which originated in Egypt and were used within a Christian milieu.³³

Coptic farmers' almanacs survive in a number of examples, mostly very fragmentary.³⁴ The earliest-known Coptic almanac is the only such text with an archaeological context, being a fragment from the excavations of the monastery at Wadi Sarga, which dates to the sixth–seventh centuries.³⁵ The latest Coptic almanac is a paper leaf dating to the twelfth century, found at Edfu and now in the Coptic Museum, Cairo.³⁶ The remainder of Coptic almanac fragments are

²⁹ Published by Brashear (1990), 35–56.

³⁰ For which see, in general, Gundel and Gundel (1969), 256–74.

³¹ Browne (1979), 51 notes a number of differences between Greek and Coptic versions.

³² These Pharaonic Egyptian texts have recently been collected, edited and translated in Leitz (1994); parallels to later Arabic almanacs are noted in Leitz's commentary.

³³ See the list in Leitz (1994), 9–10, to which should be added Munzel (1939) and the Arabic text published in Abd al-Masih (1956). The most extensive publication of the Arabic almanacs is Pellat (1986), which contains valuable commentary; Wissa Wassef (1991) correlates information from Arabic almanacs with the agricultural seasons in Egypt.

³⁴ See, in general, Orlandi (1991), but note that the Berlin manuscript cited is actually an unrelated magical text. All the Coptic almanacs discussed below are translated in the appendix to the present article.

³⁵ WS 19, published Crum and Bell (1922), 50–1. In their comments, they note another text that has been cited elsewhere in conjunction with Coptic farmers' almanacs; BM 523 (=British Library Ms. Or. 4920 (2)), published Crum (1905), 252–3. This fragment of papyrus of uncertain date is a Coptic text (written on the verso of a Greek text of unrelated (?) contents) entitled 'Concerning the days of the moon'. Although superficially similar to the format of the almanacs (after the title consisting of a list of numbered days with comments), the (admittedly fragmentary) contents suggest this text to be of a completely different type.

³⁶ Published Abd al-Masih (1956).

on parchment and come from the ninth or tenth centuries. The most extensive is a fragmentary codex in Vienna published and studied by Walter Till in 1936. In the same article, Till published a Vienna fragment from another almanac manuscript and, in a subsequent collection of notes on this text, Till published yet another Vienna fragment from a different manuscript.³⁷ Roughly contemporary is a scrap in Ann Arbor, which partially parallels the longer Vienna manuscript. The Michigan fragment is of great importance, in part because of the extensive and detailed commentary on it (and the related texts) by G. M. Browne.³⁸ This group of almanac fragments shows similar dialectical features, but it is not possible to localise them too closely; editors have commented on the Fayyumic tendencies of the language, but there are also similarities to Theban texts as well.

These texts known as Coptic farmers' almanacs are collections of different kinds of calendrical and meteorological omina that usually have some connection to agricultural activity. In some cases, the texts give predictions based on the day of the week on which a particular date falls (most often 1 January, hence the frequent description of these texts as 'New Year' books). Thus these texts are of the pattern: if Tôbe 6 (=January 1) falls on a Sunday/Monday/Tuesday etc., then X will happen. Another group of predictions is based on meteorological events happening on a particular day: if a wind comes from the north/south/east/west on Tôbe 6, then X will happen. Others (the fragmentary Wadi Sarga text) concern astronomical events such as the rising of the moon. The resulting predictions and advice are not exclusively agricultural, but are predominantly related to farming. In many cases, the individual omina predict success or failure of crops under certain conditions, extent of inundation and the results, health and fertility of livestock, and related matters. But the omina in the almanacs also concern themselves with the economic side of farming and predict the profitability of certain crops and products under certain conditions. Still other omina offer advice to the farmer—the moon omens in the Wadi Sarga scrap, for example, advise the reader to water fields under certain conditions, while the larger Vienna manuscript notes propitious times to buy livestock and to plant fields and vineyards, and even includes a magical spell for determining which crops will be in short supply in the coming year. The concern for both viability and profitability of crops is seen throughout the almanacs.

