Towards a historical contextualisation of Ancient Egyptian perspectives of the inner body, sickness, and healing

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1. Introduction: perspectives of the inner body and sickness in Egyptian medical papyri

> 'The inside of the body … constitutes for the ordinary person… a zone of mystery that is complex and soon alarming whenever any one of a number of potential disorders become manifest there. In this respect we can speak of the 'hidden body' (*corps crypté*). The internal symptoms are generally enigmatic: acute, chronic, or intermittent pains in various places, pains that may move about from place to place, as well as such feelings as nausea, bloating, constipation, gastric reflux. However, numerous external visible symptoms are obviously of internal origin: diarrhoea, vomiting, vaginal discharges, abnormal urine or stools, lumps and nodules. The digestive, sexual and reproductive systems, whose importance need not be emphasised when normal but whose shortcomings are a source of anxiety whenever they misfunction, are obviously at the centre of this inner space and its problems. What else do we know about our "insides"? That blood flows there as it does elsewhere, and that this is an evident sign of life; that food has a permanent influence, directly or indirectly, on what happens there; that symptoms arising in other parts of the body (head, eyes, limbs) seem to be sometimes signs of internal suffering. Sterility originates there; it is also where the foetus develops and feeds. And we have a few other suppositions about what goes on inside us. On this relatively meagre phenomenological foundation (since it remains largely enigmatic) local cultures, lacking the resources of modern science, have tried to make sense of the inside… The hidden becomes comprehensible. The incomprehensible mass of disorders related to the 'belly' can then be transformed into something which can be recognised, managed, and in short, given a name'.

- J.-P. Olivier de Sardan, 'Illness entities in West Africa', *Anthropology and Medicine* 5(2) (1998), 193-4.

This dissertation offers a reappraisal of ancient Egyptian perspectives of sicknesses,[1] specifically those believed to be caused within this *corps crypté* – the inner body. Using the so-called 'medical papyri' surviving from Pharaonic Egypt, it seeks to explore the relationship

[1] The term 'sickness' is adopted in this dissertation, following H. Fábrega, *The Evolution of Sickness and Healing* (Berkeley, 1997). Within medical anthropology, debate surrounding the distinctions between 'disease and illness' was endemic to that field during the 1970s. It is now considered based in the Western predilection to conform to 'Cartesian' dichotomies, especially as it is reflected in Western division of psycho- and somatic-illnesses; 'disease' often refers specifically to 'biomedically measurable lesions or anatomical or physiological irregularities', whereas 'illness' in some cases refers to 'the culturally structured, personal experience of being unwell, which entails the experience of suffering' (e.g., A. Kleinman et al., 'Culture, Illness, and Care: Clinical Lessons from Anthropologic and Cross-Cultural Research', *Annals of Internal Medicine* 88 (1978), 251-258), see E. J. Sobo, 'Medical Anthropology in Disciplinary Context: Definitional Struggles and Key Debates (or Answering the Cri du Coeur)', in M. Singer and P. I. Erickson (eds.), *A Companion to Medical Anthropology* (Chichester, 2015), 15-16; for problematizing Cartesian dualisms, see section 2.1.1.

between these perspectives of the inner body and its sicknesses, and the therapeutic medicines prescribed to treat them. It intends to create a more nuanced understanding that can be contextualised more appropriately with both medical historical and anthropological studies on human interactions with sicknesses. As such, the dissertation will close with a synthesising chapter dedicated to this goal through a study of Mesopotamian texts dated to the seventh century BCE as a comparative case study. More specifically, it will explore fragments of six tablets from the so-called 'Bronchia' subsection of the Nineveh Therapeutic Compendia as the focus of the case study – tablets originating from the royal library of King Assurbanipal of Assyria (*c*. 668-630 BCE).[2]

Together with these and many other cuneiform tablets (including the hundreds of fragments thereof) from ancient Mesopotamia and other parts of Western Asia, the surviving Egyptian papyri constitute the oldest extant written compositions that navigate solutions to the human experience of sickness in world history.[3] They span a period of time of roughly 2,000 years, dating from *c.* 1850 BCE (e.g., the Ramesseum and Kahun Papyri) up to *c*. 250 CE (e.g., the demotic pVindob 6527).[4] It is often reported that there is a considerable dearth of evidence from Pharaonic Egypt;[5] however, many surviving manuscripts are both well preserved and extensive, offering a substantial pool of data for comparative investigation.[6] Furthermore, the many parallels between these otherwise uniquely composed documents[7] suggest a level of consistency in medical thought and practice, at least during particular periods or in specific regions of the ancient Egyptian state - this remains to be more systematically explored.

Media include both large compendia inscribed on papyri (e.g., pEbers, pHearst, pBerlin 3038; fragments thereof, e.g. pLouvre-Carlsberg, pRubensohn, and pVindob 6527), as well as

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[2] This corpus is currently the focus of the research project *Introducing Assyrian Medicine: healthcare fit for a king*, referred to as the 'NinMed Project', which seeks to 'make available for the first time the world's most standardised, structured and systematised corpus of medical literature prior to Galen'; see the website of *The Nineveh Medical Project*, < http://oracc.museum.upenn.edu/asbp/ninmed/ > (accessed 03-01-2022).

[3] E.g., H. Sigerist, *A History of Medicine 1: Primitive and Archaic Medicine* (Oxford, 1951); G. Majno, *The Healing Hand: Man and Wound in the Ancient World* (Cambridge, MA, 1975), 29-68; 69-140.

[4] The most recent catalogue of source material can be found on the *SAE* (accessed: 28-06-2022).

[5] Most recently in E. Strouhal, B. Vachala, and H. Vymazalová, *The Medicine of the Ancient Egyptians; 2: Internal Medicine* (Cairo, 2021), ix.

[6] Especially those surviving from the latter half of the second millennium BCE, such as pEbers that measures *c*. 18 meters in length; L. Popko, 'Papyrus Ebers', in *Science in Ancient Egypt* < https://sae.saw-leipzig.de/de/dokumente/papyrus-ebers > (accessed: 28-06-2022).

[7] Most recently noted in L. Popko, U. J. Schneider, and R. Scholl, *Papyrus Ebers: Die größte Schriftrolle zur Altägyptischen Heilkunst* (Darmstadt, 2021); see also now a list that includes the most recently published pLouvre-Carlsberg, in S. Schiødt, *Medical Science in Ancient Egypt: A Translation and Interpretation of Papyrus Louvre-Carlsberg (pLouvre E 32847 + pCarlsberg 917* (Unpublished PhD Dissertation; University of Copenhagen, 2020), 513-7.

numerous ostraca (e.g., oDeM 1066, 1091 and 1213). The particular focuses of each unique document are equally diverse. Many of the larger documents are primarily compendia of therapeutic recipes, recorded for use in treating a wide spectrum of sickness classifications (e.g., pEbers, pHearst, pLouvre-Carlsberg, and pVindob 6527); in many of these documents, accompanying ritual incantations are included, but these are comparatively far fewer in number, if at all present. Conversely, other compendia give preference instead to recording healing incantations (e.g. pLondon 10059; pLeiden I 348; pAthens); in such manuscripts, therapeutic recipes are also included, though somewhat sporadically, suggesting that they were not the central focus.[8] In manuscripts of both kinds—as far as can be discerned from their remains—a particular theme is apparent, such as pUC32057, named eponymously for its focus as the Kahun Gynaecological Papyrus; pChester-Beatty VI, which treats sicknesses understood to originate from the patient's rear; and pBrooklyn 47.218.48+85, which specifically handles snake bites. All kinds of manuscripts use words and phrases that reflect specifically Egyptian ways of classifying experiential phenomena of sickness; they also offer the most detailed information available on associated *materia medica* and the means by which these were processed and administered. More detailed overviews of the manuscripts studied here, at least where pertinent to discussion, are offered in the introductory paragraphs of the relevant chapters of the present dissertation. For further details, such as excavation (if at all known) or acquisition histories, etc., the reader is directed to the invaluable inventories of the *Science in Ancient Egypt* website of the Sächsische Akademie der Wissenschaften zu Leipzig.[9]

Egyptian medicine is a wide and lively topic in the Egyptological and broader academic discourse, one on which much has been written. The first publications of ancient Egyptian medical papyri appeared starting from the second half of the 19th century and have continued intermittently up to the present day.[10] Concomitant with and in greater volume than the

[8] See overview offered by C. Leitz, *Magical and Medical Papyri of the New Kingdom* (HPBM 7; London, 1999), 51-2.

[9] *Science in Ancient Egypt* < https://sae.saw-leipzig.de/de/dokumente > (accessed: 28-06-2022).

[10] These have now become too numerous to name. It should suffice to note here that the earliest of these, published in 1863, was pBerlin 3038, in H. Brugsch, *Notice raisonnée d'un traité médical datant du XIV.siècle avant notre ère et contenu dans un papyrus hiératique du Musée Royal (Département des antiquités égyptiennes) de Berlin* (Leipzig, 1863); the latest, pLouvre-Carlsberg, is currently only available in the form of an unpublished PhD dissertation from 2020, Schiødt, *Louvre-Carlsberg*. Further first editions of papyri are forthcoming, including the fragmentary demotic manuscripts from the Tebtunis temple archive to be published by A. Jacob in her forthcoming PhD dissertation (a report of which can be found in A. Jacob, 'Demotic Pharmacology: An Overview of the Demotic Medical Manuscripts in the Papyrus Carlsberg collection', in N. Reggiani and F. Bertonazzi (eds.), *Parlare la medicina: fra lingue e culture, nello spazio e nel tempo. Atti del Convegno Internazionale, Università di Parma, 4-7 Settembre 2016* (STUSMA 7; Florence, 2018), 52-79; for a current and comprehensive inventory of published documentary evidence for ancient Egyptian healing practices, see the *SAE* (accessed: 28-06-2022).

publication of these first editions throughout this period are the numerous retranslations and philological appraisals of the source material.[11] In addition to these inscribed materials, other forms of 'medicine-adjacent' material culture have been recovered from excavations and now populate museum collections around the world,[12] discoveries which will no-doubt continue to grow. Nevertheless, while these uninscribed artefacts provide crucial insights into practical aspects of Egyptian healing practices, ancient understandings and categorisations of sickness experiences remain the most clearly observable through the analysis of documentary evidence.

