

3 Toward a Sociohistorical Approach to the Corpus of Coptic Medical Texts¹

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Copts in the Sciences: Two Contrastive Views of History

In January 2011, on the eve of the Egyptian revolution, a lecture entitled “The Impact of the Copts on Civilization” was delivered by Dr. Amin Makram Ebeid to a public audience in the Coptic Museum at Old Cairo.² Dr. Ebeid, who has published on social, cultural, and historical matters relating to the Egyptian civilization and the Coptic community within it, is a surgeon by profession, previously affiliated with Harvard Medical School, now retired. He said:

From the standpoint of secular contributions, whether direct or indirect, the Coptic impact on both Western and Islamic civilization has been vast. . . . The early Copts, as represented by the towering figure of Origen, and prefiguring the great Muslim philosopher-theologians, such as Ibn Rushd, were responsible in shaping the mind of future civilizations by providing an intellectual climate that honored the rational mind in which all questions were permitted. . . . After the Islamic conquest, the Copts (along with the Levantine Christians) had a pivotal role in shaping the glorious Arab civilization. Indeed the records of history are here to remind us that this great people transmitted philosophy, astronomy, mathematics, and architecture to the Muslim world.³

In 1989, the Coptologist Leslie MacCoull wrote on the intellectual achievements of the Copts in late antiquity and medieval times in a rather pessimistic vein. In her article "The Strange Death of Coptic Culture," she came to the conclusion:

There is much anthropological writing on the phenomenon of language death, but none of the theories I have ever encountered seems to fit what happened to Coptic: dialectal unintelligibility; restriction to a purely practical and rote-memorized monastic sphere of use; simple laziness. . . . What did happen was that, for reasons which remain both unclear and unexplored, learning never became a holy act in Coptic culture. Learning for its own sake never became a thing of positive value. The comparison with Syriac and Armenian is sad.⁴

How could two persons—one a Copt himself, the other a friend and supporter of the Copts, and both of them having a genuine knowledge of Coptic history and culture—arrive at such contrasting estimates? What is different in their approaches, to make the intellectual activities within the Coptic community, and their achievements, look so different to them? An explanation to account for this apparent riddle has a great deal to do with the key words of this conference: *adaptation*, *representation*, and *assimilation*.

The issues to be reflected upon include these: What were the directions of the paths of intellectual exchange and the streams of the transfer of knowledge in late antique and early Islamic Egypt and in the larger territories—the Byzantine Empire, the Caliphate—of which Egypt was only a province at those times, and how did these paths branch out? How was scientific knowledge publicized and communicated at this time and in this environment? And how did Christian intellectuals of Egypt adapt to, and interact with, the scientific community of the day?

All these questions are related to broader issues of social history, the history and sociology of knowledge, and, as far as multilingualism and language choice are concerned, of sociolinguistics. It is my impression that the gap between Dr. Ebeid and Leslie MacCoull is mainly the result of different attitudes toward these issues. Trying to evaluate and to balance their respective merits and demerits, I will be focusing on a specific field of knowledge and its representation in and outside Coptic sources: medicine.

A physician himself, Dr. Amin Makram Ebeid also touched upon medicine in his evaluation of the cultural role of the Copts throughout Egyptian history:

Egyptian Medicine as an art and a science was continued to be developed after the Pharaonic age because the Copts kept their medical genius alive and offered the right milieu that permitted the genius of Alexandrian physicians like Herophilus and Erasistratus to be actuated Indeed Egyptian Christian medicine, whether Coptic or Melkite, was significant both before and after the Arab invasion. . . . This opinion is documented in medical Coptic manuscripts from the fourth century onwards and found in monastic libraries in which eye diseases and skin ailments are recorded in greater detail than other clinical conditions. . . . the early development of nursing . . . seems to have started, or at least was practiced, in monasteries and is even included in Pachomius' monastic rules.⁵

This short account includes four claims:

1. The continuation of pharaonic medicine by the Copts;
2. The importance of Christian medicine in Egypt for contemporary medicine on a large scale;
3. The corpus of Coptic medical texts as a body of evidence for these two hypotheses; and
4. The invention of a new type of health care arising from the early monastic milieu.

All of them seem relevant for our topic, have been discussed in these terms by earlier scholars, and will be discussed in the following lines.

Dr. Ebeid's fourth claim, the emergence of a new type of health care in the monasteries, seems to be essentially undisputed. Despite the existence of functionally similar places in antiquity, such as healing sanctuaries and Roman military infirmaries, it has been argued that the particular attitude to the sick and the kind of institution devoted to health care which took shape in the *hospital* were unknown to antiquity and grew up, inspired by Christian anthropology, at places where early Christian monasticism was flourishing—in Egypt and Asia Minor, and perhaps even farther east, in Syria and Persia. Andrew Crislip has recently made a detailed argument for the birth of the hospital from the spirit of monasticism.⁶ His conclusion runs like this:

Monasticism bequeathed to the late antique and medieval world not only an entirely new form of social organization but also an entirely new institution for the care of the sick and needy within society. The

organizational genius of monastic leaders like Pachomius and Basil effectively transformed the health care system of antiquity through the instrument of the monastery, not only changing the availability and location of health care but also providing on a wide scale new ways of social interaction between sick and healthy, establishing for the first time an institution in which the sick could receive free, professional, inpatient care, compassionately and without stigma.⁷

Dr. Ebeid's other three hypotheses—the continuation of pharaonic medicine through Coptic medicine, the importance of the Christian medicine of Egypt for contemporary medicine on a large scale, and the evidence borne by Coptic medical texts—closely intertwined with each other as they are, seem to be much more complex, more disputed, and more difficult to assess.

Coptic Sources on Medicine in Late Antique and Early Islamic Egypt

Christian health care and its practitioners in late antique and early Islamic Egypt are represented in a range of different types of Coptic writing, including:

- literary texts from early monasticism, such as Pachomius's and Shenoute's writings;⁸
- hagiographical narratives such as the corpus of texts about Coluthus, the physician and martyr under Diocletian;⁹
- the corpus of Coptic medical texts,¹⁰ including literary copies from monastic libraries as well as texts from documentary sources; and
- Coptic documentary sources such as papyri and inscriptions, which will be discussed below in more detail.

To evaluate this evidence, it is necessary to take other, linguistically different sources into account, since Coptic, the standard(s) of Egyptian vernacular used as a written language in the first millennium CE, was a socially restricted code. Although not exactly a “low” variety in contrast to Greek and later to Arabic, Coptic was a medium limited to certain milieux, and to a certain range of functional domains. Contemporary discourses on nearly any field or topic would usually have gone beyond the scope of Coptic sources on them. In consequence, native speakers of Coptic who wanted to participate in them could not and would not have limited themselves to their mother tongue, and so we too cannot confine

ourselves to Coptic evidence only. The wider range of written texts relating to medicine in late antique and early Islamic Egypt includes Greek and Arabic texts, such as Greek medical prescriptions and treatises,¹¹ Arabic biographical literature such as Ibn Abi Usaibia's *Lives of the Physicians*,¹² and Judaeo-Arabic and Arabic texts from the Geniza of Old Cairo.¹³

The Type of Medical Professionalism Attested by Coptic Documentary and Medical Texts

It would be an innovative and rewarding kind of work to gather and analyze the papyrological evidence for sickness and healing systematically.¹⁴ In Coptic documents, professional healers are usually referred to by the Greek term *ιατρος* (*iatrós*, 'physician'). In documents from seventh- and eighth-century Western Thebes, some persons designated in this way also bear monastic or ecclesiastical titles, such as a John who is identified in a letter as *ιατρος* (*iatrós*, 'physician') and *μοναχος* (*monokhos*, 'monk'),¹⁵ or the deacon and *iatrós* Phoibammon¹⁶ who left a memorial inscription at the Theban Monastery of his namesake, a healing specialist among the saints, Phoibammon.¹⁷ In some documents relating to monasteries, medical books are mentioned—not, however, under one of the well-known names, or any author's name, but under the generic term *ζωόμε νσειν* (*jôôme nsein*) or *ζωόμε νιατρος* (*jôôme niatros*), 'physicians' books.¹⁸ We have good reason to assume that these books looked like one literary type of text represented in the corpus of Coptic medical texts to be described below.