What can be said about these Coptic farmers' almanacs and, specifically, what is known about their context, their relation to the other literary sources, and their direct relevance to the agricultural activity of Christians in early Islamic Egypt? The discovery of the Wadi Sarga fragment in a monastic archaeological site is suggestive of the likely source of most if not all of these texts. The hands of the

³⁷ Till (1943), 328–34.

³⁸ Browne (1979), 45–57 and the appendix on pp. 59–63 with a revision and reconstruction of part of Till's 1936 text.

Vienna and Michigan fragments closely resemble those from monastic contexts elsewhere in the ninth–tenth centuries, and, indeed, it is safe to say that few books would be found outside a monastic context in this period. The origin of the Cairo fragment at Edfu is similarly suggestive of the extensive copying of manuscripts at the monastery there. A monastic context for all these almanacs, like the other literary texts discussed before, is to be expected. Nor is it surprising that the users of these texts were probably the literate inhabitants of a monastery, not necessarily the people doing the actual farming. In all these texts, there is the undercurrent of administration: the implication that the reader would make and enforce decisions about agricultural practice and also that the reader would be concerned with the saleability of resulting produce. The questions the almanacs answer are consistent with what we know of monastic involvement in farming: who would do the farming, how the irrigation would be maintained, what would be planted and when, and how much land would be used to grow and what would be the expected yields. The ultimate non-Christian origins of the almanacs and reliance on magic is not the barrier to use in a monastic context that a modern reader might assume, especially given the frequent participation of priests and monks in the facilitation and even the performance of magical rituals. The extent to which these almanacs influenced or dictated agricultural practice cannot be determined,³⁹ but their presence in the literary ambience of post-conquest Coptic-literate Christians shows that they had the potential to affect agricultural practice, while the subsequent frequency of such texts in Christian Arabic versions attest to their overall influence and durability.

It is not surprising to find that agriculture among the general Christian population of post-conquest Egypt intensively involved local monastic institutions. The traditional roles of monasteries as large land holders and the close interaction of towns such as Jême with neighbouring monasteries make such a combination logical. Moreover, closer examination of the documentary evidence indicates specific connections between town and monastery with regard to farming. What is perhaps less expected is how integrated the whole system seems to have been—how the agricultural practices in the documentary sources are complemented by the ideals and instructions laid out in the literary sources. Within the confines of the present paper, it has been possible only to touch on many points of interest for this subject, and further and more intensive research is likely to lead to greater refinement of the ideas presented here. With an aim to encourage such research, an appendix follows that makes available, in many cases for the first time in English, full translations of the Coptic farmers' almanacs discussed above.

³⁹ Note the Coptic letter Ryl 340 (possibly from Jême?), in which agricultural activity is said to have begun on Wednesday.

Appendix

Coptic Farmers' Almanacs in Translation

WS 19⁴⁰

Papyrus, 6th–7th century

... He] will surpass his [ancestors?⁴¹ . . . become?] belligerent and contemptu[ous. . . he, him]self will die. Those who will be[come. . .] it (the moon) will be hidden. (Day) 14 [. . .of] the moon. The moon will rise from the place [. . .] body very much. You will rejoice [. . .] necessity. It is good to water [fields. . .] it (the moon) will be hidden. The one who will be ill will suffer [. . .(if the child is)] male, he will be wise [. . . (if female), she] herself will be like the male [. . .]

(small fragment) . . .] the year of the moon [. . .]

Michigan inv. 590⁴²

Parchment, late 9th century

(Recto (hair side)) . . .] in Parmhotep. Oil will be scarce in Parmhotep.

This is the sign of the [seventh?⁴³] day of [Tô]be. If the east wind comes forth on that day, the water will be good and it will cover the whole surface of the ground. The farm animals will live, the crops will grow, the gardens will bloom, the honey will decrease and the final crops of the field will be lost.