The variability in social and cultural phenomena which engendered Egyptian ideas and practices, and those of modern biomedicine are quite obviously distinct. Nevertheless, the Western or biomedical lens through which ancient Egyptian medical traditions have been viewed persists in general Egyptological overviews, perhaps most clearly manifesting in the recurring view that Egyptological editors and philologists working with the compendia must be equally qualified in the field of (bio-)medicine.[13] Indeed, collaborative research with experts from the field of biomedicine has proven invaluable in some areas of study, such as in cross-examinations of wound-treatments and other topical therapeutics.[14] However, the enigmatic nature of the inner body appears to result in cultural constructions concerned with anatomy[15]

[11] See for example the long list of editions for pEbers alone, listed by Popko, in *SAE* (2022), which includes several retranslations in English, French, and German since the initial publication of the papyrus in 1875 in G. Ebers, *Papyros Ebers. Das hermetische Buch über die Arzeneimittel der alten Ägypter in hieratischer Schrift* (Leipzig, 1875).

[12] Items such as vessels for the preparation and administration of medications, for example, or various apotropaia and other ritual items can be found; examples of such objects are listed in the museum catalogue published as a compliment to 'The Art of Medicine in Ancient Egypt' exhibition at the Metropolitan Museum of Art, New York (2005-2006): J. P. Allen, *The Art of Medicine in Ancient Egypt* (New York, 2005), 16-69.

[13] E.g.: 'Der Bearbeiter entsprechender Texte müßte im Idealfall sowohl über fundierte ägyptologische als auch medizinische Kenntnisse verfügen. Eine solche Doppelkompetenz ist selten zu finden und oft nur durch die intensive Zusammenarbeit vom Wissenschaftleren verschiedener Fachrichtungen zu leisten', J. Unger, 'Zum medizinischen Wissen der Alten Ägypter', in B. Janowski and D. Schwemer (eds.), *Texte zur Wissenskultur* (TUAT 9; Munich, 2020), 377; following remarks of a similar nature made in J. Quack, 'Methoden und Möglichkeiten der Erforschung der Medizin im Alten Ägypten', *Medizinhistorisches Journal* 38 (2003), 1; see also the theme of the *editio princeps* of pAthens-magical, whose editors profess that Egyptian magical (or 'magical healing') texts should not be considered 'Spinnereien', and who suggest that a '"medizinische" Interpretation' should be possible which will enable them to explore the Egyptian understanding together with the modern medical perspective; H.-W. Fischer-Elfert and F. Hoffmann. *Die magischen Texte von Papyrus Nr. 1826 der Nationalbibliothek Griechenlands* (ÄA 77; Wiesbaden, 2020)**,** 3-4.

[14] Most recently, and arguably most successfully, see the study of G. M. Sanchez and E. S. Meltzer, *The Edwin Smith Papyrus: Updated Translation of the Trauma Teatise and Modern Medical Commentaries* (Atlanta, 2012).

[15] E.g., the differences between Galenic and Chinese (according to the *Huangdi Neijing*) perspectives, S. Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine* (New York: 2002), 262-6.

or physiology,[16] semiotic ascriptions,[17] and the determination of internal origins of sickness[18] which are far more varied, cross-culturally. As the extracted quotation from Olivier de Sardan characterises, this makes the study of perspectives of the inner body a rich source of divergent interpretations of natural phenomena. Anthropologists have long challenged the imposition of the Western lens (or any other, by logical extension) in the study of culture in any form,[19] thus, in areas that show pronounced conceptual diversity cross-culturally, such as 'the inner body', it is likely that combining Egyptological training solely with the biomedical profession impedes the acquisition of a more nuanced anthropological analysis.

The aims of the present dissertation, distributed into two portions of the thesis, are twofold. The first component explores the Egyptian perspective of the inner body, and the development, manifestation, and treatment of the sicknesses ascribed to it. This forms the bulk of this dissertation. It will be structured diachronically, beginning with the earliest compendia, and following a discussion of the central themes through to the younger manuscripts, allowing for potential shifts in concepts and practices over the extensive period noted. The second objective is to demonstrate how the results gained from the first part can be incorporated into a productive comparison with contemporary records from Mesopotamia. This second facet cannot—out of necessity—be exhaustive. It is intended only as a case study, presenting a new method of redressing the historical narrative of medical ideas and in turn posing new questions regarding the potential transmission of ideas into the written sources of later scientific traditions, in particular the Hippocratic Corpus. This not only hopes to move the study of Egyptian medicine closer towards a consolidation with Assyriology and Classical Studies, but also with medical anthropological and ethnomedical analyses (see following chapter).

[16] E.g., N. Sivin, *Traditional Medicine in Contemporary China* (Ann Arbor, 1987), especially the subsection titled 'Visceral systems of function', 124-133; the role of the *mai* 脈 'vessels, pulses, channels' and the role of *qi* 氣 in historical Chinese medicine (e.g., in Chunyu Yi's Memoir dating to Han Dynasty China, see: E. Hsu, *Pulse Diagnosis in Early Chinese Medicine* (Cambridge, 2010).

[17] E.g., modern Chinese association of the *dan* 'gallbladder' with the concept of courage, which traces back to a historical function in judgement making and a person's degree of courage ascribed to the organ, N. Yu, *The Chinese Heart in a Cognitive Perspective: Culture, Body, and Language* (ACL 12; Berlin, 2009); the cultural 'uniqueness' of conceptions ascribed to organs can also be seen in the collection of papers on different cultures and languages, F. Sharifian, R. Dirven, N. Yu, and S. Niemeier (eds.), *Culture, Body, and Language: Conceptualizations of Internal Body Organs across Cultures and Languages* (ACL 7; Berlin, 2008).

[18] E.g., various contributions to P. Horden and E. Hsu (eds.), *The Body in Balance: Humoral Medicines in Practice* (EH 11, New York, 2013); for further discussion, see following chapter.

[19] E.g., A. Gains and R. Hahn, 'Among the Physicians: Encounter, Exchange and Transformation', in R. Hahn and A. Gains (eds.), *Physicians of Western Medicine* (Dordrecht, 1985), 4; M. Singer and H. Baer, *Critical Medical Anthropology* (New York, 1995), 4.

Owing to the noted vast catalogue of Egyptian medical papyri and the clear necessity to establish parameters for this investigation, the core source material consulted to fulfil the stated objectives are documents (or sections thereof) that: a) clearly prioritize the recording of *materia medica* and their processing for therapeutic recipes against afflictions localised within the body – although incantation compendia will be consulted where relevant to the discussion, they are not the focus here; b) primarily document therapeutics for internal administration (i.e., those to be inserted in the rear-end, eaten, or drunk). Remedies applied topically (i.e., bandages, smears, oils, etc.) will be incorporated into the discussion where necessary, though these are never the central focus; c) are not documents or passages thereof which can be categorised as 'gynaecological', a topic which requires its own discourse into gendered medicine, far exceeding the already extensive bounds of the proposed project. They will only be referenced where imperative. The core of the present discussion is the attempt to elicit perspectives of the inner-body, healing, and therapeutic strategy from three manuscripts from the latter part of the second millennium BCE: pEbers (owing to its size and convenient internal/external structure, specifically, Eb. 1-335; 477-81; 627-96; and 854-6), pHearst, and pBerlin 3038. These perspectives will be compared with those inherent in the later pRubensohn and pVindob 6257, available at the time of writing, as well as with the BRONCHIA tablets from the Neo-Assyrian Nineveh Therapeutic Compendium. Transliterations, and translations with minor commentary in footnotes, where necessary, are supplied in the text appendix.

1.1. Review of traditional Egyptological literature

The aforementioned density in Egyptological literature on the topic of medicine imposes a need to be selective and (perhaps dangerously) concise in reviewing written contributions to the field. Nevertheless, even in an abbreviated format, it serves to highlight areas of research and trends in methodological approaches, summarised at the end of this review. All Egyptological contributions to the field can be subdivided superficially into two 'schools of thought': 1) 'traditional approaches', whose inception can be traced back to the discovery of the first medical papyri; and 2) 'new directions', the publications of which are far fewer in number, have been released in the past decade, and are here considered more consequential to the development of a methodology for this dissertation. The first group is discussed here, and is further separated under two subheadings, the first are those focused on understanding Egyptian medicine more generally; the second are those concerned with historically contextualising

concepts. The new directives are addressed independently and in greater detail under the second section of the Theory and Methods chapter of this thesis.[20]

Following the initial publication of four of the core papyri investigated in this study—i.e., the larger compendia such as pEbers, pBerlin 3038, pHearst, and pChester Beatty VI—a number of successive re-translations and compilations thereof of medical papyri appeared. The earliest effort to standardize the editions of medical papyri was made in the first decades of the 20th century by Walter Wreszinski, who published three volumes treating the texts which included revised paragraph numberings, transcriptions, and German translations of the original texts in a consistent format.[21] By this time, early attempts to elucidate the names of Egyptian flora had appeared, including those mentioned in the medical papyri.[22] Throughout the 1920's, further lexicographic contributions in the form of articles by Bendix Ebbell[23] and a monograph by Ludwig Keimer,[24] as well as by Warren Dawson in the 1930s,[25] sought to elucidate the meanings of selected key anatomical, aetiological, and drug terms. The first edition of pChester Beatty VI arrived in 1935 through the efforts of Alan Gardiner,[26] followed in 1937 by the first translation of pEbers into English by Ebbell.[27] This work recognised a thematic structure to the ordering of the document, discerning nine groups of text, one being a series of three hundred connected recipes on 'internal medical diseases'; however, it was rightly criticized for the consistent imposition of assumptions and biomedical fallacies in its rendering of Egyptian