Intriguing evidence for the role of monasteries in local physical and mental health care comes from the corpus of child donation documents from eighth-century Thebes.¹⁹ All of these documents tell the same stereotyped narrative about a severe sickness and miraculous healing of a little boy who is then donated to the Theban Monastery of Phoibammon, although with some degree of variation and individual details. Sometimes the full description of a medico-religious healing procedure is given (e.g., *P.KRU* 91, 11–20):

We brought him [the sick child] into that monastery and we poured the water bowl of the holy place upon his body, and God and the prayers of this martyr [St. Phoibammon] granted him healing, and he improved step by step . . . ; further we left him within the holy place over several days, while the *oikonomos* cared for him together with myself, Pesynthios, his father, up until he gained healing at the holy place and improved step by step. Now, when God, the one to

whom those verdicts (χαπ 'hap') belong, had visited the little boy, and granted him healing, we took him to our home and spent a lot of days caring for him, until his body became stronger.

Certainly the most pertinent body of evidence for *Coptic* medicine in particular is the aforementioned corpus of Coptic medical texts which I now want to dwell on in a bit more detail. When the Coptologist Walter Till compiled and translated this corpus in 1951, he dealt with a total of twenty-seven textual items. Sixty years later, the checklist of Coptic medical texts contains thirty-eight entries (cf. appendix below), not very many if compared, for instance, to the six or seven times as many Coptic magical texts,²⁰ but on the other hand not an insignificant number, if compared to the approximately 260 extant Greek medical papyri,²¹ given the general numerical relations between Greek and Coptic documents.²² The texts of the Coptic medical corpus exhibit some significant common features and some likewise significant differences. A shared feature is the particular genre of medical writing in Coptic: our corpus consists exclusively of prescriptions—recipes for drugs, potions, plasters, and ointments. We do not have any Coptic medical text elaborating on such things as the physical constitution of man, body parts and their functioning, or physical ailments and their cure: this is to say, no specimen of anatomical, nosological, or therapeutic treatises is among them. This restriction to one genre of medical writing is probably not caused by pure coincidence, given that we do have a good deal of medical prose in the Greek papyri.²³

The most frequently attested type of Coptic medical prescriptions are compilations of less than five recipes, written on single pieces of pottery, limestone, papyrus, parchment, or paper.²⁴ Several of them can be identified as ad hoc copies drawn up on a specific occasion and sent to an individual person who wanted this particular recipe.²⁵

On the other hand, numbered parchment pages written in formal bookhands,²⁶ and originating from codices which were apparently produced in scriptoria of monasteries, indicate the availability of larger compilations of Coptic medical recipes there. These manuals may illustrate the type of writing occasionally referred to as 'physicians' books' in documentary texts.

Checklist numbers 8, 9 and 10 (cf. the appendix below) are the earliest known Coptic medical texts. Palaeographically datable to the fourth and fifth centuries,²⁷ they considerably predate all other manuscripts of the corpus.²⁸

BKU III 396 (checklist no. 8)²⁹ is written on both sides of a fragmented piece of papyrus in a neat, early biblical uncial, thus indicating an almost

completely deterioriated codex. A remarkable feature of the text was highlighted by Helmut Satzinger, its editor, who commented, a trifle bemused: "The language is Greek, except 'fresh rose' [ΟΥΕΡΤ ΕΦΛΗΚ]." ³⁰ In fact, the preserved parts of recipes of *BKU* III 396 mainly display Greek designations of ingredients invariably spelled in (Greek) genitive forms: **ΑΚΑΚΙΑΣ** (*akakias*, '(of) acacia'), **ΧΑΛΚΟΥ** (*chalkou*, '(of) copper'), **ΚΑΤΜΙΑΣ** (*kadmias*, '(of) cadmia'), **ΟΠΙΟΥ** (*opiou*, '(of) opium'), **ΣΜΥΡΝΗΣ** (*smyrnês*, '(of) myrrh'), **ΠΙΠΕΡΕΩΣ** (*pipereôs*, '(of) pepper'), **ΚΟΜΕΩΣ** (*komeôs*, '(of) gum'). The editor's remark on the mostly Greek language of *BKU* III 396 takes account of the fact that case-marked forms of Greek nouns would normally indicate a Greek rather than a Coptic text, while borrowed Greek nouns in Coptic would usually be derived from a nominative input form. There is, however, one general exception to this rule: Greek names of ingredients that occur as borrowings in Coptic medical prescriptions are with some regularity derived from input forms exhibiting Greek genitive morphology. This exception might reflect the prevalent case of such names in Greek recipes, where an indication of quantity is usually followed by a genitive form ('x [units] of y').

The same phenomenon is attested by another early Coptic medical papyrus, P.TT 157-470 (checklist no. 10). ³¹ Ingredients of six or more ointments for the treatment of eye diseases include, in alphabetic order, **ΑΚΑΚΙΑΣ** (*akakias*, '(of) acacia'), **ΑΛΩΗΣ** (*alôês*, '(of) aloes'), **ΑΜΩΝΙΑΚΟΥ** (*amôniakou*, '(of) ammoniac'), **ΙΩΣ ΟΠΤΟΣ** (*ios*, 'calcined verdigris'), **ΚΑΔΜΙΑΣ** (*kadmias*, '(of) cadmia'), **ΚΡΟΚΟΥ** (*krokou*, '(of) saffron'), **ΚΩΜΕΩΣ** (*kômeôs*, '(of) gum'), **[ΝΑ]ΡΤΩΣΤΑΧΥΟΣ** (*nardostakhys*, 'of spikenard'), **ΟΠΙΟΥ** (*opiou*, '(of) opium'), **ΣΑΡΚΟΚΗΛΛΗΣ** (*sarkokêllês*, '(of) Persian gum'), **ΣΜΥΡΝΗΣ** (*smyrnês*, '(of) myrrh'), **ΤΡΑΚΑ[ΚΑΝΘΗΣ]** (*trakakanthês*, '(of) tragacanth'), **ΧΑΛΚΟΥ** (*chalkou*, '(of) copper'), **ΨΙΜΙΘΙΟΥ** (*psimithiou*, '(of) white lead'). Even an excipient component such as water is indicated by the Greek word **ΥΔΩΡ** (*[h]ydôr*), ³² and each recipe is finished by the Greek imperative form **ΧΡΩ** (*chrô*, 'Do apply!'). ³³ Nevertheless, the linguistic matrix of the text is not Greek, but Coptic, as becomes obvious in explanatory phrases such as **ΕΝΑΝΟΥΦ ΕΜΑΤΕ** (*enanouf emate*, 'being very good') or **ΦΑΓΤΡΕΠΡΩΜΕ ΛΟ ΕΦΩΔΗΡΕΥΜΑΤΙΣΕ** (*shafitreprôme lo efshanrheumatise*, 'it will make the man recover if he suffers from rheumatism').