If the east wind happens on the eighth of Tôbe, there will be a great winter. The weather (Verso (flesh side)) will be good. The farm animals will miscarry, the wheat will become [dry?] like cumin. Men will contract severe illnesses. Small children will die.

If a south wind comes forth at dawn on the ninth of Tôbe, and the north wind comes forth in the evening: it means a great summer. The crops will grow, the small farm animals will miscarry but will not continue (to do so). Honey will become plentiful.

If a west wind comes forth on the tenth of Tôbe, and then the south wind comes forth at evening, there will be a great winter of prosperity(?)[. . .]

⁴⁰ Published Crum and Bell (1922), 50–1.

⁴¹ Reading *nefe[iôte]*; Crum suggests 'his f[ellows]' (*neferêu*).

⁴² Published Browne (1979), 45–57.

⁴³ Browne suggested 'sixth', but having omnia for each day seems more important in the parallel texts.

Vienna K 5506⁴⁴

Papyrus, 9th century

(Recto)... death will [... If the sixth day of Tôbe fall[s on Tuesday...].
 [...] Boats will be destroyed. [If the sixth of Tôbe f]alls on the 'Little Fast'(Wednesday),
 a [...] the autumn will [...] will be glood, the wheat will be meagre, the harvest [...] the
 fruit [trees?] will send forth fruit [...] the] works perish. If [the sixth day of Tôbe falls
 on] Thursday, the winter will be short, [...] the summer will [...] good [...] will be]
 numerous, affliction will reach [...]. [If the sixth of Tôbe falls on [Friday, ...] Autu[mn?].
 ...]. [...] the eyes of men [...] will die... [...]

(Verso) Concerning sleep: Take [a] leaf of [...] leave them [...] ...which they are:
 Azaboah [...]

The Vienna Farmers' Almanac⁴⁵

Parchment, 9th–10th century

(A Recto (flesh side)) September, which is Thoout. [I]f the [heaven thunders, it means...
 .. glood ...]. [...] If the earth mo]ves, it mea[ns. ...] know [...]

October, which is P]aône. [I]f [the heaven thunders, it me]ans there will [be] much [wine
 and muc]h oil. [I]f [the earth moves, it means [a war (?) a]nd death will come to a gr[eat
 m]an.

[November, wh]ich is H[ath]ôr. [I]f [the heaven] thunders, it means a [. . .di]fferent death
 will occur. [I]f the earth [mov]es, it means that rain will come.

(A Verso (hair side)) [...] Janua]ry, which is Tôbe. [...] [I]f the hea[ven thunders, it means.
 ...] ...man...[.....]

Februa]ry, which [is Meshir.] [I]f the heaven thun[ders, it means.]. ... the country-
 side. [...] [I]f the heaven thunders, it [means.] will happe[n.] [I]f the earth
 moves, it mean[s that a wa]r and a death will take pla[ce.]

(B Recto (hair side)) April, which i[s Par]m[oute].

[I]f the heaven thunders, i[t means that] a multitude of figs [and a multitude] of fruits will
 come [out. [I]f the earth moves, it mean[s illnesses of] different kinds. May, [which is
 Pachons.] [I]f the heaven thunders, [it means that] a disturbance will ha[ppen throughout
 the] entire [ea]rth. Also, [i]f [the ea]rth moves], it means that [a] famine will [happen.

June, which is Paô]ne. [I]f the heaven thunder[s, it means that a] disturbance wi[ll hap-
 pen. . .] [I]f the earth [moves, it means there will be a great heat. . .] July, which is Epiph.
 [I]f the heaven thunders, it means the death of a great man. . .

(B Verso (flesh side)) . . .] [I]f the earth move, it means [some] disturbances will happen
 in the countryside. [August], which is Meshir. [I]f [the] heaven thunders, it means [...]]
 men and health w[ill happen]. Also, [I]f the earth moves, [it mea]ns that a division will
 happen [concerning a m]an of fame.