[20] See section 2.2.
[21] W. Wreszinski, *Der Grosse medizinische Papyrus des Berliner Museums (Pap. Berl. 3038) in Facsimile und Umschrift, mit Übersetzung, Kommentar und Glossar* (Die Medizin der Alten Ägypter 1; Leipzig, 1909); *Der Londoner medizinische Papyrus (Brit. Museum Nr. 10059) und der Papyrus Hearst in Transkription, Übersetzung und Kommentar* (Die Medizin der alten Ägypter 2; Leipzig, 1912); and *Der Papyrus Ebers; Umschrift, Übersetzung und Kommentar, I. Umschrift* (Die Medizin der alten Ägypter 3; Leipzig, 1913); the latter of which never received its complimentary translation and commentary volume due to the scholar's untimely passing.
[22] V. Loret, *La Flore pharaonique* (Paris, 1892).
[23] B. Ebbell, 'Die ägyptischen Krankheitsnamen', *ZÄS* 59 (1924), 144-49; 62 (1927), 13-20; 63 (1928), 71-5; and 64 (1929), 117-122; 'Die ältagyptischer Drogennamen', *ZÄS* 64 (1929), 48-54.
[24] Though not restricted to the topic of medical drugs, but rather plants in general; L. Keimer, *Die Gartenpflanzen im alten Ägypten I: Ägyptologische Studien* (Hamburg, 1924); the second volume was only released post-mortem, edited by Germer: *Die Gartenpflanzen im alten Ägypten II* (R. Germer, ed.; Mainz, 1984).
[25] W. R. Dawson, 'Studies in the Egyptian Medical Texts' (I), *JEA* 18 (1932), 150-54; II, *JEA* 19 (1933), 133-7; III and IV, *JEA* 20 (1934), 41-6; 186-8; and V, *JEA* 21 (1935), 37-40.
[26] A. H. Gardiner, *Hieratic Papyri in the British Museum, Third Series: Chester Beatty Gift I* and *II* (London, 1935); this papyrus received a new translation into French by F. Jonckheere, *Le papyrus médical Chester Beatty: La médecine égyptienne II* (Brussels, 1947).
[27] B. Ebbell, *The Papyrus Ebers: The Greatest Egyptian Medical Document* (Copenhagen, 1937).

terms.[28] In 1938, a series of ostraca from Deir el-Medina which included medical recipes was released by Georges Posener, further adding to the diversity of available source material.[29]

The augmentation of sources and discussion thereof—aided by the release of further papyri, such as pKahun,[30] pEdwin Smith[31] and pRamesseum III-V[32]—initiated a process of further standardisation and philological assessment of ancient Egyptian medicine more generally. Publications in this direction first appeared in the 1950s, the lesser of these being a concise volume by Gustave Lefebvre from 1956.[33] This was overly selective in the texts chosen for discussion, reducing the complex mechanics of ancient traditions to but a few examples. Around the same time, the first volumes of the nine-volume *Grundriss der Medizin der alten Ägypter* (hereafter shortened to *GdM*) appeared; largely published between 1954-1962, the final volume appeared in 1973.[34] The series included the first detailed translations (*GdM IV*), transcriptions (*V*), a dictionary of *materia medica* (*VI*) and of other lexemes found in the now established medical corpus (*VII*); the first volumes in the series were dedicated attempts to establish an understanding of ancient Egyptian perspectives of 'anatomy and physiology' (*I*) as well as 'sickness' classifications (*II*). Contrary to previous editions and translations of medical papyri, however, the authors of the *GdM* notoriously structured their discussions according to their own, modern, categorical principles.[35] Decontextualizing passages from their original placement in this way and grouping them together with excerpts from other documents—sometimes separated in age by hundreds of years—according to non-Egyptian categorical principles distorted the ancient perspectives, hindering further attempts at its recovery. In addition to this, their translations attempted to map the meaning of Egyptian words

[28] P. Ghalioungui, *The Ebers Papyrus: A New English Translation, Commentaries, and Glossaries* (Cairo, 1987), 2-3.
[29] G. Posener, *Catalogue des ostraca hiératiques littéraires de Deir el-Médineh I,3; Documents de Fouilles de l'Institut Français d'Archéologie Orientale du Caire I* (Cairo, 1938).
[30] F. L. Griffith, *The Petrie Papyri: Hieratic Papyri from Kahun and Gurob (principally of the Middle Kingdom) I* and *II* (1898).
[31] J. H. Breasted, *The Edwin Smith Surgical Papyrus, Published in Facsimile and Hieroglyphic Transliteration with Translation and Commentary in Two Volumes I* and *II* (Chicago, 1930).
[32] The plates and transcriptions of these papyri were published first in A. H. Gardiner, *The Ramesseum Papyri* (Oxford, 1955), followed by a translation offered by J. W. B. Barns, *Five Ramesseum Papyri* (Oxford, 1956).
[33] G. Lefebvre, *Essai sur la médecine égyptienne de l'époque pharaonique* (Paris, 1956).
[34] H. Grapow, *GdM I: Anatomie und Physiologie* (Berlin, 1954); *II: Von den Medizinischen Texten* (1955); *III: Kranker, Krankheiten und Arzt* (1956); H. von Deines, H. Grapow, and W. Westendorf, *IV: Übersetzung der Medizinischen Texte* (1958); Grapow, *V: Die Medizinischen Texte in Hieroglyphischer Umschreibung Autographiert* (Berlin, 1958); von Deines and Grapow, *VI: Wörterbuch der Ägyptischen Drogennamen* (1959); von Deines and Westendorf, *VII: Wörterbuch der Medizinischen Texte* (1961); Westendorf, *VIII: Grammatik der Medizinischen Texte* (1962); von Deines, Grapow, and Westendorf, *IX: Ergänzungen; Drogenquanten, Sachgruppen, Nachträge, Bibliographie, Generalregister* (1973).
[35] E.g., Ghalioungui, *Ebers Papyrus*, 2; Pommerening, in Imhausen and Pommerening (eds.), *Translating Writings*, 181-4.

directly onto those of German ones. While this was possible in certain cases e.g., *mjs.t*  'liver',[36] *bnr*  'dates',[37] in others it produced context-dependent and over simplified translations for complex terms, such as *mt*  '*gefäß*; *Strang*'[38] or *t*ꜣ*.w*  '*Hitze*'.[39] The drive to translate complex pathological concepts into terms more accessible to a Western audience—while useful—also arguably limits any analysis of these Egyptian concepts from a medical-historical perspective, such as the rendering of *wḫd.w* () somewhat abstractly as '*Schmerzstoffe*',[40] without due consideration of its associated lexemes, obscuring the Egyptian perspectives. Nevertheless, the sum of their efforts was a huge leap forward in the study of Egyptian medicine, offering crucial reinterpretations that—while inspired by their own views of the body—were not as extreme as their predecessors, notably Ebbell. This can be seen in their renumbering of recipe groups within pEbers, from Ebbell's nine, to a larger forty-five groups which better reflected the manuscript's actual structuring, according to formulae such as the *ḥꜣ.t-ʿm* X formula, or 'the start (of the section) is X', used by the ancient scribe to group collections of recipes thematically.[41] The ordering of pEbers was compared with other large manuscripts, and it is clear that owing to the disparity in structuring methods, the authors were only able to offer tentative remarks concerning the arrangement of other documents.[42] These 9 volumes remain the most comprehensive work on ancient Egyptian medicine up to the present, and are therefore highly influential, as will be seen in the remainder of this review.

Efforts to compliment the lexicographic work of the *GdM* in selective areas of research first appeared during almost concomitantly. In 1961—shortly after the publication of the *Wörterbuch der Ägyptischen Drogennamen* (*GdM VI*)—John Harris published his *Lexicographical Studies in Ancient Egyptian Minerals*[43] – an invaluable contribution which further developed the field of drug classifications within the field of Egyptology, at least in terms of minerals. Unfortunately, the publication date of this volume was too close to that of the *GdM VI* for its results to be included his own more focused analysis; nevertheless, Harris already predicted the impact the 9 volumes would have on the lexicographical studies of

[36] *GdM VII*, 357-8.
[37] *GdM VI*, 172 ff.
[38] *GdM VII*, 400 ff.
[39] *Ibid.*, 933 ff.
[40] *Ibid.*, 207 ff.
[41] *GdM II*, 115-133.
[42] E.g., see the discussion of pHearst in comparison, *GdM II*, especially 134-5; the comparatively 'irregular' ordering of other major compendia, such as pHearst and pBerlin 3038 has since been noted by other scholars, such as in the work of Ghalioungui, *Ebers Papyrus*, 3.
[43] J. R. Harris, *Lexicographical Studies in Ancient Egyptian Minerals* (Berlin, 1961).

Egyptian medicine.[44] Likewise, the authors of the *GdM* recognised the value of Harris' contribution, which von Deines and Grapow intended to incorporate into a revised version of *GdM VI*, though this was never realised.[45]

Further specialised volumes on lexicography followed, most comprehensively in identifications of plant names. The earliest of these was Renate Germer's PhD dissertation from 1979[46] that was then subsequently reworked into a monograph six years later.[47] These volumes systematically assessed currently accepted translations of plant names with the aim of reaffirming, discounting, or suggesting new translations, additionally providing modern Latin binomial names for species according to Linnean taxonomy, though for certain identifications, this work was too frivolous with its modern binomial identifications.[48] Around the same time, Gérard Charpentier published a useful volume which catalogued plant names in Egyptian, their currently accepted translations, and any ascribed binomial, each with complete reference to the secondary literature.[49] This volume also included the corpus of the then-available demotic material through reference to Wolja Erichsen's 1954 *Demotisches Glossar,*[50] as well as since published material, including, tentatively, that of Reymond's editon of pVindob 6257. Further research was undertaken in the following decade by Sydney Aufrère, who published a series of articles on the identification of plant and mineral products from a diverse array of sources. This was reminiscent of but provided more detail than the pre-*GdM* era papers published by Ebbell and Dawson, and appeared in the *BIFAO* journal series.[51] In the same decade, another specialised treatise appeared authored by Nathalie Baum, this time focusing specifically on Egyptian classifications for trees as they appeared in the list inscribed on the walls of the Theban tomb of Ineni (TT 81).[52] Where they concerned the organic *materia medica* found in the papyri of the second millennium BCE, the a synthesis of all discussions was released by

[44] Noted in his introduction, *ibid.,* 9.
[45] *GdM VI*, v; noted by Pommerening, in Popko and Dils (eds.), *Zwischen Philologie und Lexicographie*, 82.
[46] R. Germer, *Untersuchung über Arzneimittelpflanzen im Alten Ägypten* (Dissertation from the University of Hamburg, 1979).
[47] R. Germer, *Flora des pharaonischen Ägypten* (Mainz, 1985).
[48] See section 2.2.1., for Pommerening's discussion of this matter.
[49] G. Charpentier, *Recueil de matériaux épigraphiques relatifs a la botanique de l'Égypte antique* (Paris: 1981).
[50] W. Erichsen, *Demotisches Glossar* (Copenhagen, 1954).
[51] A total of six articles on 27 classifications of *materia medica*: S. Aufrère, 'Études de lexicologie et d'historire naturelle, I-III', *BIFAO* 83 (1983), 1-31; 'IV-VI', 84 (1984), 1-21; 'VIII-XVII', 86 (1986), 1-32; 'XVIII-XXVI', 87 (1987), 21-44; and 'XXVII', 89 (1989), 15-24.
[52] N. Baum, *Arbres et arbustes de l'Egypte ancienne: La liste de la tombe thébaine d'Ineni (no. 81)* (OLA 31; Leuven, 1988).