It is striking to find patterns of word formation, vocabulary, and phraseology representative of the technical language of Coptic medical prescriptions of later periods already followed in the earliest extant pieces of the genre: patterns, in fact, that mark a difference from late Demotic

recipes from the second century CE whose terminology still draws largely on traditional Egyptian taxonomies of plants and minerals.³⁴ The prevalence of Greek terms in Coptic recipes of the fourth to fifth century, their lasting importance up until the ninth century, their eventual extension and replacement by Arabic terms—these are features which delimit the role of Coptic to, at best, a secondary language of medicine. On the other hand, they help us to shape an idea of the users of Coptic medical texts. Given that such a highly technical vocabulary is unlikely to belong to a widely shared repertoire of loanwords,³⁵ these texts required well-educated readers of Coptic who had a good deal of taxonomic vocabulary from Greek and/or Arabic technical language at their disposal.

One piece stands out in the entire corpus of Coptic medical texts in several respects, the medical papyrus of the Institut français d'archéologie orientale (*P.Méd.Copt.IFAO*).³⁶ A papyrus strip of no less than 2.48 m in length by 27 cm in width,³⁷ containing no fewer than 237 recipes, it is the most comprehensive Coptic medical text known so far.³⁸ Both its palaeographical features and its linguistic traits (including massive interference from Arabic) point to the ninth or even tenth century. Unlike the great bulk of Coptic medical prescriptions, *P.Méd.IFAO* provides a bit more than merely ingredients and technical instruction: its scribe, a physician, becomes visible as an individual.³⁹ His intention in recording his recipes (some of them, such as nos. 117 and 122, had come down to him from his own father) was to pass them on to his son. The advice given by the anonymous voice of this physician-scribe reflects the daily experience of a practicing doctor, such as (recipe no. 49) "Memorize it well, my son!"; (no. 109) "I checked it and I found it accurate. . . . For me it is more precious than all goods of the world. Use it for yourself, your family, your relatives and your neighbors," or (no. 114, and similarly no. 226) "Don't administer medicine to anybody before you have received your honorarium." He also uses the kind of pious phrases (likewise typical of contemporary Jewish and Islamic prescriptions)⁴⁰ which James Montgomery calls opt-out clauses, such as (no. 125) "It will get better, God willing," or (nos. 156, 171) "Through the power of the Lord he will recover." Sometimes he indicates the provenance of recipes by assigning a geographic origin to them, such as (no. 91) "a Persian ointment" or (no. 221) "an ointment from Rome," or by attributing them to renowned authorities, such as (no. 56) "an ointment of Apa Cyril the wise senior physician," or (no. 211) "a one-day ointment of the senior physician and martyr Coluthus." One recipe (no. 202) is annotated in Arabic: "Hinnes knew it." A recipe for spleen diseases (no. 65) is

said to have been found "in the ancient books," which might mean classical authorities like Hippocrates or Galen.

This will suffice as a very brief introduction to Coptic medical texts. As an interim result, it can be maintained that the corpus of Coptic medical texts reflects a practical approach to healing,⁴¹ conducted by professional healers, but hardly something like 'academic' medicine, and, with the exception of the medical papyrus of the Institut français, no such thing as medical education. Given the sheer number of Greek medical terms in Coptic prescriptions, there is no reason to assume that Coptic medical writing had any direct connection to the Egyptian medicine of pharaonic times:⁴² like so many Coptic literary genres, Coptic medical writing too might have been informed by, and dependent on, Greek thought and writing.⁴³ The same observations and considerations led Walter Till to a similar conclusion as early as 1951: "As far as we can judge from the specimens of Coptic medicine we have seen so far," he wrote, "it maintained a level much inferior to ancient Egyptian medicine. Further, Coptic medicine cannot be considered an offspring of ancient Egyptian medicine. . . . The Copts developed their medical knowledge partly from Greek, partly from Arabic sources."⁴⁴ If Till's words have a slightly unpleasant slant, it is because they convey the idea that Coptic medical texts were the degenerated remains of the former splendor of pharaonic medicine, and their dependence on Greek and Arabic sources was due to the inferiority of the Copts with respect to the Greeks and the Arabs. This idea has the same kind of defect as Leslie MacCoull's disappointment about the intellectual laziness of the Copts: an essentialist concept of the Copts that ignores both the sociohistorical setting of the Coptic texts and the sociolinguistic implications of the complex language situation of late antique and early Islamic Egypt.

If we look at the production and use of Coptic medical texts from a sociohistorical perspective, we enter a milieu where just this kind of medical text, if any, was to be expected and perfectly in its place: non-urban settlements inhabited by peasantry, with local monks and clerics as spiritual and intellectual guidance, who provided a practical medical knowledge for quotidian needs. This knowledge was kept available through library copies—'physicians' books'—and could be communicated, when requested, on ostraca, single sheets of papyrus, or paper to individuals in search of a remedy. Seen from this angle, it comes as no surprise that our texts do not reflect an academic, learned medicine, which was hardly available in late antiquity except in urban elite environments with their well-paying clientele,⁴⁵ and in courtly societies. Herbert Wilsdorf has labeled the kind

of healing practice that is reflected in Coptic recipes as *Klostermedizin* ('monastery medicine'), applying a term designed by historians of western early medieval monasticism to the Coptic evidence.⁴⁶ The absence of an academic background in our texts thus reflects, in the first instance, a sociohistorical setting.

Medical Education

The absence of an academic background from Coptic medical writing further reflects the dependence of language choice on functional domains. The use of written Coptic before the tenth century did not normally include scientific writing.⁴⁷ Medicine, more than any science involved in the people's daily lives and needs, was an exception in this respect. The most practical sort of medical texts, prescriptions, are attested in the Coptic record centuries before this time, as early as the fourth and fifth centuries, as mentioned above.

Given, as seems to be the case, that only a basic kind of healing knowledge such as pharmaceutical prescriptions was available in the written Coptic language at all, how then was medicine taught in Coptic native-speaker environments? There are two possible ways.

The first possibility is a "non-academic," artisanal, local, presumably oral transmission, preferably from father to son (or from mother to daughter, as we do have evidence of female practitioners). In a Coptic document from 649 CE, representatives of professional associations of the town of Edfu acknowledge the receipt of deliveries of pepper.⁴⁸ One by one, they confirm that they have received a certain quantity of it and paid for it, and promise to allot it to the members of their association equally. The association, called *TKOINΩTHC NNHZATPOC* (*t-koinótēs n-n-hiatros*, 'guild of the physicians'), is represented by a man called "Dios, the head (*απη, apē*) of the guild of the physicians." His declaration is not signed by himself, but by his colleague, the *iatrós* ('physician') Jôkr, who states that "he [Dios] cannot write." This text insistently reminds us that being a physician in antiquity and medieval times did not automatically mean completing any formal studies and obtaining an academic honor. At the same time, it demonstrates that the title 'physician' was not reserved to *learned* physicians, but could officially be borne by practitioners or any professional healers who had their clients' confidence and their colleagues' approval, regardless of their formal education. The same fact has been observed by Shlomo Goitein in the Cairo Geniza documents from Fatimid times. He writes:

As to the study of medicine, we must beware of applying modern notions to medieval conditions, particularly in the Islamic world with its individualistic approach to higher studies. In order to work independently as a physician, one needed a licence granted not by a university or a scientific corporation, which did not exist, but by a prominent physician, who was authorized by the government; normally, it seems, by the chief of the market police.⁴⁹

The second way of acquiring medical knowledge was in an 'academic' way based on written texts,⁵⁰ although not in Coptic. What this way looked like has been traced by Goitein in the Cairo Geniza material:

The course of medical studies followed can be reconstructed, as far as the Geniza is concerned, from the inventories of doctors' libraries, as well as from actual remnants of medical books. . . . The *main* impression to be gathered from these lists is the absolute preponderance of books of old and established authority. . . . The Arabic translations of works of the Greeks, including above all Hippocrates (fifth century B.C.) and Galen (second century A.D.), were of paramount importance. Studying medicine meant in the first place memorizing selected writings of Hippocrates and even more of Galen. . . . The serious student would not be content with the compendiums and summaries of Galen's work, prepared in the academy of Alexandria in pre-Islamic times, but study the original writings of the master together with their pre-Islamic and Islamic commentaries, as well as the later Greek authors and the renowned doctors of the Islamic period.⁵¹

Thus, a native Egyptian who aspired to the practice of learned medicine, who would have talked to his family and neighbors in Coptic, might have pursued his professional studies in one of the academic languages of his day, either Greek or Arabic. Accordingly his scientific achievements would not surface in the Coptic record, if at all. In the light of this scenario it becomes sufficiently clear that Walter Till and Leslie MacCoull, when attributing only Coptic texts to the Copts, and passing judgments on "the Copts" and "the Coptic culture" on the basis of Coptic textual evidence alone, have disregarded the sociolinguistic constraints of late antique and early Islamic Egypt. Seen from this angle, Dr. Amin Makram Ebeid was right to look at the achievements of Coptic intellectuals under the wider horizon of the contemporary scientific community with its protagonists

belonging to several religious and language communities, although he goes too far in the opposite direction when ascribing their collective achievements to the Copts alone.

A Sociohistorical Approach to Medicine in Early Islamic Egypt

When Coptic became a language of science for the first time, not before the tenth century,⁵² the big Greco-Arabic translation movement was at its peak:

From about the middle of the eighth century to the end of the tenth, almost *all* non-literary and non-historical secular Greek books that were available throughout the Eastern Byzantine Empire and the Near East were translated into Arabic. What this means is that all of the following Greek writings, other than the exceptions just noted, which have reached us from Hellenistic, Roman, and late antiquity times, and many more that have not survived in the original Greek, were subject to the transformative magic of the translator's pen: astrology and alchemy and the rest of the occult sciences; the subjects of the quadrivium: arithmetic, geometry, astronomy, and theory of music; the entire field of Aristotelian philosophy throughout its history: metaphysics, ethics, physics, zoology, botany, and especially logic—the *Organon*; all the health sciences: medicine, pharmacology, and veterinary science; and various other marginal genres of writings . . . all these subjects passed through the hands of the translators.⁵³

Why, one may ask, were the learned traditions of the ancient world passed from ancient Egyptian on to Greek, from Greek on to Arabic, and later from Arabic on to Latin, but hardly to Coptic? To answer this question, we have to take sociohistorical and economic premises into account, as Dimitri Gutas did for the Graeco-Arabic translation movement. He wrote:

The translation movement, which began with the accession of the 'Abbāsids to power and took place primarily in Baghdad, represents an astounding achievement which, independently of its significance for Greek and Arabic philology and the history of philosophy and science (the aspects which have overwhelmingly been studied to this day), can hardly be grasped and accounted for otherwise than as a social phenomenon (the aspect which has been very little investigated). To elaborate: The Graeco-Arabic translation movement lasted, first of all, well over two centuries; it was no ephemeral

phenomenon. Second, it was supported by the entire elite of 'Abbâsid society: caliphs and princes, civil servants and military leaders, merchants and bankers, scholars and scientists; it was not the pet project of any particular group in the furtherance of their restricted agenda. Third, it was subsidized by an enormous outlay of funds, both public and private.⁵⁴

As a result of Gutas's study, it is no longer wise to accredit the scientific achievements of the Abbâsid translation movement to the particular genius, inquisitiveness, or research spirit of individuals, communities, or even peoples, without talking at the same time about economic and social issues. A sociohistorical approach to the study of sciences in early Islam also helps us understand why Egypt lost the pioneering role it had played in the sciences in pharaonic and Hellenistic times, and still in Roman and Byzantine Alexandria, and why it partly regained this importance in Fatimid times when the Fatimid caliphs founded Cairo as their residence, and when al-Fustat, with its wealthy and well-educated Christian, Jewish, and Muslim inhabitants developed into one of the biggest towns and foremost economic centers of the Mediterranean.⁵⁵ As is clear both from documentary evidence such as the Geniza papers and from literary sources such as Ibn Abi Usaibia's *Lives of the Physicians*, medieval al-Fustat and Cairo were places where Chalcedonian, non-Chalcedonian and Nestorian Christians, Muslims, and Jews cooperated in the fields of science, especially medicine.⁵⁶ And it has long been realized that from Fatimid times onward—incidentally the period of the language shift of the Coptic-writing elite to the use of Arabic⁵⁷—Copts become more and more visible in the field of educated medicine,⁵⁸ where they scarcely appear during the centuries before, when Coptic was still written and spoken. Goitein observed with regard to this phenomenon:

If medicine was a prominent constituent of Islamic civilization during its creative period in general, it was absolutely paramount in the life of the so-called protected communities, the Christians and the Jews. An often-quoted statement of a Muslim visitor of Egypt in the forties of the thirteenth century tells us that most of the (prominent) Christians and Jews of that country were either government officials or physicians. . . . the share of these two communities in the output of Arabic books on medicine was out of all proportion to their numbers or their other contributions to Arabic literature, except of course in the sciences.⁵⁹

He also proposed a reason for this observation:

Tentatively, I offer this explanation: In the wake of the revival of the Greek sciences in Islam [that is to say, the Abbâsid translation movement] on the one hand and the efflorescence of the trade with India and the Far East on the other, medicine and pharmaceutics witnessed an unprecedented exuberance. They were almost new professions. It is a law of economic history that minority groups have a chance of being successful in occupations not yet monopolized by the more privileged classes of the society. The Jews [and, we may aptly add, the Copts!] who in pre-Islamic times had been predominantly peasants, were largely dispossessed in early Islam . . . and driven into the new cities that rose everywhere. The comparatively new field of pharmaceutics, like those of silk industry and trade, offered promising opportunities for the underprivileged.⁶⁰