⁴⁴ Published Till (1943), 333–4.

⁴⁵ Published Till (1936), where pagination and numeration of leaves fully discussed; translation incor-
 porates notes in Till (1943), 328–32, and discussion in Browne (1979), 45–63.

The signs of the 6th of [T]ôbe.

If the sixth of Tôbe falls on [Sund]ay, it will be a bad winter and [a. . .] . . . There will be a multitude of [fruits?]. There will be no [ai]n [. . .c]old. It will [be] hot [. . . .] there will be much (?)⁴⁶ sickness [. . .the winds (?)] will be profitable. . .[. . .] will become numerous. A wa[r will hap]pe[n. The harvest will be small. [. . .] be great. The boats [. . . .]

(C Recto-Verso (hair-flesh sides): tiny fragments attached to F with no connected text)
(E Recto (hair side)⁴⁷) The wheat will be meagre [. . .] the fruit from the trees [. . .] . . . the water. . .[. . . the dew?] will be meager. Its [. . .] will be numerous. The kingd[om. . .] and they will not(?) go to war [. . .] this . . .[. . .] . . .captiv[ity. . .] . . .[. . . .]
If the sixth [of Tôbe falls] on Friday, the [. . .] the summer is limited [. . .] and the autum[n.

(E Verso (flesh side)) . . .]the summer of the [. . .] . . . the water of the river . . .[. . .] it will be well-limited. [. . .] good will reach the eleventh [. . .] the business affairs.

If the sixth of Tôbe falls on [Saturday? . . .] of the winter will be [. . .there will be no?] rain, nor [will there be dew? . . .aut]umn and the heat [. . . fr]uit of the field will be g[ood? . . .c]omplete. The kingdoms [will go to] war with each [other. . .] .a king in a place [. . .] will happen. The fr[uits. . .] . . .the eyes . . .[. . .] . be light? . . .⁴⁸

[The sixth day of Tôbe: These are] the sig[ns. If the east wind comes forth on that day. . .]

(D Recto (flesh side)) Winter will be great, summer will be limited. The winds will be good. The crops of the field will be good, but they will be small. The autumn and the heat . . .a destruction will fall upon the shee[p. . .the ho]ney? will be plenti[ful. . .] but they will [be. . .] and a [. . .] the offic[als. . .] . . .

[If the east wind comes forth on the] seve[nth of Tôbe.]

[If the east wind happens on the eighth of Tôbe. . . .] (D Verso (hair side)). . .will sprout? The farm animals will miscarry. The wheat will become dry(?) like cumin. Men will contract serious illnesses, small children will die [.]

If a southern wind comes forth] at dawn [on the ninth of Tôbe and the north? w]ind [comes forth in the evening, it will be] a great [summer, the crops will g]row [. . .the small farm anima]ls will miscarry [. . .] . . . but [they will not continue to do so. Honey will become profit]able . . .[. . . .

If a western (wind) comes forth on] the [tenth of Tôbe and the sou]th (wind) comes [forth in the evening. . . .

(F Recto (flesh side)) In these days of the wild animals, many men will die.

If an east wind comes on the 11th of Tôbe, a season of plenty will happen throughout the whole world. The wheat will flourish very well, the farm animals will be healthy. And no men will die and small children will grow. Oil-radishes will be destroyed and trees will lose their fruit.

The signs of the sixth of Tôbe are finished.

⁴⁶ For the remainder of B, note the 'Nachtrag' in Till (1936), 175-6.

⁴⁷ Following Browne's reversal of the order of D and E.

⁴⁸ The remainder of E and most of D based on Browne's reconstruction.