Germer in 2008, in the format of a *Handbuch*.[53] This volume is currently the most useful reference for medicinal plant-matter in circulation; it not only provides an updated reference book, but discusses the flaws of all previously cited suggestions for plant identifications up to the date of its publication. It is, however, not without its flaws, especially in its overreliance on pharmacognosy in determining identifications. These were drawn from the identifications established by the *GdM* and therefore do not always reflect the Egyptian perspective of therapeutic efficacy.[54]

Publications dedicated to anatomical terminology have been far fewer in number than those concerned with *materia medica*. The first since the *GdM* was that by James Walker in 1996 – this was an official publication of his doctoral thesis, though regrettably post-mortem.[55] It remains an important resource for Egyptologists working on texts that include references to the body and its constituent parts. Building on the work of the *GdM*, the research also drew on non-medical source material laden with anatomical terminology, including passages from the *Pyramid*, *Coffin*, and *Book of the Dead Texts*, as well as magical incantations, onomastica, and monumental inscriptions.[56] Walker follows a similar working model to that of the *GdM* in translating difficult terms – an example of this is the first entry in the volume: Egyptian *ḥꜥ*  , which he determines should be translated as ‘‘1. “body”; 2. “self” “person” “own”; and 3. “surface” “skin”,’[57] depending on the context in which the term is found, inadvertently demonstrating the difficulty in mapping Egyptian terms directly on to modern translations. Nevertheless, the volume lacked any sound methodological framework beyond the attempt to produce modern (and at times biomedical) renderings of ancient classifications. This is especially true for those terms denoting structures within the body, for example, *pḥ.wy* is translated as ‘pelvis’,[58] *pḥ.wyt* as ‘the pelvic intestine (rectum + sigmoid colon)’,[59] *rꜣ-jb* as ‘thorax’ or ‘chest’,[60] and the *ḥꜣtj* as ‘heart’, ‘central chest’, ‘mediastinum’, and ‘mind’.[61] The

[53] R. Germer, *Handbuch der altägyptischen Heilpflanzen* (Philippika 21; Wiesbaden, 2008); notably, this volume also included evidence from the 1989 publication of pBrooklyn 47.218.48+85 (the ‘Brooklyn Snake Papyrus’), dated to the Late Period; S. Sauneron, *Un traité égyptien d’ophiologie,* (IFAO 11; Cairo, 1989).
[54] cf. the use of other ingredients such as minerals not employed for their pharmaceutical activity, e.g., colouring agents such as yellow ochre (*stj*), popularly administered internally; *GdM VI*, 467-9.
[55] J. H. Walker, *Studies in Ancient Egyptian Anatomical Terminology* (Warminster, 1996).
[56] These are provided with full references in the second appendix within the volume; *ibid.,* 283-341.
[57] *Ibid*., 3.
[58] Cf. e.g., TLA (2022, lemma-no. 61510), which translates ‘rear’.
[59] Cf. *ibid*. (lemma-no. 61520), which translates ‘anus’; Walker, *Anatomical Terminology*, 96.
[60] *Ibid.,* 127; cf. Russell, et al., ‘An Investigation of the Pharmacological Applications Used for the Ancient Egyptian Systemic Model ‘*ra-ib*’ Compared with Modern Traditional Chinese Medicine’, *Journal of Ethnopharmacology* 265 (2021).
[61] Walker, *Anatomical Terminology*, 147.

biomedical lens through which he operated are yet more clearly illustrated in his interpretations of metaphors, such as in the following:

> 'CLINICAL DESCRIPTION: "if you examine his accumulation (*šnʿ*) in his *rꜣ-ỉb*; if you discover that it has increased (*ḏbꜣ*) in that it has crossed the canal (*ḏꜣỉ.n=f mr*), his mind (*ỉb*) is *ḥws* (?) and his *rꜣ-ỉb* is dry"… crossing the canal seems to be associated with the spreading of an illness, possibly to the other side of the body. If *rꜣ-ỉb* does mean "stomach", the statement "stomach is dry" does not make much sense clinically. "The chest is dry" is more comprehensible.[62]

In the following decade, Rune Nyord released the official publication of his PhD thesis which examined concepts relating to anatomical terminology as they appear in the *Coffin Texts*. As this work was in very recent years re-adapted for the study of medical texts with impressive results, this work is discussed below in section 2.2.2. of this dissertation.

Since the publication of the *GdM*, new sources and fragments thereof have appeared intermittently. Many of these documents—with the exception of pLouvre-Carlsberg and a fragment from Zagreb—date to the Late and Graeco-Roman Periods. pZagreb 881 was the first to appear, and is but a small fragment consisting of two recipes for un-indicated sicknesses, covering only three lines in total; it dates to the 19th or 20th dynasty.[63] In 1976 a large fragmentary demotic medical compendium, pVindob 6257, was published by Eve Reymond.[64] Despite being a complete edition, it was criticised shortly afterwards, due to the inaccuracy of its translations.[65] A complete re-edition of this papyrus is only now being prepared for publication, authored by Friedhelm Hoffmann.[66] This revised version has yet to be published, and only selected fragments have appeared in translation in recent years.[67] In the following year, John Tait published a series of texts from Tebtunis, including an especially small medical text, known as pTebt. Tait. 18, a 'medical-magical text' (nr. 19) and a fragment of a herbal (nr.

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[62] *Ibid.*, 136-7.

[63] A photograph without translation first appeared in the museum catalogue in 1970; J. Monnet Saleh, *Les antiquités Égyptiennes de Zagreb: Catalogue raisonné des antiquités égyptiennes conservées au Musée Archéologique de Zagreb en Yougoslavie* (Paris, 1970), 164 (nr. 881); the first translation of this excerpt did not appear until 1995, offered by Bardinet, *Papyrus médicaux*, 480.

[64] E. A. E. Reymond, *From the Contents of the Libraries of the Suchos Temples in the Fayyum, Part I: A Medical Book from Crocodilopolis* (Vienna, 1976).

[65] E.g., D. Devauchelle, and M. Pezin, 'Un papyrus médical démotique. Review', *Chronique d'Égypte* 53 (1978), 57-66.

[66] For a complete discussion of this, see F. Hoffmann, 'Zur Neuedition des hieratisch-demotischen Papyrus Wien D 6257 aus römischer Zeit', in A. Imhausen and T. Pommerening (eds.), *Writings of Early Scholars in the Ancient Near East, Egypt, Rome, and Greece: Translating Ancient Scientific Texts* (Berlin, 2010), 201-18.

[67] F. Hoffmann and J. F. Quack, 'Demotische Texte zur Heilkunde', in B. Janowski and D. Schwemer (eds.), *Texte zur Heilkunde* (TUAT 5, Munich, 2010), 300-305.

20).[68] Another large therapeutic manuscript, the 'Brooklyn Snake Papyrus' (pBrooklyn 47.218.48+85), was released in 1989 and survives in comparatively remarkable condition.[69] An updated translation of pEbers appeared in English in 1987 by the late Paul Ghalioungui – this was largely an English rendition of the *GdM*'s translations,[70] but unfortunately was never placed on sale,[71] meaning that researchers working in the English-language without a complementary proficiency in either German or Middle Egyptian remained at the mercy of Ebbell's overly presumptuous translations.