Appendix: The Coptic Medical Corpus in 2015

No.	Checklist siglum (provenance)	Till siglum	Collection, inv. no.	Bibliography	Date	Recipes
Ostraca (limestone)						
1	BKU I 27 (Thebes)	BKU (13–15)	Berlin, Pap.-coll., inv. 4984	[Erman] 1904: 30; Till 1951a: 113	7th–8th	3
2	BKU I 28 (Thebes)	BKU (16)	Berlin, Pap.-coll., inv. 880	Stern 1878: 20, no. 8; [Erman] 1904: 31; Till 1951a: 113	7th–8th	1
3	<i>O.Brit.Mus. Copt. I</i> 49 (Thebes)	Hall	London, BM inv. 27422	Hall 1905: 64–66, pl. 49; Till 1951a: 129	7th–8th	8
4	<i>O.Brit.Mus. Copt. II</i> 37 (Deir al-Bahari)	—	London, BM inv. 50216	Biedenkopf-Ziehner 2000: 281–86	7th–8th	4
5	<i>O.Crum</i> 487 (Deir al-Bahari)	CO	London, EEF 151	Crum 1902: 82; Till 1951a: 129	7th–8th	3
Ostraca (potsherd)						
6	<i>O.Mon.Epiph.</i> 574 (Monastery of Epiphanius)	<i>Ep</i> (1)	New York, MMA inv. 12.180.79	Winlock/Crum 1926, 2:117, 298; Till 1951a: 129	7th–8th	1
7	<i>O.Mon.Epiph.</i> 575 (Monastery of Epiphanius)	<i>Ep</i> (2)	Cairo, formerly Eg. Mus., inv. 44674.130	Winlock/Crum 1926, 2:117, 298; Till 1951a: 129	7th–8th	1
Papyrus						
8	BKU III 396 (unknown)	—	Berlin, Pap.-coll. inv. 22164	Satzinger 1968: 127–28	4th–5th	3?
9	<i>P.Heid. G</i> 698c (unknown)	—	Heidelberg, Pap.- coll. inv. G 698c	Richter 2014	4th–5th	1?
10	<i>PTT</i> 157 470 (Dra Abu-l-Naga)	—	TT157, Fj. 470	Richter 2014	4th–5th	6
11	Recipes Codex (unknown)	<i>WM</i> (25–29)	Ann Arbor, University of Michigan, inv. 593a	Worrell 1935: 192– 94; Till 1951a: 134	5th–6th or later	5
12	<i>PRyl. Copt.</i> 109 (unknown)	<i>Ryl</i> (8)	Manchester, John Rylands Library	Crum 1909: 59; Till 1951a: 132	6th–7th	1
13	<i>SBKopt I</i> 006 (unknown)	<i>KW</i> (4–21)	Vienna, ÖNB, Pap.- coll. inv. K 5595	Till 1951a: 130; Till 1951b; Hasitzka 1993: 5–7	6th–7th	18
14	<i>SBKopt I</i> 003 (unknown)	<i>KW</i> (1–2)	Vienna, ÖNB, Pap.- coll. inv. K 5504	Till 1946–47: 43–48; Till 1951a: 129; Hasitzka 1993: 3; Buschhausen et al. 1995: 280–81 (no. 299)	6th–7th	2

15	<i>P.Köln</i> Ägypt. 12 (Faiyum)	—	Cologne, Pap.-coll. inv. 5948	Weber et al. 1980: 113; Schenke 2002: 109	7th	1
16	<i>P.Sarga</i> 20 (Wadi Sarga)	WS (1)	London, BL?	Bell and Crum 1922: 51–52; Till 1951a: 134	7th–8th	1
17	<i>SBKopt.</i> I 004 (unknown)	KW (3)	Vienna, ÖNB, Pap.- coll. inv. K 5506	Till 1946–47: 49; Till 1951a: 129; Hasitzka 1993: 3; Buschhausen et al. 1995: 279–81 (no. 298)	8th	1
18	<i>P.YCtBR</i> inv. 3353 (unknown)	—	P.YCtBR 3553	Crislip 2006	7th–8th	1
19	<i>SBKopt.</i> II 1043 (Faiyum, Arsinoë?)	—	Berlin, Pap.-coll. inv. 3262	Stern 1885: 41, no. 11; Hasitzka 2004: 135–36; Buschhausen et al. 1995: 280–81 (no. 300)	7th–8th	1
20	<i>BKU</i> III 329A (unknown)	—	Berlin Pap.-coll. inv. 22061	Satzinger 1968: 32	7th– 8th?	4
21	<i>BKU</i> III 393 (unknown)	—	Berlin Pap.-coll. inv. 22190	Satzinger 1968: 125–26	7th– 8th?	?
22	<i>P.MédicalCopte</i> (Meshaikh)	Ch	Cairo, IFAO	Deiber 1914; Chassinat 1921; Till 1951a: 113–29; Schenke 2002	9th– 10th	237
23	PLouvre AF12530 (unknown)	—	Paris, Louvre AF12530	Richter 2014	9th– 10th	26

Parchment

24	Recipe Codex, <i>pag.</i> 2–14 (unknown)	WM (1–19)	Ann Arbor, Michigan MS 136	Worrell 1935: 17–37; Till 1951a: 132–34	5th–6th or later	19
25	Recipe Codex, <i>pag.</i> 167–168 (unknown)	WM (20–24)	University of Michigan, inv. 593b	Worrell 1935: 187– 92; Till 1951a: 134	5th–6th or later	5
26	Recipe Codex, <i>pag.</i> 103–106, 111–114, 135–136 (Saqqara)	—	Copenhagen, Egyptological Institute inv. 500	Erichsen 1963 (fol. A–F); Richter 2014 (fol. G–I)	6th–7th	23
27	Recipe Codex, <i>pag.</i> 214–215	BA	Paris, BN?	Bouriant 1888; Till 1951a: 112	9th– 10th	11
	<i>pag.</i> 241–244 (White Monastery)	ZB	former Borgia coll.	Zoëga 1810, no. 278: 629–39; Dulaurier 1843; Champollion/ Poitevin 1854; Till 1951a: 135–37		45

28	<i>SBKopt. I 001</i> (unknown)	—	Leuven Univ. Libr. frag. 114	Till 1952b: 159–68; Hasitzka 1993: 1	10th– 11th	2
29	<i>PRyl. Copt. 108</i> (unknown)	<i>Ryl</i> (7)	Manchester, John Rylands Library	Crum 1909: 59; Till 1951a: 132	10th– 11th	1
30	<i>PRyl. Copt. 107</i> (unknown)	<i>Ryl</i> (6)	Manchester, John Rylands Library	Crum 1909: 59; Till 1951a: 132	11th	1
31	<i>BKU I 25</i> (unknown)	<i>BKU</i> (1–9)	Berlin, Pap.-coll. inv. 8109	[Erman] 1904: 24–25; Till 1951a: 112–13	?	9

Paper

32	<i>SBKopt I 002</i> (unknown)	<i>MK</i>	?	Munier 1919; Chassinat 1950; Till 1951a: 130; Hasitzka 1993: 2	10th– 11th	2
33	<i>SBKopt I 005</i> (unknown)	<i>TM</i>	?	Turajew 1902, no. 9, reed; Till 1946–47: 49–54; Till 1951a: 132; Hasitzka 1993: 3–5	10th– 11th	4
34	<i>PRyl. Copt. 104</i> (unknown)	<i>Ryl</i> (1)	Manchester, John Rylands Library	Crum 1909: 53–55 (sect. 3); Till 1951a: 131	11th	1
35	<i>PRyl. Copt. 106</i> (unknown)	<i>Ryl</i> (2–5)	Manchester, John Rylands Library	Crum 1909: 55–59; Till 1951a: 131–32	11th	4
36	<i>BKU I 26</i> (Faiyum)	<i>BKU</i> (10–12)	Berlin, Pap.-Slg. inv. 8116	[Erman] 1904: 26– 29; Till 1951a: 113	11th	3

Graffiti

37	<i>P.Sarga 21</i> (Deir al-Ganadla)	<i>WS</i> (2)		Bell and Crum 1922; Till 1951a: 134	7th–8th	1
38	Graffito at Saqqara (Mon. of Jeremias)	<i>Saq</i>		Thompson in Quibell 1909: 57 (no. 103); Till 1951a: 132	?	4

N.B.: Sigla of editions of Coptic documentary texts follow the Checklist of Greek, Latin, Demotic and Coptic Papyri, Ostraca and Tablets (<http://library.duke.edu/rubenstein/scriptorium/papyrus/texts/clist.html>). The dates given here are tentative, mostly based on palaeographical features.