(The 'Oracle'⁴⁹)

This is the sign for all of the crops of the year: which ones will plentiful and which ones will be scarce. . . [. . .] 25 of the [. . . .] (F Verso (hair side)) and do not speak with anyone for that whole night, turn your face to the east and recite this prayer, saying: 'He will say to the Lord: You are the one who accepts me, my place of refuge, my rescuer. God is my helper, my place of refuge, my rescuer. I will trust him, for he is the one who will save me from the snare and the hunter. Reveal to me, O Lord, the crops: which ones will be scarce [and which ones] will be plentiful.' Recite it [. . .]. . . offer incense up . . . [. . .]

(G Recto (flesh side)) The monthly course of the moon

The first (day) of the moon. It is good in everything: to do business and to [. . .] farm animals; to build a house and to do business concerning a boat. The children which will be conceived for you will be wise ones and the farm animals that will be conceived for you—you will bless them.⁵⁰

The second (day) of the moon. Love was born (on this day). It is good and complete, to go to an authority, to take up a legal case with an authority, to lend gold at interest, to plant a vineyard, to sow a field, to buy a slave, to buy a farm animal, to take a wife for yourself, to give a woman to a husband, to sail on the sea, to build a watchtower.

(G Verso (hair side)) The third (day) of the moon. The pagan was born (on this day). This day is bad. Protect yourself from it. The children who will be conceived for you will be feeble. The farm animals who will be conceived for you will be possessed by demons. Don't let your wife examine your head (for lice). Don't buy or sell your slaves. Guard yourself from it!

The fourth (day) of the moon. Aphrodite was born (on this day). It is a good day⁵¹ to assemble and to approach [.] if [you?] flee [. . .] amulet. If he is made ready, he will heal with drugs [.]

(H Recto (hair side)) The 5th (day) of the moon. it is good for everything [.] . . . it is good to live . . . [. . .] . . . you will be strong [.]

(H Verso (flesh side)) . . . it is go[od] . . . concerning a wag[on? . . .] to get into a boat. The one who will be s[ick? . . .] . . . [. . .] . . . they will find a [. . . on h]is forehead [and?] on his che[st. . .]

The seventh (day) of the moon. It dawns . . . [. . . until?] the sixth hour. It is good and it gives rest in every thing: to off[er to] God, to [look] after the birds . . . [. . . it is] good to act as a doctor, to build some [. . .] to put small children [to be apprentices? . . .] to train horses [.] to buy and to sell, to [.] . . . in a hou[se?]. Those who will [be conceived for you w]ill be grate[ful.] a sign on his foreh[ead.]

(I Recto (flesh side)) The . . . [. . .]

The ninth (day) of the moon. [. . . The day is good] to build a boat and to [. . .], to plant

⁴⁹ Till's designation.

⁵⁰ The parallel text given by Till—Vienna K7027—forecast for a single day on one side of a piece of parchment (9th century?):

+ The first (day) of the moon. The day is good in everything, to do business and to buy a farm animal, to build a place and to build a boat. The children who will be conceived for you will be wise, and the farm animals that will be conceived for you—you will bless them. Simply, it is good.

⁵¹ Till translates 'bad day', but *ouhoou enanouf pe* is clear.

a place with tr[ees. . .], to go to war, to do bus[iness? . . .], to test farm animals, to have a marriage feast. The one who will be conceived for you will have grace. If it is a male, (he will be) good, gentle, and hospitable. If a female, there will be a mark [on] her mouth. The one who will be sick will be in danger and then will recover :-
 (I Verso (hair side)) [. . .] will imprison his [. . .] the year. He will become [. . .] a loss. The pious (?) . . . [. . .] it is the reply. She will The one who flees will be found. The one who will take a wife will persevere. The one who has a bad dream—it will come true.

The 11th (day) of the moon. Righteousness [was] born (on this day). This is a good day. Children who will be conceived (on this day) will be long lived. They will become wise. A house or a water-wheel (?) or a bakery: (J Recto (hair side)) when they are laid out, [they] will be grea[t.] It is good to lend gold [at interest. . . .] . . . to you [. . . .]