Two anthologies followed, one in French and the other in German – these are still widely used today. The French anthology was published by Thierry Bardinet in 1995 and included all known hieratic documents,[72] adding further therapeutic passages from 'magical' texts missed by the *GdM*. Bardinet's contribution was unique; it criticized the reductionist approach, such as that of Lefebvre who was noted as being too selective in his characterization. It also criticised the approach of the *GdM* for removing passages from their original context in Egyptian papyri.[73] The central objective of his publication was to offer a re-appraisal of Egyptian medicine from the vantage of the documents themselves, notably by not dissecting and reordering them as done by the *GdM*. The book is composed of three major chapters, each broken down into a series of subchapter discussions. The first chapter[74] attempted to offer a succinct overview of core concepts pertinent to any discussion of Egyptian medicine, whereas the second provided an overview of the subsections in each papyrus as Bardinet had interpreted them.[75] The third chapter provided the new translations of complete papyri.[76] While the structure adopted by this volume—one which attempted to mirror that of the papyri themselves—should certainly be considered a far more practical method for re-accessing principles of the medical practices, there are notable lacunae in the analysis. Firstly, many of

[68] W. J. Tait, *Papyri from Tebtunis in Egyptian and in Greek* (London, 1977), 61-9; further fragments of the herbal, now known as pCarlsberg 230, were identified by Tait, and this was published in full in W. J. Tait, 'P.Carlsberg 230', in P. J. Frandsen (ed.), *The Carlsberg Papyri 1: Demotic Texts from the Collection* (CNI 15; Copenhagen, 1991), 47-92.
[69] Sauneron, *Un traité égyptien d'ophiologie* (IFAO 11; Cairo, 1989).
[70] Ghalioungui, *Ebers Papyrus*.
[71] E.g., Nunn, *Egyptian Medicine*, 31.
[72] Bardinet, *Papyrus médicaux*
[73] E.g., *ibid.*, 9-11.
[74] *Ibid.*, 33-156.
[75] The largest discussion is reserved for pEbers (*ibid.*, 157-197), wheras pHearst, pBerlin, pKahun, '*Fragments médicaux*' (which appears to discuss all other texts over only two pages), as well as extracts from pLondon 10059, pSmith, and pBrooklyn 47.218.48+85 are discussed over the remaining fifty-two pages (*ibid.*, 198-250); while pEbers is the largest, it is perhaps arguably also the easiest to subdivide, as the ancient scribe consistently used the formula *ḥ³.t-ʿ m* 'the start is…'; (for further discussion, see pp. 198-203 of this dissertation).
[76] *Ibid.*, 251-546.

his interpretations, especially his proposals for each document's structure, appears rather arbitrary in areas and poorly explained. Secondly, the composition of the recipes is largely ignored, despite his observation that recipe transmission was the documents' primary objective,[77] further hindering his claims made in relation to structure. Thirdly, in his translations of texts, very little commentary explicating his renderings is offered – this is especially problematic, as it suggests that a) his readings, especially those of more difficult passages of texts, are certain, and b) demonstrates that the Egyptian choice of terminology was largely left unconsidered in his analysis, further diminishing the claims made concerning the 'physiological' and 'pathogenic' terms selected for a philological discourse in the first chapters of the volume. Despite these flaws, Bardinet consistently refrains from providing a translation of key terms from the papyri, such as '*setet*' (for *st.t*), '*oukhedou*' (for *wḫd.w*), and '*l'intérieur*-ib' (for *jb*), as opposed to '*Schleimstoffen*', '*Schmerzstoffe*', and *'Herz*' (respectively) often adopted in the German-language renderings. Nevertheless, as the first significant attempt at departing from the problematic methodologies of the *GdM*, Bardinet's work remains a highly significant reference work and will be consulted in the discussions of concepts as they appear in the passages analysed in this dissertation.

The second anthology was published by Wolfhart Westendorf in 1999.[78] As a member of the team which authored the *GdM*, Westendorf's analysis was—while far more thorough in terms of lexicographic discussion than that of Bardinet—perhaps none-too surprisingly formatted in a way which mirrored that of the *GdM*. Thus, it follows the pattern of rendering complex terminology found in German-language contributions. As a departure from the *GdM*, however, Westendorf makes it clear in his *Vorwort* that his intention—despite being '*den letzten noch lebenden Miarbeiter des "Grundriss"*—was not only to create an improved and abridged new edition of the *GdM*, but endeavoured to produce a new work which evaluated its results and incorporated new sources. To this end, Westendorf also included extracts from demotic literature. Significantly larger than Bardinet's monograph, being spread over two volumes of over eight-hundred pages, Westendorf's volume is partitioned into six chapters, with the seventh offering a bibliography and indexes. With this format, he was able to present detailed discourses covering the source material,[79] the categories of texts disseminated in the

[77] E.g., in his *Avant-propos*; *ibid.,* 10.
[78] Westendorf, *Handbuch*.
[79] Chapter 1, *ibid.,* 4-79.

papyri,[80] anatomy and sicknesses thereof,[81] the practitioner,[82] as well as a short discourse on the transmission of texts into Coptic and Greek medical texts from Egypt.[83] Finally, the volume includes a translation of both pEbers and pSmith which a) followed the structure of the papyri themselves, and b) was more scholarly in its approach to marking reading problems.[84] Nevertheless, issues inherent in the *GdM* can also be found here. The most striking example of this is in *Teil III* of the book, which offers an extensive discussion of '*Der Kranke und seine Krankheiten*'. Although this chapter opens with a useful overview of the social aspects of sickness in ancient Egypt, it retained the method of decontextualising passages, making it almost impossible for the reader to explore the conceptual relationships between units of texts, as attempted by Bardinet. It also resumed the somewhat abstract renditions of complex sickness concepts, this time using compound constructions such as '*wḫd.w*-pain-substance', obscuring many theoretical details behind renderings which are more easily-accessible to the Western observer. Finally, like Bardinet, Westendorf made no attempt to use the quantitative and qualitative data provided by the recipes themselves to further explore classifications for and relationships between body-part and sickness terminologies. Despite the shortcomings of this volume, it usefully condenses translations of papyri into one more accessible anthology, incorporating research data not accessible to the *GdM* team thirty-five years prior.

A limited number of additional smaller papyri and fragments thereof, as well as ostraca have surfaced since the days preceding the *GdM* which were not incorporated in or published after the date of the anthologies of Westendorf and Bardinet. These have typically appeared in short journal articles or larger catalogues of objects, including the hieratic pAshmolean Museum 1984.55 from the Late-Period Fayuum,[85] and the far smaller demotic pBrooklyn 35.1462, a Ptolemaic fragment with un-indicated recipes.[86] Other therapeutic-adjacent source material has also been identified, including the late hieratic magical pKöln 3547, dated to the Ptolemaic Period and first published 1980,[87] and pBrooklyn 47.218.49, which first appeared in

[80] Chapter 2, *ibid.,* 80-100.
[81] By far the largest discourse; Chapter 3, *ibid.,* 101- 471.
[82] Chapter 4, *ibid.,* 472-535.
[83] Chapter 5, *ibid.,* 536-546.
[84] Chapter 6, *ibid.,* 547-748.
[85] J. Quack, Ein neues medizinisches Fragment der Spätzeit (pAshmolean Museum 1984.55 rt.), *ZÄS* 126 (1999), 141–149.
[86] G. Vittmann, 'P. Brooklyn 35.1462', *Enchoria* 30 (2006), 155-160.
[87] D. Kurth, H. J. Thissen, and M. Weber, *Abhandlungen der Reinisch-Westfälischen Akademie der Wissenschaften, Sonderriehe Papyrologica Coloniensia IX: Kölner ägyptische Papyri 1* (Opladen, 1980); Kurth's readings were questioned in a review by G. Vittmann in: *Enchoria* 11 (1982), 119-123; a revised reading has since been submitted, achieved only after work on pMünchen ÄS 5882 was undertaken; see H.-W. Fischer-Elfert, *Magika Hieratika in Berlin, Hannover, Heidelberg, und München* (Berlin, 2015), 253-94.

2002.[88] Though not strictly therapeutic, the content of these sources are useful for consultation in the discussion of inner-body sicknesses and their historical contextualisation.

In the past decade, three further studies were submitted which merit attention here. The first is Shingo Fukagawa's study, which attempted to extrapolate 'the dynamics of ancient Egyptian pharmacology' through a rigorous statistical analysis of the dispersal of *materia medica* in pEbers.[89] Building on the fact that the medical papyri are primarily compilations of prescriptions, the intention was to explore the possibility of investigating patterns in prescriptions;[90] however, this was somewhat limited. Following a useful introduction to the statistical approach, a lengthy series of chapters ensued that considered a definition of 'medicine' in different cultures, such as ancient Greece, China, and India. The discussion was selective and offered an essentialist image[91] of these traditions with very little syncretism with the indicated aims, making it unclear how such insights improved our understanding of Egyptian pharmacology in any meaningful way.[92] Nevertheless, this investigation provided a unique contribution to the field, especially in its recognition that the contents of recipes could be more effectively analysed using functions in data management technology. An example which showed potential, though not mobilised to its fullest extent in this study, is the distribution analyses of individual ingredients throughout the papyrus – this produced visual data that made it clear that certain ingredients were characteristic for particular therapeutic treatments, such as msdm.t 'galena' for eye recipes, or Hno.t 'beer' for internally-administered recipes.[93] Unfortunately, these conclusions were not new, having been already demonstrated in more traditional philological approaches, such as that of the *GdM*.[94] Furthermore, in expanding upon the combinations of ingredients, the statistical tables, dendrograms, and correspondence analyses failed to study the recipes as a complete cultural artefact, instead

[88] A book of protection, specifically for Pharaoh's ears; see: P. F. O'Rourke, *A Royal Book of Protection of the Saite Period: pBrooklyn 47.218.49* (YAS 9; New Haven, 2015).
[89] S. Fukagawa, *Investigation into Dynamics of Ancient Egyptian Pharmacology: A Statistical Analysis of Papyrus Ebers and Cross-cultural Medical Thinking* (BAR 2272; Oxford, 2016[2011]).
[90] *Ibid.*, 3-7.
[91] Cf. e.g., the polemic against treating historical Chinese medicine as anything other than a 'history of ideas', rather than as one tradition with fundamental features stretching back into antiquity; P. U. Unschuld, *Medicine in China: A History of Ideas* (Berkeley 2010[1985]), especially pages 1-15.
[92] E.g., a discussion on non-Egyptian traditional medicines in chapter two, *ibid.*, 9-22; cf. the discussion of Egyptian medicine in chapter 3, *ibid.*, 23-40. Rather than exploring Egyptian perspectives, the third chapter appears only to have repeated much which was already written on the topic, by authors such as those of the *GdM*. Finally, chapter four simply regurgitates selective comparisons of medical traditions, such as those of R. O. Steuer and J. B. de C. M. Saunders, *Ancient Egyptian & Cnidian Medicine: The Relationship of their Aetiological Concepts of Disease* (Berkeley, 1959), (cf. pp. 244-5 of the present dissertation).
[93] Fukagawa, *Statistical Analysis of Papyrus Ebers*, 79; 80.
[94] E.g., *GdM VI*, 287 ff.; 372 ff..

ripping ingredient combinations from their original placement context and not considering the importance of anatomical or aetiological terminology. Though this volume presented an entirely new method of analysis, it failed to produce any new conclusions to demonstrate the method could be used to regain Egyptian perspectives of sickness and therapeutics. The use of such data analyses as an additional tool has since not been re-attempted.