Notes

- 1 This paper is dedicated to the memory of the late Leslie S. B. MacCoull, a scholar of inexhaustible interest in, and affection for, Coptic culture. It owes her a lot.
- 2 “The Impact of the Copts on Civilization,” <http://www.copticsolidarity.org/2012-03-11-18-50-38/who-are-the-copts/126-the-impact-of-the-copts-on-civilization>
- 3 “The Impact of the Copts on Civilization,” <http://www.copticsolidarity.org/2012-03-11-18-50-38/who-are-the-copts/126-the-impact-of-the-copts-on-civilization>
- 4 Leslie L.B. MacCoull, “The Strange Death of Coptic Culture,” *Coptic Church Review* 10 (1989): 42.

- 5 "The Impact of the Copts on Civilization," <http://www.copticsolidarity.org/2012-03-11-18-50-38/who-are-the-copts/126-the-impact-of-the-copts-on-civilization>
- 6 Andrew Crislip, *From Monastery to Hospital: Christian Monasticism and the Transformation of Health Care in Late Antiquity* (Ann Arbor: University of Michigan Press, 2005).
- 7 Crislip, *From Monastery to Hospital*.
- 8 Kamal Sabri Kolta, "Koptische Medizin," in *Enzyklopädie Medizingeschichte*, ed. W.E. Gerabek, B.D. Haage, G. Keil, and W. Wegner (Berlin: 2007), 779–81; Crislip, *From Monastery to Hospital*.
- 9 Recently compiled and edited by Gesa Schenke. Edited by Gesa Schenke, *Das koptische hagiographische Dossier des Heiligen Kolluthos: Arzt, Märtyrer und Wunderheiler*, CSCO 650, Subsidia 132 (Louvain: Peeters, 2012).
- 10 Walter C. Till, *Die Arzneikunde der Kopten* (Berlin: Akademie-Verlag, 1951); Kamal Sabri Kolta, "Medicine, Coptic," in *Coptic Encyclopedia* 5:1578–82; Kamal Sabri Kolta, "Medizinische Kästchen aus dem Land Ägypten," *Journal of Coptic Studies* 5 (2005): 781; Martin Krause, "Papyri, Coptic Medical," in *Coptic Encyclopedia* 6:1886–88; Leslie L.B. MacCoull, "An Annotated Bibliography of Coptic Medicine," *Society for Ancient Medicine Review* 22 (1994): 35–45; cf. the present corpus presented in the appendix.
- 11 E. Boswinkel, "La médecine et les médecins dans les papyrus grecs," *Eos* 48, no. 1 (1956): 181–90; Marie-Hélène Marganne, *Inventaire analytique des papyrus grecs de médecine* (Geneva: Droz, 1981); Isabella Andorlini, "L'apporto dei papiri alla conoscenza della scienza medica antica," in *Aufstieg und Niedergang der Römischen Welt* 2: 37.1, ed. H. Temporini and W. Haase (Berlin: De Gruyter, 1993), 458–562; Isabella Andorlini, *Greek Medical Papyri* 1 (Florence: Istituto Papirologico G. Vitelli, 2001); Isabella Andorlini, ed., *Greek Medical Papyri* 2 (Florence: Istituto Papirologico G. Vitelli, 2009); Vivian Nutton, "Medicine in the Greek Papyri," in *Zwischen Magie und Wissenschaft: Ärzte und Heilkunst in den Papyri aus Ägypten*, ed. H. Froschauer and C. Römer (Vienna: Phoibos, 2009), 5–12.
- 12 Cf. Fuat Sezgin, *Medizin—Pharmakologie—Zoologie—Tierheilkunde bis ca. 430 H.* Geschichte des arabischen Schrifttums 3 (Leiden: Brill, 1970); Manfred Ullman, *Die Medizin im Islam*, Handbuch der Orientalistik 1.6.1. (Leiden: Brill, 1970); Manfred Ullmann, *Islamic Medicine*, Islamic Surveys 11 (Edinburgh: Edinburgh University Press, 1978); Bärbel Köhler, *Die Wissenschaft unter den ägyptischen Fatimiden*, Arabistische Texte und Studien 6 (Hildesheim, Zurich, and New York: Georg Olms, 1994); Peter E. Pormann and Emilie Savage-Smith, *Medieval Islamic Medicine* (Cairo: American University in Cairo Press, 2007).
- 13 These are of utmost importance for the social and economic history of Fatimid Egypt (and one of our very few Lower Egyptian points of comparison to the entire rest of the documentary evidence originating from Middle and Upper Egypt). On physicians and medical texts in the Geniza material cf. Shlomo Dov Goitein, "The Medical Profession in the Light of the Cairo Geniza Documents," *Hebrew Union College Annual* 34 (1963): 177–94; Shlomo Dov Goitein, "Medical Profession," in *A Mediterranean Society: The Jewish Communities of the Arab World as Portrayed in the Documents of the Cairo Geniza* 2: *The Community* (Berkeley: University of California Press, 1971), 240–61; Ephraim Lev, "Medieval Egyptian Judaeo-Arabic Prescriptions (and the Edition of Three Medical Prescriptions)," *Journal of the Royal Asiatic Society* 18, no. 4 (2008): 449–64; Ephraim Lev and Leigh Chipman, *Medical Prescriptions in the Cambridge Genizah Collections: Practical Medicine and Pharmacology in Medieval Egypt*, Études sur le judaïsme médiéval 55 = Cambridge Genizah Studies Series 4 (Leiden: Brill, 2012).
- 14 Sickness and health care are recurrent topics in private letters and in some kinds of legal documents, such as wills and the Theban child donation documents (on which see below).
- 15 Walter E. Crum, *Coptic Ostraca from the Collections of the Egypt Exploration Fund, the Cairo Museum and Others* (London: Egypt Exploration Fund, 1902), 296.