The 12th (day) of the moon. it is good. . . [. . .] . . . a son [. . . it is] good to buy [. . .] go to [. . .] your field [. . .]

(J Verso (flesh side)) The 13th (day) of the moon. The pagan was born (on this day). It is a difficult day. The one that will be conceived (on this day) will be [. . .] . . . until he dies. [. . . Do not go] to a strange place. Do not continue [. . . the s]ea. Do not . . . [. . .] . . . very much [. . .]

The 14th (day) of the moon. [. . .] was born (on this day)[. . .] This day is [good to lend gold at] interest, to [. . .], to buy a farm [animal. . .], to approach [. . .]

The 15th (day) of the moon. [. . . . This] day is [. . . .]

(K Recto (hair side)) The 16th (day) of the moon. Rest was born (on this day). This day is good to go to strange places; you will be upright. It is good to sail. It is good to buy farm animals. It is good to plant a vineyard, to sow a field and to process fodder.

The 17th (day) of the moon. Death was born (on this day). This day is troublesome. The one who is sick will expire. It is good to lend at interest. If you go to a strange place, you will be upright. If things are stolen, they will will be recovered. If one flees, he will never return.

The 18th (day) of the moon. Glory was born in it. This day is good. If you approach an official, you will find favour before him. (K Verso (flesh side)) It is good to buy a farm animal, to sell goods. If a child is conceived for you, his day will be exalted in your house. It is good to sow a field, to plant a vineyard or to work on a boat.

The 19th (day) of the moon. The monther of those without sin was born (on this day). It is good to go to the bakery and the oil-press, to lend gold at interest, to go to court, to sell goods and to approach an official. As for a man who will be thrown into prison, he will go out quickly, without guilt.

The 20th (day) of the moon. Greed was born (on this day). This is a difficult day. The one who will go to strange places will never return. As for the one who will plant a vineyard or field, they will not grow. It is not good for anything at all.

(L Recto (hair side)) The 21st (day) of the moon. The Saracen was born (on this day). This day is very bad. Do not let your wife examine your head or your beard (for lice). Don't let your wife set up the warp on the loom, for it will not succeed. Don't let (any?) woman into your house. [Don't?] lend gold at interest. Don't [. . .]

The 2]2nd (day) of the moon. [. . .] was born [. . .]

(L Verso (flesh side)) The 23rd (day) of the moon. Badness was born (on this day). This day is empty and an affliction. If a girl is born to you, she will become a p[rostit]ute. If a male child is born to you, he will become wretched. Do not go to a strange place. Do

not shake hands with a man. Do not apprentice your child to a craft. Do not buy a slave. The 24th (day) of the moon. [. . .] was born [. . .]

(M Recto (flesh side)) The 25th (day) of the moon. The crocodile was born (on this day). This day is bad and difficult. Don't launch a boat on the water. If children are born, they will be feeble. As for a house, if you set its foundation, it will not be completed. If you go out on business, you will suffer loss. Don't go to the bakery, or you (will) suffer a loss.

The 26th (day) of the moon. The Amen was born (on this day). This day is good and a blessing in everything. It is good to approach a king: you will find grace from him in whatever you will ask from him. He will do (anything) for you, up to freeing a condemned man for you, for this day is a day of grace and rejoicing.

The 27th (day) of the moon. The illuminating star was born (on this day). This day is (M Verso (hair side)) [the best] of all the days of the moon. It is good to go in to your wife (on this day). If you approach her, she will conceive a male child [. . .] . . . very much in your house, until everyone is amazed with him.

The 28th (day) of the moon. The season of plenty was born (on this day). This is a good day and it is complete. It is good for all business matters and you will be upright in all of them. It is good for buying and it is good for selling. If a man wants to do wrong to you, he will not be able.