The second constitutes the last medical anthology to be published – significantly, in English for the first time. It was released by a Czech team consisting of Eugen Strouhal, Břetislav Vachala, and Hana Vymazalová in 2014,[95] with an additional volume released in 2021. Owing to its theme—internal medicine—the latter is the central focus of this review.[96] Though the adoption of themes required an extraction of source material based on a predetermined category, how it was done is useful. The complete units of texts extracted are presented in the order in which they are found within the papyri; thus, in chapter 3 of *Internal Medicine*, the translations of passages from pEbers passages chosen run sequentially – e.g., from Eb. 1-335; 477-81; 603-696.[97] Unfortunately, for their commentary, the authors chose to divide the themes of discussion according to modern categorical themes which they deemed 'better suited to a medical evaluation of the cases'.[98] This biomedical lens is most observable through the use of synthetic categories, such as: '4) Heart and Arteries (cardiology and angiology); 5) Lungs and Chest (pulmonology); 6) Stomach and Liver (gastrology and hepatology)', and so on.[99] The Egyptian perspective is thus obscured, and certain sections of text are entirely misunderstood. An example of this is the discussion of the role of the heart in accepting food (Eb. 284-93);[100] the selected passages are grouped into a broader discussion of 'the heart' and fails to account for the differences between lexemes such as *jb* and *ḥꜣtj* (see section 3.2., below). The volumes forego the importance of lexicographical analysis, more so than the study of Bardinet, and attempt no explanation or markings in their translations of difficult passages of text. The notable efforts to discuss particulars of therapeutics, absent in many other volumes, is marred by both an overreliance on previous translations for ingredients with limited assessment, as well as the assumption that the sickness experiences which the medicines intended to treat is well established. Nevertheless, the volume includes a wide array

[95] E. Strouhal, B. Vachala, and H. Vymazalová, *The Medicine of the Ancient Egyptians: Surgery, Gynaecology, Obstetrics, and Pediatrics* (Cairo, 2014).
[96] Strouhal et al., *Internal Medicine*.
[97] A method followed in the present thesis for the selection of texts from pEbers.
[98] Strouhal et al., *Internal Medicine*, 151.
[99] See the full list in *ibid.*, 153.
[100] *Ibid.*, 190-200.

of sources in translation into English for the first time, many of which are key texts, such as pBerlin 3038 and pBerlin 3027 (the *Book of Mother and Child*), making medical sources from ancient Egypt accessible to the Anglo-American scientific audience.

The title of Susanne Radestock's *Prinzipien der ägyptischen Medizin* from 2015, the third volume assessed here, suggests that it is especially pertinent to the present dissertation's objectives to explore ancient Egyptian perspectives of the inner body, sickness, and treatment.[101] Far more Egyptologically scientific in its approach to the topic than allowed for in the volumes of Fukagawa and the Czech team, this volume is divided into three parts. The first offers an extensive discussion of two categorically conflicting views on the usability of 'retrospective diagnosis' in the study of ancient sources. The term is usefully defined from the start as—following Potter's definition (here translated into English from the German, given that it is the definition adopted in the present dissertation)—"the attempt to identify antique diseases and case descriptions with a modern diagnosis using a disease entity from modern medicine".[102] A highly detailed overview with commentary on the two conflicting opinions regarding the application of retrospective diagnosis is pursued; the first opinion being that of Leven, who essentially advocates its use,[103] and the second of Grmek, who holds the position that while approximations can be made in limited cases, the agenda is problematic.[104] In her own discussion which follows in chapter two, Radestock astutely observes that it is impossible to acquire an accurate translation from one language to another; however, her overall conclusions on the matter are somewhat disappointing:

> 'Das Bewusstsein dafür, dass das Spekulieren unumgänglicher Bestandteil der Arbeit jener ist, die mit historischen Quellen jeglicher Art befasst sind, ist vorhanden, jedoch gilt es, diesen Umstand hinzunehmen und sich ihm mit Gelöstheit zu stellen… Angesichts des bestehenden semantischen Problems, dessen Lösung hier recht deutlich dekonstruiert wurde, besteht zwar wahrlich kein Anlass zu Euphorie, dennoch sollte in Anbetracht der Notwendigkeit, vor allem aber der Lust an der Auseinandersetzung mit der Quelle – denn sonst bestünde keine Begründung dazu – ebenso wenig in Aporie verfallen werden'.[105]

[101] S. Radestock, *Prinzipien der ältagyptischen Medizin: Medizinische Lehretexte der Papyri Ebers und Smith: Eine wissenschaftstheoretische Annäherung* (Würzburg, 2015).
[102] *ibid.,* 17; P. Potter, 'Diagnose, retrospektive', in K.-H. Leven (ed.), *Antike Medizin: Ein Lexikon* (Munich, 2005), 220.
[103] Radestock, *Prinzipien*, 17-32; e.g., K.-H. Leven, 'Krankheiten – historische Deutung vs. Retrospektive Diagnose', in N. Paul and T. Schlich (eds.), *Medizingeschichte: Aufgaben – Probleme – Perspektiven* (Frankfurt, 1998), 153-185.
[104] Radestock, *Prinzipien*, 32-48.
[105] *Ibid.,* 118.

The overall conclusions appear to be that in the diagnoses of Egyptian *Lehrtexte* from pEbers and pSmith, casuistic models can be observed; however, further analysis is hindered by a lack of any attempt to reinterpret of the semantics of key terms from the chosen source material. The *r*ꜣ*-jb* subsection of pEbers is characterised as dealing with constipation of the stomach,[106] which—following the *GdM* and Westendorf—is a retrospective diagnosis and complete misinterpretation of the Egyptian encoding of sickness experiences.[107] Translations and understandings of anatomy and physiology posited in previous scholarship guides the commentary, with little attempt to explore the connection between casuistic 'principles'. Therapies are entirely omitted from translation and their understanding is reduced to such characterisations as a 'speziellen Diät',[108] which is a rather bold claim in the context of medical history.[109] Other terms, such as st.t, are translated somewhat cautiously as '"*Schleimstoffe*",'[110] but an exhaustive discussion of this term and its understanding from the Egyptian perspective is hindered by the restrictive approach that discounts the prescribed recipes as unimportant. Radestock only recounts the views of previous scholars on the matter, not permitting the development of new vantages on this Egyptian perspective of sickness and the body.

The work to publish Egyptian texts concerned with healing practices continues to the present. The most recent major medical compendium to receive a full edition is pLouvre-Carlsberg, dated to *c.* 1450 BCE, which has appeared in two stages in recent years. The Louvre portion of this manuscript was released by Bardinet in 2018,[111] and a complete edition that incorporates a detailed translation and study of the Copenhagen portion has since appeared as an unpublished PhD dissertation, with an official edition stated to be forthcoming.[112] To the knowledge of the present author, a number of other manuscripts have been identified in various museum collections and are awaiting their *editio princeps*. Around half a dozen come from the library at Tebtunis, now housed in the Carlsberg Papyrological Institute in Copenhagen and are currently being edited by Amber Jacob as requirement for her PhD dissertation at New York

[106] And again in S. Radestock, 'Types of diagnoses in Papyrus Ebers and Smith', in U. Steinert (ed.), *Systems of Classification in Premodern Medical Cultures: Sickness, Health, and Local Epistemologies* (London, 2021), 113ff.
[107] Cf. now Russell et al., *J. Ethnopharm.*, and a revised discussion of this section of pEbers on pp. 146-56, below.
[108] Radestock, *Prinzipien*, 141.
[109] Whether Radestock meant this in similar terms as in the Hippocratic medicine—diet and regimen—is not stated; for 'diet' in the Hippocratic Corpus, see e.g., the discussion of *On Regimen*, in E. Craik, *The Hippocratic Corpus: Content and Context* (London: 2015), 1-6.
[110] E.g., Radestock, *Prinzipien*, 141; 165-70.
[111] T. Bardinet, *Médecins et magiciens à la cour du pharaon: Une étude du papyrus médical Louvre E 32847* (Paris, 2018).
[112] See Schiødt, *Louvre-Carlsberg*.

University.[113] A further compendium, pBrooklyn 47.218.75+86 from Late Period Elephantine, is being worked on by Juliane Unger for her PhD at the Universität Heidelberg. The recto of this text reportedly constitutes a recipe compendium for the rear, belly, and back; the verso is a on women's sicknesses.[114] Finally, two further papyri are being edited by Joachim Quack – these are pBrooklyn 47.218.47, containing incantations against *ꜣḫ* and/of ghosts, and pFlorence 10489, a Roman Period manuscript listing recipes and *Lehrtexte* concerned with eye treatments.[115] The chief concern of these projects is thus to produce first editions of the manuscripts, though their accompanying discussions will no doubt further refine understandings of certain areas of ancient Egyptian medicine.

From the present overview of Egyptological literature, it becomes apparent that the Egyptian perspective of the body (and in this case the inner body), sickness, and the relationship between these and the prescribed strategies for treatment have not been satisfactorily explored. All-encompassing studies of the Egyptian compendia have offered the clearest insights into Egyptian medicine, such as the monumental efforts of the *GdM* team, Westendorf, and Bardinet; however, problems persist. Firstly—and especially true in the case of the *GdM* and Westendorf, is the problematic drive to translate terms according to Western or biomedical lexical semantics, or by using approximating compounds which incorporate the Western and Egyptian word together. While this perhaps makes the material more accessible to particular audiences, it also obscures key conceptual underpinnings of the tradition. Bardinet's structuring of his discussion according to arrangement in the original papyrus is far more practical; however, unlike the authors of the *GdM*, his analysis does not draw upon the richer source of lexicographic data for the Egyptian language, limiting his interpretations. Nevertheless, when compared with studies that sought to delimit 'principles' of medicine based on selective sets of source material (e.g., Radestock), the holistic studies prove more reliable, being grounded in a broader and less selective set of available data. A major lacuna in all these studies is any attempt at a systematic analysis of recipe ingredients. Though the sheer volume of untranslatable terms for *materia medica* inventoried by scholars (notably *GdM VI*, Harris,

[113] I am grateful to have been granted a highly provisional version of some of the work undertaken by Jacob. While they will not be included whatsoever in the discussions of the present dissertation, they will undoubtedly shed much needed light on the nature of recipe compendia from this period, as thus far only the fragmentary pVindob is comparable in both size and content; see Jacob, in Reggiani and Bertonazzi (eds.), *Parlare la medicina*, 52-79.