- 16 I.Mon.Phoibammon 116b.
- 17 From about 600 CE, the Theban monastery of Phoibammon with its 'pediatric department' (cf. below) was located in the Eighteenth Dynasty royal mortuary temple of Deir al-Bahari, which had housed a pagan healing sanctuary from Ptolemaic times up to the later fourth century CE (on which cf. André Bataille, *Les inscriptions grecques du temple de Hatshepsout à Deir el-Bahari*, Publications de la Société Fouad I de Papyrologie, Textes et Documents 10 (Cairo: Institut Français d'Archéologie Orientale, 1951); Ewa Laskowska-Kusztal, *Le sanctuaire ptolémaïque de Deir el-Bahari*, Deir el-Bahari 3 (Warsaw: Państwowe Wydawnictwo Naukowe, 1984); Adam Łajtar, "Proskynema Inscriptions of a Corporation of Iron-workers from Hermonthis in the Temple of Hatshepsut in Deir el-Bahari: New Evidence for Pagan Cults in Egypt in the Fourth Century A.D.," *Journal of Juristic Papyrology* 21 (1991): 53–70.
- 18 *jôôme niatros*: e.g., Crum, "Coptic Ostraca," 253; 4 *jôôme nsaein*: e.g., O.Louvre 13315, Catalogue of the Library of the Monastery of Apa Elia, v° 36 (René-Georges Coquin, "Le catalogue de la bibliothèque du couvent de saint Elie 'du rocher,'" *Bulletin de l'Institut Français d'Archéologie Orientale* 75 (1975): 212.
- 19 Cf. Arietta Papaconstantinou, "Θεῖα οἰκονομία: Les actes thébains de donation d'enfants ou la gestion monastique de la pénurie," in *Mélanges Gilbert Dagron*, ed. Vincent Déroche, 511–26, Travaux et mémoires du Centre d'histoire et civilisation de Byzance 14 (Paris: Association des amis du Centre d'histoire et civilisation de Byzance, 2002); Arietta Papaconstantinou, "Notes sur les actes de donation d'enfant au monastère thébain de Saint-Phoibammon," *Journal of Juristic Papyrology* 32 (2002): 83–105; Tonio Sebastian Richter, "What's in a Story? Cultural Narratology and Coptic Child Donation Documents," *Journal of Juristic Papyrology* 35 (2005): 237–64; Tonio Sebastian Richter, "... auch wenn wir nicht an das Maß der seligen Anna heranreichten ...": Kindesschenkungen an ein oberägyptisches Kloster im 8. Jh. n. Chr. und ihr narrativer Horizont," in *Literatur und Religion im Alten Ägypten: Ein Symposium zu Ehren von Elke Blumenthal*, ed. H.-W. Fischer-Elfert and T.S. Richter, Abhandlungen der Sächsischen Akademie der Wissenschaften zu Leipzig, Phil.-hist. Kl. 81/5 (Stuttgart: Sächsische Akademie der Wissenschaften zu Leipzig in Kommission bei S. Hirzel, 2011), 164–98.
- 20 Cf. checklists in Richter, "Markedness and Unmarkedness in Coptic Magical Writing," *Écrire la magie dans l'Antiquité—Scrivere la magia nell'Antichità: Proceedings of the International Workshop (Liège, October 13–15, 2011)*, ed. Magali de Haro Sanchez (Liège: Presses universitaires de Liège, 2015, and Kirsten Dzwiza's unpublished thesis "Schrifttragende Artefakte in den Praxisanleitungen zur Interaktion mit höheren Mächten aus den griechischen, demotischen und koptischen Sammelhandschriften des 1.–7. Jahrhunderts," PhD diss., University of Erfurt, 2013.
- 21 Cf. Marganne, *Inventaire analytique des papyrus grecs*; Alexander Jones, "Mathematics, Science, and Medicine in the Papyri," in *The Oxford Handbook of Papyrology*, ed. Roger S. Bagnall (Oxford: Oxford University Press, 2009), 338–57; Nutton, "Medicine in the Greek Papyri."
- 22 The figure of thirty-eight Coptic items out of about 8,300 Coptic papyri yields a percentage of 0.45, a figure close to that of the approximately 260 Greek medical papyri out of a total of 60,000 Greek papyri (= 0.43 percent).
- 23 Cf. Karl Sudhoff, *Ärztliches aus griechischen Papyrus-Urkunden: Bausteine zu einer medizinischen Kulturgeschichte des Hellenismus*, Studien zur Geschichte der Medizin 5/6 (Leipzig: Barth, 1909); Jutta Kollesch, "Papyri mit medizinischen, naturwissenschaftlichen und mathematischen Texten," *Archiv für Papyrusforschung* 26 (1978): 141–48; Marganne, *Inventaire analytique des papyrus grecs*; Marganne, "Compléments à l'Inventaire analytique des papyrus grecs de médecine," *Zeitschrift für Papyrologie und Epigraphik* 65 (1986): 175–86; Marganne, "Les papyrus grecs de

- médecine," *Histoire et archéologie* 123 (1988): 30–34; Marganne, "La médecine dans l'Égypte romaine: les sources et les méthodes," in *Aufstieg und Niedergang der Römischen Welt* 2: 37.3, ed. W. Haase (Berlin and New York: Walter de Gruyter & Co., 1996): 2709–40; Marganne, "Médecine grecque et papyrologie: Bilan et perspectives," in *La médecine grecque antique: Actes du 14e colloque de la villa Kérylos à Beaulieu-sur-Mer, les 10 et 11 octobre 2003*, ed. J. Jouanna and J. Leclant, Cahiers de la Villa Kérylos 15 (Paris: Académie des Inscriptions et Belles-Lettres, 2004), 235–51; Nutton, "Medicine in the Greek Papyri."
- 24 This is to say, in terms of Marganne, *Inventaire analytique des papyrus grecs*, 1, "les papyrus sub-littéraires" and "les papyrus documentaires."
- 25 Such as no. 18 of our checklist, from Andrew Crislip, "A Coptic Request for Materia Medica," *Zeitschrift für Papyrologie und Epigraphik* 157 (2006): 165–67, and O.Vindob. Copt. 208, a request for orpiment for the treatment of the requester's skin disease.
- 26 Items such as nos. 24–27 of the checklist (see the appendix below).
- 27 Numbers 9 (P.Heid. G 698c) and 10 (P.TT 157–470) of the checklist are written in an informal bookhand resembling Greek manuscripts such as *P.Bod. IV* (Menander, Dyskolos; cf. Seider, *Griech. Paläogr.* II, no. 51: 3th–4th c.); *P.KellisCopt. I* 17, 35, 36 (4th c.); New Testament papyri P⁹ (*P.Oxy.* 402, 4th–5th c.); P⁵⁰ (*P.Yale* 1543, 4th–5th c.); P⁷² (*P.Bod. VII/VIII*, 4th c.); P⁸⁶ (*P.Köln.* 5516, 4th–5th c.), *P.Barç. inv.* 155ff. (*Anaphora* ed. Roca-Ruig 1994, 4th c.), significant traits being the shapes of the letters α, ε, κ, λ, ο, σ. Number 8 (*BKU III* 396) displays an early biblical uncial.
- 28 Worrell's datings of the Michigan parchment and papyrus mss. to the fifth or sixth century are questionable and have to be verified.
- 29 Published by Helmut Satzinger, *Ägyptische Urkunden aus den Staatlichen Museen Berlin, Koptische Urkunden* 3 (Berlin, 1968).
- 30 Satzinger, *Ägyptische Urkunden*, 127: "Die Sprache ist griechisch, bis auf 'frische Rose' in Z. 5."
- 31 Tonio Sebastian Richter, ed., "Neue koptische medizinische Rezepte," *Zeitschrift für Ägyptische Sprache und Altertumskunde* 141 (2014): 154–194.
- 32 Still in use in the medical papyrus of the IFAO, recipes 1 and 210: Émile Chassinat, *Un papyrus médical copte*, Mémoires publiés par les membres de l'Institut Français d'Archéologie Orientale du Caire 32 (Cairo: Institut Français d'Archéologie Orientale, 1921).
- 33 This imperative form belongs to both Greek and Coptic medical terminology/phraseology and was still used in late Coptic medical prescriptions such as P.Louvre AF 12530 and Chassinat, *Un papyrus médical copte*.
- 34 Friedhelm Hoffmann, "Koptische Medizin," in *Antike Medizin: ein Lexikon*, ed. K.–H. Leven (Munich: C.H. Beck, 2005), 520–21.
- 35 The majority of those words are unattested in Coptic texts outside the medical corpus. This is why a papyrus fragment such as P.Heid. G 698c (checklist no. 9) with no more than three legible words can readily be identified as a medical text, since two of them are **ΤΡΑΚΑΚΑΝΘΕ** (*trakakanthe*, 'tragacanth'), a word unattested in Coptic texts outside of medical recipes. Cf. Fabian Reiter, "Medizinische Rezepte auf einem Heidelberger Papyrus," in *Akten des 21. Internationalen Papyrologenkongresses Berlin, 13.–19.8.1995*, ed. B. Kramer, W. Luppe, and H. Maehler, *Archiv für Papyrusforschung Beihefte* 3 (Stuttgart and Leipzig: B.G. Teubner, 1997), 809.
- 36 Cf. Albert Deiber, "Le papyrus médical copte de Meschaïch," *Revue égyptologique* 14 (1914): 117–21; Chassinat, *Un papyrus médical copte*; Till, *Die Arzneikunde der Kopten*.
- 37 The oblong format is otherwise known from late Coptic medical and alchemical manuscripts, such as P.Louvre AF 12530 and Bodl. Mss. Coptc. (P) a.2 and a.3.
- 38 The translation of its recipes in Till, *Die Arzneikunde der Kopten*, 113–29, accounts for more than half of the translation of the entire corpus (comprising twenty-six pages altogether).