The 29th (day of the moon). The waters were born (on this day). It is good and it is complete in every matter for which you will go out (N Recto (flesh side)) to sail on the river: there will be no storm . . . of a day. It is a good day. The waters were born for him (on this day), those that flow to the source of Eden, which gives water to the four rivers, As for any man who will pay heed to this day and press oil or bake (on it), he will be blessed. The last day of the moon. The seed (?) was born (on this day). This day is difficult. It is good for few things. Don't buy land on it. Don't buy and don't sell. Don't go in to your wife, for what she will bear you will be a basilisk. You will not receive any blessing through him: he will be a young man who will cause difficulties to his parents. (N Verso (hair side)) If (it is) a girl, she will disrupt the peace of everyone. If you buy a camel, it will die soon. If you buy a slave, it will become demonically possessed. Simply, this day is not good for anything. Protect yourself on it, for it is a difficult day.

(Summaries of various sets of omina)

The monthly course of the moon:

1	The whole (day) is good	2	The whole (day) is good
3	The evening is good	4	The whole (day) is good
5	The evening is good	6	The hour is good
7	The morning is good	8	The whole (day) is good
9	The morning is good	10	The whole (day) is good
11	The whole (day) is good	12	The morning is good
13	The evening is good	14	The hour is good
15	The whole (day) is good	16	The hour is good

.....

(O Recto-Verso (flesh-hair sides): not preserved)

(P Recto (hair side))

27th [28th
29th [The . . . is] go[od. . .	30th

First day of the moon [

2nd He will recover quick[ly. . . 3rd

4th He will recover quick[ly. . . 5th

6th He will . . .]

7th He will . . . [. . .] by h[is. . .

8th He will recover by his third (day of illness) [

9th He will recover by his third (day of illness) [

10th He will recover by his third (day of illness) [

11th He will die by his [??] (day of illness) [.

.

(P Verso (flesh side)). . .] the 23rd: He will cease(?)[. . .] . . . the 26th: He will [. . .]

the 28th: He will be burned (?)[.] he will d[ie. . .

(Colophon)

. . . .] it is finished, namely all of this [.

. . . .] him, with rejoicing of [.] Amen. Forgive me my [sins?!]

I, the most humble Chael, the deacon, son of Papa George, wrote (this).

*Cairo Coptic Museum 3808*⁵²

Paper, 12th century

. . .] (3) will continue the losses which he said (?)⁵³ at its price in Pachons and Paône and Epiph. Oil will be scarce, along with all other produce, from Paône on. There is no price⁵⁴ for the harvest in Thoout, Paôpe, Hathôr or Khoiak. Wine will be scarce in the wine-press and (as a result) it will have the same value until Tôbe. Wheat will be plentiful until the sixth day of Hathôr. All fruits will be plentiful. Wheat will rustle around⁵⁵ from the end of Khoiak. All fruits will come to their (normal) price up to the sixth of Tôbe.⁵⁶ Tuesday. If the sixth of Tôbe falls on a Tuesday, winter will be harsh. The winds will be good. Illnesses will be severe. Boats will be destroyed. There will be much dying. (4) There will be no rain, nor will there be enough dew. The harvest will increase. Kingdoms will be in confusion, but they will not go to war. The water of the river will be low. Many pregnant women will miscarry, and sinless babies will die. Part of the countryside will be destroyed. Wheat will be gathered and the seasonal fruits will be numerous. A king will die somewhere. There will be profit in business.

Wednesday. If the 6th of Tôbe falls on Wednesday, winter will be difficult. Illness will be limited. Rain and dew will be good. Wine will be [. . .

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⁵² Published Abd al-Masih (1956); complete single leaf, pages numbered 3 and 4.

⁵³ Reading *ef<j>δ mmos*, most likely from the phrasing.

⁵⁴ For *mnte-psate*? 'Price' in the general sense, rather than the specific *šar* above. Abd al-Masih's reading *cite* 'sowing' less likely.

⁵⁵ Literally 'move hastily', but not 'leaping' in price, as Abd al-Masih takes it.

⁵⁶ The scribe has transposed 'the sixth of Tôbe' with the following 'Tuesday'.

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