[114] Only a small selection of texts from this document have so-far been released in publication, though again, its contents will be of much consequence for the interpretation of the inner-body and therapies from this period; see Unger, in Janowski and Schwemer (eds.), *Texte zur Wissenskultur*, 377-80.

[115] I am indebted to professor Quack for permitting me to view a provisional version of these manuscripts.

Germer, and Charpentier) are a testament to the challenges faced in this area of investigation, they are the primary *raison d'être* for the Egyptian therapeutic compendia which can contribute greatly to our understanding of Egyptian classificatory paradigms and lexical substitutions for sickness experiences.

1.2. Approaches to the historical contextualisation of Egyptian medicine

Compared to the bulk of literature available on Egyptian medicine, attempts to historically contextualise the tradition have been minimal. Some attempts to assess Egyptian medicine through pharmacological analyses are also comparative – i.e., between ancient Egypt and modern biomedicine;[116] however, the most numerous are comparisons between ancient Egypt and Greece, or between ancient Mesopotamia and Greece.[117] These have been met with a varying degree of success. Diachronic comparisons between Pharaonic and Coptic Egyptian traditions have also featured,[118] with the early consensus that the two traditions shared little resemblance successfully challenged by Westendorf in a short chapter in his *Handbuch*.[119] To date, few exploratory comparisons have been made between the contemporaneous medical cultures of ancient Egypt and Mesopotamia. This dissertation seeks to remedy this, presenting a nuanced view of Egyptian internal medicine which is readily accessible for comparison with Akkadian source material; the aim is to move research closer in a direction through which historical contextualisations of ancient ideas can be more reliably cemented.

Comparative studies of Egyptian and Greek source material—for the latter most notably selected excerpts from the Hippocratic corpus dated to the 5th century BCE—have been largely focused on identifying early Egyptian ideas in the latter Greek writings. This has so far met with limited success, most notable being the examination of birth prognoses from pKahun and

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[116] E.g., J. Campbell, *An Assessment of the Pharmaceutical and Therapeutic Merit of Remedies within the Kahun, Edwin Smith, Ebers, and Chester Beatty Ancient Egyptian Medical Papyri* (Unpublished PhD Dissertation; University of Manchester, 2007); 'Pharmacy in ancient Egypt', in R. David (ed.), *Egyptian Mummies and Modern Science* (Cambridge, 2008), 216-36; N. Aboelsoud, 'Herbal medicine in ancient Egypt', *JMPR* 4(2) (2010), 82-6; see also now Russell et al., *J. Ethnopharm.* 265 (2021), which compared ancient Egypt with modern Traditional Chinese Medicine.

[117] E.g., M. J. Geller, 'West Meets East: Early Greek and Babylonian Diagnosis', in H. F. J. Horstmanshoff and M. Stol (eds.), *Magic and Rationality in Ancient Near Eastern and Graeco-Roman Medicine* (SAM 27; Leiden, 2004), 11-62; M. Stol, 'An Assyriologist Reads Hippocrates', in Horstmanshoff and Stol (eds.), *Magic and Rationality*, 63-78; see also M. J. Geller, *Melothesia in Babylonia: Medicine, Magic, and Astrology in the Ancient Near East* (Berlin, 2014).

[118] Geographically restricted diachronic studies are also a feature in Assyriology; see e.g., M. J. Geller, *Akkadian Healing Therapies in the Babylonian Talmud* (Max-Planck-Institut für Wissenschaftsgeschichte preprint 259; 2004).

[119] This discussion mostly uses evidence from the Coptic pChassinat, containing around 237 recipes; Westendorf, *Handbuch*, 536-42. Westendorf addresses the early views of W. C. Till, *Die Arzneikunde der Kopten* (Berlin, 1951), who himself summarised his own view in the introductory statement that Coptic medicine '*ist auch nicht als Tochter der altägyptischen anzusehen*'; *ibid.,* 1.

pCarlsberg VIII, whose contents were first systematically compared with later Greek and medieval manuscripts by Erik Iversen.[120] In the case of a text found in both pKahun 28 and pCarlsberg 8, 4—a renowned prognosis involving a clove of garlic or onion being placed in the vagina of the woman, whose breath is then smelled the following morning to determine whether she can become pregnant, later found in the Hippocratic text *On Diseases of Women* 2[121]—the underlying anatomical model—that both the vagina and mouth were connected by a series of conduits—fits the Egyptian perspective, demonstrating that in this case 'one can speak of borrowing' of Egyptian practices by later Greek writers.[122]

Other attempts to identify Greek concepts in older Egyptian manuscripts were less successful. A notable and controversial example is the hypothesis put forward by Robert Steuer and J. B. Saunders,[123] who posited that the ancient Egyptian 'pathological concept' of *wḫd.w* as explicated in both pEbers (Eb. 856) and pBerlin (Bln. 164) was a theoretical precursor of Cnidian of *perittōma*. While this theory has been supported by some scholars,[124] it has met with staunch resistance from others, especially from classicists whom, in past scholarship,[125] cite a perceived lack of observable theory underlying the Egyptian tradition as the main grounds for its dismissal. Taking a more objective stance, it becomes apparent that both positions are methodologically flawed.[126] From the Egyptological perspective, the fundamental flaw of the initial hypothesis is found in its entirely selective choice of ancient source material for discussion. It failed to fully appreciate the Egyptian perspectives that a more thorough reading of the entire ancient manuscript might otherwise allow. Like the *GdM*, it decontextualizes passages of text to support its argumentation without first thoroughly exploring the underlying concepts of the textual groups, limiting its ability to provide a sound foundation of

[120] E. Iversen, *Papyrus Carlsberg no. VIII with some Remarks on the Egyptian Origin of Some Popular Birth Prognoses* (Copenhagen, 1939).
[121] see now also L. Green, 'Beyond the Humors: Some Thoughts on Comparisons between Pharaonic and Greco-Roman Medicine', in Z. Hawass, *Egyptology at the Dawn of the Twenty-first Century: Proceedings of the Eighth International Congress of Egyptologists, Cairo, 2000* (Cairo, 2003), 271-2; R. Ritner, 'Cultural Exchanges between Egyptian and Greek Medicine', in P. Kousoulis and K. Magliveras (eds.), *Moving Across Borders: Foreign Relations, Religion and Cultural Interactions in the Ancient Mediterranean* (OLA 159; Leuven, 2007), 215-6; most recently J. Unger 'Ancient Egyptian Prescriptions for the back and abdomen and their Mesopotamian and Mediterranean Counterparts' in U. Steinert (ed.), *Systems of Classification in Premodern Medical Cultures: Sickness, Health, and Local Epistemologies* (London, 2021), 132-3, though albeit seemingly more cautiously.
[122] T. Pommerening, 'Egyptian Medicine', in D. C. Snell (ed.), *A Companion to the Ancient Near East* (2nd edn; Chichester, 2020), 388-9.
[123] Steuer and Saunders, *Egyptian and Cnidian Medicine*.
[124] Notably Green, in Hawass, *Eighth International Congress of Egyptologists*, 269; Ritner, 217-19.
[125] E.g., H. von Staden, *Herophilus: The Art of Medicine in Early Alexandria* (New York, 1989), 4; J. Jouanna 'Egyptian Medicine and Greek Medicine', in J. Jouanna (ed.), *Greek Medicine: From Hippocrates to Galen* (Leiden, 2012), 17.
[126] See Russell, et al., *J. Ethnopharm*.

understanding with which to more reliably compare with similarly complex models of pathogenesis in later Greek writings. Ultimately, its aims and methods resulted in the imposition of a Greek theoretical lens for analysing the Egyptian perspective. Conversely, the classicists chose to entirely dismiss the usefulness of comparative research through assumptions grounded in essentialist views. Thus, the topic of idea transmission between these two cultures remains open, and perhaps a more objective re-engagement will be better equipped upon the publication of Amber Jacob's demotic medical papyri from the temple library at Tebtunis. This dissertation therefore limits its comparative analysis to Egyptian and Akkadian source material.

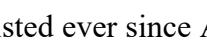
Curiously, far fewer studies have been dedicated to comparative research between Egyptian papyri and the roughly contemporary cuneiform tablets from Mesopotamia, notably those written in the linguistically related Akkadian language, in which the bulk of the material survives. A popular monograph from 1975 written by Guido Majno,[127] a professor of pathology with an interest in medical history, reveals much about attitudes and research agendas of his time. It is clear that Majno amassed a bibliography which would have impressed both Egyptologists and Assyriologists of this period. For ancient Egypt, for example, he had clearly digested contributions such as those of Ebbell, Lefebvre, and the *GdM*, going further to examine indispensable Egyptological tools such as Erman and Grapow's *Wörterbuch der Ägyptischen Sprache*, as well as a wide range of excavation reports such as those of Quibell at Saqqara.[128] The volume as a whole offers chapter-sized overviews of historical written traditions, including Mesopotamia and Egypt, as well as Hippocrates, Galen, and sources from ancient India and China; however, it devotes little attention to comparative analysis. Instead, it is purely a summary of practices more broadly, albeit in a somewhat reductionist fashion, with a discernible interest in wound treatments. It should of course be noted that at the time of his publication, Mesopotamian sources were far more limited in their availability. Much of what existed at this time was released only in cuneiform facsimile,[129] making the texts inaccessible for non-Assyriologists. Majno was thus at the mercy of Labat's translations of passages from

[127] Majno, *The Healing Hand*.
[128] For the bibliography for the Egyptian chapter, see: *ibid.*, 434-41.
[129] E.g., C. Thompson, *Assyrian Medical Texts from the Originals in the British Museum* (Oxford, 1923); F. Köcher, *Die babylonisch-assyrische Medizin in Texten und Untersuchungen I-III* (Berlin, 1963-4); vol. VI of Köcher's series was not published until 1971, and does not appear in Majno's bibliography; Majno, *The Healing Hand*, 36-7; 430-34.