- 39 Cf. Chassinat, *Un papyrus médical copte*, 7–8.
- 40 Cf. Goitein, “Medical Profession”, 254, on “expressions of piety which are rarely absent from a prescription,” such as “To be taken with God’s blessing,” “It will help, if God wills,” or “Thanks are due to God alone.”
- 41 Till apparently wanted to indicate this merely practical character of the Coptic medical prescriptions when he chose the term *Arzneikunde* ‘pharmacology’ instead of ‘medicine’ for his book.
- 42 Pace Kolta, “Medicine, Coptic”; Kolta, “Terminologische Überlegung zu Herz, Magen und Magenmund in den medizinischen Papyri der Ägypter und Kopten,” in *Proceedings of the XXth International Congress of Papyrology, Copenhagen, 22–29 August 1992* (Copenhagen: Museum Tusulanum Press, 1994), 513–16; Kolta, “Coptic Medicine,” *Forum* 4, no. 6 (1994): 755–62; Kolta, “Medizinische Kästchen aus dem Land Ägypten”; Martin Krause, “Koptische Literatur,” in *Lexikon der Ägyptologie* 3:718, Wolfgang Helck and Wolfhart Westendorf (eds.), Wiesbaden: Harrassowitz, 1977; Wolfhart Westendorf, “Ausklang: Die koptische Medizin,” in *Erwachen der Heilkunst: Die Medizin im Alten Ägypten*, ed. W. Westendorf (Zurich: Artemis & Winkler, 1992), 269–73; Westendorf, “Die koptische Medizin,” in *Handbuch der altägyptischen Medizin* 1, vol. 1, *Handbuch der Orientalistik* 1, 36, 1 (Brill, Leiden, Boston and Cologne, 1999), 536–42.
- 43 P.TT157–470 (Richter, “Neue koptische medizinische Rezepte”) bears the earliest positive evidence for the transmission of a classical recipe into a Coptic medical text.
- 44 Till, *Die Arzneikunde der Kopten*, 5: “Wenn wir nach dem, was wir von der koptischen Heilkunde bisher zu Gesicht bekommen haben, urteilen dürfen, stand sie auf einer viel niedrigeren Stufe als die altägyptische. Die koptische Heilkunde ist auch nicht als Tochter der altägyptischen anzusehen. . . . Die Kopten schöpften ihre heilkundlichen Kenntnisse teils aus griechischen, teils aus arabischen Quellen.”
- 45 Several of the literary Greek medical papyri have been found in larger towns such as Antinoopolis and Oxyrhynchos, but also in the Faiyum villages, on which cf. Peter van Minnen, “Boorish or Bookish? Literature in Egyptian Villages in the Fayum in the Graeco-Roman Period,” *Journal of Juristic Papyrology* 28 (1998): 99–184.
- 46 Helmut Wildorf, “Bemerkungen zu den mineralogischen Pharmazeutika der Kopten,” in *Studia Coptica*, ed. P. Nagel, *Berliner byzantinistische Arbeiten* 45 (Berlin: Akademie Verlag, 1974): 77–100. Crislip, in *From Monastery to Hospital* and “A Coptic Request for *Materia Medica*,” based on Coptic monastic literature, adopted this concept recently.
- 47 Cf. Tonio Sebastian Richter, “What Kind of Alchemy is Attested by Tenth-century Coptic Manuscripts?” *Ambix: Journal of the Society for the History of Alchemy and Chemistry* 56 (2009): 23–35; and Richter, “Greek, Coptic, and the ‘Language of the Hijra’: Rise and Decline of the Coptic Language in Late Antiquity and Medieval Egypt,” in *From Hellenism to Islam: Cultural and Linguistic Change in the Roman Near East*, ed. H. Cotton, R. Hoyland, J. Price, and D.J. Wasserstein (Cambridge: Cambridge University Press, 2009), 402–46.
- 48 Walter E. Crum, “Koptische Zünfte und das Pfeffermonopol,” *Zeitschrift für Ägyptische Sprache und Altertumskunde* 60 (1925): 103–11; Liselotte Buchheim, “Eine koptische Ärztezunft im 7. nachchristlichen Jahrhundert,” *Sudhoffs Archiv für Geschichte der Medizin und der Naturwissenschaften* 44, no. 3 (1960): 268–69. On the use of pepper as a medical drug cf. Till, *Die Arzneikunde der Kopten*, 84–86.
- 49 Goitein, “Medical Profession,” 247.
- 50 On Greek medical education in late antiquity cf. Isabella Andorlini, “Teaching Medicine in Late Antiquity: Methods, Texts and Contexts,” in *Form and Content of Instruction in Anglo-Saxon England in the Light of Contemporary Manuscript Evidence*, ed. P. Lendinara, L. Lazzari, and M.A. D’Aronco, *Textes et Etudes du Moyen Age* 39 (Turnhout: Brepols, 2007), 385–98. On teaching in early Islam cf. Gregor Schoeler,

- “The Transmission of the Sciences in Early Islam: Oral or Written?,” trans. Uwe Vagelpohl, in *The Oral and the Written in Early Islam*, ed. J.E. Montgomery (London and New York: Routledge, 2006), 28–44; Schoeler, “The Transmission of the Sciences in Early Islam Revisited,” trans. Uwe Vagelpohl, in *The Oral and the Written in Early Islam*, 45–61; Schoeler, *The Genesis of Literature in Islam From the Aural to the Read* (Edinburgh: Edinburgh University Press, 2009). On medical education in particular in Islam cf. G. Strohmaier, “Ärztliche Ausbildung im islamischen Mittelalter,” *Klio* 61 (1979): 519–24; G. Leiser, “Medical Education in Islamic Lands from the Seventh to the Fourteenth Century,” *Journal of the History of Medicine and Allied Sciences* 38 (1983): 48–75; Pormann and Savage-Smith, *Medieval Islamic Medicine*, 81–85.
- 51 Goitein, “Medical Profession,” 248–249.
- 52 Cf. Richter, “What Kind of Alchemy?”
- 53 Dimitri Gutas, *Greek Thought, Arabic Culture: The Graeco-Arabic Translation Movement in Baghdad and Early ‘Abbāsīd Society* (London: Routledge, 1998), 1.
- 54 Gutas, *Greek Thought, Arabic Culture*, 2.
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