the *Diagnostic Handbook*[130] and the few articles that included translations from the Neo-Assyrian *Nineveh Medical Compendia*.[131]

Various (unfortunately unreferenced) comments made in the book are useful in fathoming attitudes towards comparative studies of Egypt and Mesopotamia in academic scholarship of the 1970s. Herodotus' oft-cited conflicting views of the comparative quality of Babylonian and Egyptian medicine notwithstanding,[132] the popular view of Egypt's geographical isolation from its neighbours appears to play a significant role in the conceptual separation of these two contemporary ancient cultures:

> 'From Babylon to the Nile we have come only a thousand miles as the crow flies, but we are in a different, separate world: so separate that we can discuss Egyptian medicine almost without referring to Mesopotamia. The fact is that Egypt is, really, nobody's neighbor; Egypt was and still is a peculiar sort of island, a greenhouse in the desert'.[133]

Despite this, Majno observed, without further comment, that Akkadian and Egyptian medical texts shared structural similarities.[134] Elsewhere in his monograph, he even notes 'Words for "inflammation" had existed ever since Akkadian  [(sic.)] *ummu* and the Egyptian □ [(sic.)] *shememet*, but a further delineation of these in terms of sickness experience is absent, as is any etymological relationship between these two classifications which might further support interpretation.

Comparative discussions of evidence from the two cultures have since appeared in edited volumes of varying focuses over the past decade. Two volumes in series *Texte aud der Umwelt des Alten Testaments* compiled translations and commentaries of pertinent source material,[135] though as anthologies, these volumes do not enter into any systematic comparative discussion. The same is true for the two volumes dedicated to the best practices for translating the 'writings of early scholars'.[136] A volume edited by John Wee offered brief and tentative remarks in his introduction that concerned the use of metaphor in Egyptian and Mesopotamian

[130] R. Labat, *Traité akkadien de diagnostics et prognostics médicaux I: transcription et traduction* (Leiden, 1951).
[131] See pp. 373-8, below.
[132] *Ibid.*, 67; 71.
[133] *Ibid.*, 69.
[134] *Ibid.*, 73.
[135] B. Janowski and D. Schwemer (eds.), *Texte zur Heilkunde* (Munich, 2010); *Band 9: Texte zur Wissenskultur* (Munich, 2020).
[136] Imhausen and Pommerening (eds.), *Writings of Early Scholars*; *Translating Writings*.

medicine,[137] based on a comparison of the contributions of Rune Nyord[138] and Cale Johnson;[139] however, these have yet to be further explored.

The most systematic contribution to the comparatist's agenda in these fields was the PhD thesis of Susanne Beck, who explored the Egyptian adoption of a Mesopotamian loanword for the sickness concept known as *samānu*.[140] This examined both perspectives in a thorough study of relevant source material. The research was centred around a re-edition of Egyptian papyrus pLeiden I 343+345,[141] using supporting evidence from pLondon 10059 and pLeiden I 348, and other smaller excerpts from papyri and ostraca, all dating to the 19th/20th dynasties, with only the addition of an excerpt from pKöln 3547 from the late first millennium BCE. The source material examined from Mesopotamia is far broader, diachronically; it stretches from the Ur-III period (the 'Neo-Sumerian empire', dated to the late third millennium BCE) up to as late as 123 BCE, noting that *samānu* was one of the few classifications for demons to stretch this extensive period of time.[142] The attention given by Beck to the contexts in which the classification occurs is remarkable, though the identification of modern pathologies through a context-dependent analysis was somewhat speculative.[143] Associated characteristics—such as colour red and its association with rivers—as well as the attested living beings it could afflict—such as animals, plants, and humans—from the Mesopotamian sources are usefully compared with the appearance of this phenomenon in the Egyptian source material, in which *samānu* is found for far more limited circumstances. The methodologies adopted for comparison—which were also the subject of a paper for an edited volume[144]—are usefully outlined from the start of the volume adhered to throughout. Essentially, these stress the importance for gaining perspectives of understanding from the two cultures compared in a thorough and consistent manner, without the lens of one culture influencing the understanding of the other. This is

[137] Wee , *The Comparable Body*, 5; 6-7.
[138] R. Nyord, 'Analogy and Metaphor in Ancient Medicine and the Ancient Egyptian Conceptualisation of Heat in the Body', in Wee (ed.) *The Comparable Body*, 12-42.
[139] C. Johnson, 'The Stuff of Causation: Etiological Metaphor and Pathogenic Channeling in Babylonian Medicine', in Wee (ed.), *The Comparable Body*, 72-121.
[140] S. Beck, *Sāmānu: Ein vorderasiatischer Dämon in Ägypten* (ÄAT 83; Munster, 2015); it is pointed out in the introduction to this volume that the link between Egyptian *s-m-n* and Akkadian *samānu* was first observed by Adhémar Massart in his 1954 edition of pLeiden I 343+345.
[141] This later appeared in S. Beck, *Exorcism, Illness, and Demons in an Ancient Near Eastern Context: The Egyptian Magical Papyrus Leiden I 343 + 345* (PALMA 18; Leiden, 2018).
[142] Beck offers no comparison of other sickness classifications; *ibid.*, 171.
[143] E.g., foot-and-mouth disease suggested where the classification is attributed as a sickness of sheep, *ibid.*, 193-4; or the proposal of papillomatosis for illnesses of donkeys, *ibid.*, 199.
[144] S. Beck, 'The Transfer of Knowledge from Mesopotamia to Egypt', in J. Althoff, D. Berrens, and T. Pommerening (eds.), *Finding, Inheriting or Borrowing? The Construction and Transfer of Knowledge in Antiquity and the Middle Ages* (MHCS 39; Bielefeld, 2019), 71-98; see especially 71-7.

strictly advocated before any attempt is made to consider the question of knowledge borrowing or transmission. A minor quibble with the overall formulation of perspectives for comparison, especially from the Egyptian side, is that the passages concerning *smn.w* and *ʿḫ.w* as they appear in documents beyond pLeiden I 343 +345 is not much considered in a broader context. Arguably, further insight could be gained by exploring the conceptual links between these and other classifications, such as *nsy.t* and *tmy.t*, the former and *ʿḫ.w* being especially apparent in pLondon 10059 (L. 60).[145] Of course, doing so would likely be beyond the scope of the already extensive study. Less comprehensive is Beck's analyses of *materia medica* used to treat the clearly diverse sickness experiences caused by *samānu*, which appears to lack a coherent framework for analysis and instead relies on previous identifications for plant names, leading to misinterpretations of Egyptian uses of drugs. Nevertheless, Beck's study was the first to truly demonstrate the transmission of knowledge in the realm of medicine and therapeutic texts from Mesopotamia to Egypt, further highlighting the potential fertility of this area of research in future studies.

The final study discussed here is the recent article of Juliane Unger; this is far smaller, at just under 20 pages.[146] The larger portion of this paper is occupied by a discussion of what is termed Egyptian 'renal and rectal diseases', though given the text samples used, the choice of terminology here is somewhat unclear. Three examples from pChester Beatty VI are cited, which are arguably consistent with the modern terminology, though only one of the three passages, Bt. 13, appears to have anything to do with the urinary tract, and even then it is the bladder which is noted as being swollen. Several assumptions are also made, especially the classes of health complaints used by the Egyptians – this is most obvious in the assumption that '*wḫd.w*-pain matters and *st.t*-mucosities were pathogenic substances that were thought to be caused by disturbances of normal digestion'.[147] In the subsequent analysis of 'renal and rectal disease texts in Mesopotamia', she states the following:

> 'The most striking difference between Egyptian and Mesopotamian medicine seems to be the fact that we cannot find anything in Babylonian and Assyrian texts that could be compared with the Egyptian theory concerning the pathogenic substances *wḫd.w* and *st.t* and their impact on the human body. We can only speculate about the reason for this striking disparity – be it chance

[145] The conjurations against these two entities also forms a major category of incantations in this papyrus (L. 5-10; cf. Leitz, who groups these together with *šf.wt* as denoting 'skin complaints', *Magical and Medical Papyri*, 51.
[146] Unger, in Steinert (ed.), *Systems of Classification*, 122-139.
[147] *Ibid.*, 127.

> or a remarkable divergence between Mesopotamian and Egyptian disease concepts and aetiological models'.[148]

Three texts are then cited: BAM 95, lines 19-20; 27-28, and AMT 45.5 (K5416a), 'to illustrate the differences to the Egyptian texts discussed earlier', but cautiously noting later that 'the evidence is by far too scarce to propose any kind of connection…', understood to mean the *chosen* evidence, rather than available evidence. The larger issue of this paper is the sense that one should be able to observe similarities in complex knowledge texts such as these, without going into detail on a) the lexicographic details of terms used in each language, and b) considering the broader contexts exhibited by the texts themselves. As will be demonstrated in the present dissertation, a holistic study of both traditions reveals that many sickness experiences were understood and at times categorised using highly comparable classificatory paradigms.[149]

To summarise, attempts at historically contextualising Egyptian medicine are flawed in their respective approaches. Firstly, with the exception of Beck, most studies have been too selective in the source material studied, leading to subjective interpretations that have imposed biased lenses upon the Egyptian sources. Secondly, and consistently with more general literature on Egyptian medicine, the treatment strategies themselves have not been sufficiently considered, resulting in enormous lacunae in understanding. Thirdly, pervading assumptions of Egyptian sickness categorisation, such as those that are rendered in compound forms (e.g., '*wḫd.w*-pain substance' and '*st.t*-mucosities') obstructs systematic cross-cultural analyses of ideas concerning sickness experience. Such Western approximations, even in their compound form, are hardly representative of the deeper concepts they represent, hindering true objective comparison with similar concepts as they might be found in other cultures.

[148] *Ibid.*, 131.
[149] Cf. section 6.2. of the present dissertation.