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

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2. Theory and methods

> ‘Medicine is … the endeavour to understand the normal and abnormal states of the body and of X in their origins and development, to attain the knowledge that is required to promote the normal or healthy states, to prevent the abnormal or sick states, and if a sick state has arisen, to alleviate its effects or even to reverse them completely… so that a person feels well and can accomplish his daily tasks to the fullest possible extent.
>
> To attain this knowledge, medicine uses the scientific study of nature… based on the assumption of laws of nature that are valid independently of time, space, and person. As such, medicine is merely a part of healing. Healing is the overarching concept. Healing includes all efforts to heal the body and X or to preserve health. These might be prayers to a god or gods, exorcism of demons, massage, or administration of substances known to influence certain functions of the body. Healing of this kind is not medicine. Healing becomes medicine only when its practitioners … use only these laws of nature to investigate possible explanations of the body’s functions.
>
> Healing is, generally speaking, the endeavour to prevent abnormal states of the body and to treat them if they occur. Healing can consist merely in performing a healing activity, such as cooling a hot place on the body. No theory is needed for this. It is pure empiricism. However, healing can also have a theoretical, interpretive aspect. If a certain type of healing is to be considered medicine, then the interpretive part of this healing relies solely on the laws of nature for its interpretations…
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> Medicine is a relatively young cultural construct. Healing has existed since the prehistoric era; its beginnings are lost in the darkness of a time from when no documents remain. In ancient Egypt, healing existed, but not medicine… Medicine in Europe began to emerge around the fifth or fourth century BC … [and] in China, two or three centuries later out of the older healing…
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> - P. U. Unschuld, *What is Medicine: Western and Eastern Approaches to Healing* (Berkeley, 2009[2003]), 6-7.

The distinction between ‘medicine’ and ‘healing’ elaborated by Paul Unschuld—a distinguished scholar in the field of medical history, and in particular the history of Chinese medicine—is one reflected in Egyptology, most notably in German scholarship which refers to ‘the medical’ as ‘*Heilkunde*’. Essentially, this follows Unschuld’s distinction that medicine instead refers to all healing devoid of demons, magic, and religion, and which relies solely on observations of nature. An exemplary manifestation of this in Egyptology can be seen in the

2005 article by Christian Leitz, which introduces the discussion of the role of nature and religion using a quote from Eb. 3:[150]

> 'Strong is the magic because of the recipe, and vice versa'.

In his opening paragraphs, Leitz remarks on the meaning of this passage: that the two complimentary tools for healing were incantations and therapeutic recipes.[151] He then produces instances where observations from the natural world play a role in the selection of *materia medica* in treatment strategies, e.g., black hairs from animals to fight greying hair, or hairless animals in hair removal concoctions, such as bats or slugs.[152] However, Leitz divides all ancient recipes as being either 'exogenous' or 'endogenous'. The former of these refers to external injuries whose cause was obvious; of the latter it is stated:

> 'Bei nicht wenigen der sogenannten endogenen Krankheiten stellte man sich dagegen vor, daß sie durch Dämonen verursacht wurden, zum Beispiel nicht zur Ruhe gekommene Tote; eine ganze Reihe von Termini ägyptischer Krankheiten bezeichnen entweder diese Krankheiten selbst oder die sie verursachenden Dämonen. Diese Wesen konnten durch die verschiedenen Öffnungen in den Körper eindringen und Schaden anrichten… [Essentially defined as] Krankheiten, deren Ursache entweder nicht bekannt war oder zumindest nicht mitgeteilt wurde oder gar auf den Einfluß von Dämonen zurückgeführt wurde'.[153]

Leitz suggests that Egyptian medical ideas fit into one of two categories: 1) injuries whose cause was obvious; 2) afflictions whose cause was entirely unknown or of demonic origin. Though this division reflects internal and external conditions, it remains a superficial and potentially problematic distinction which is not dissimilar in essence to the categories forwarded by Unschuld – i.e., that practices (in this case, cross-culturally) can be divided into two categories: 1) those where causation is understood through observation of the natural order; and 2) those where causation is understood via belief in the demonic. Quite how clear-cut such

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[150] Cf. the slightly different translation, though with the same effect: C. Leitz, 'Die Rolle von Religion und Naturbeobachtung bei der Auswahl der Drogen im Papyrus Ebers', in H.-W. Fischer-Elfert (ed.), *Papyrus Ebers und die antike Heilkunde* (Wiesbaden, 2006), 1; for the transliteration, see Eb. 3 in Appendix 1 of the present dissertation.

[151] *Ibid.*, 41-3; this interpretation might be further extended to fit Ritner's definition of Egyptian magic as being 'tripartite' – that is, the speech (the incantation), property (or object to be possessed with power, such as a therapeutic), and the ritual (or healing gestures, examinations, and so forth) (*The Mechanics of Ancient Egyptian Magical Practice* (SAOC 54; Chicago, 1993), 35 ff.

[152] *Ibid.*, *passim*.

[153] *Ibid.*, 43-4.

assessments are, however, is questioned here. It must be remembered that these distinctions are modern. While the Egyptians certainly distinguished HkA and pXr.t in terms of practice as observed in the quote selected by Leitz, the question remains as to what extent they themselves categorized ideas concerning sickness experience.

The discussion of the theories and methods adopted in this dissertation is disseminated under three major subheadings. The first explores more general considerations from the fields of medical anthropology and history; through this, it will offer a more precise definition of what is meant by 'perspectives', 'sickness', and 'therapeutics'. In addition, this section outlines concepts central to the discussion, such as 'sickness experience', 'balances', and the versatility of 'sickness entities'. The second explores revolutionary approaches to the study of ancient Egyptian medicine more recently forwarded by Egyptologists Tanja Pommerening and Rune Nyord. It also explores the increased movement in ancient studies towards understanding the significance of 'universality' in concepts for the assessment of claims for knowledge transmissions across cultures. As their methodological frameworks greatly influenced the research presented here, these overviews are separated from the above Egyptological literature review. The third major subheading outlines practices adopted from the field of ethnomedicine, a subfield of medical anthropology which—it is argued in this dissertation—contribute invaluable insights to the analysis of ancient Egyptian written documentation and offer methodologies for a less-biased approach to comparative research. These insights are especially useful in the attempt to re-access the relationships between cultural domains of sicknesses and their respective treatments, as well as in the attempt to integrate consideration of cultural salience in discussion of paradigms of thought. Together, these insights are viewed here as imperative for conducting comparative analyses. The final subheading of this chapter will offer a clearly formulated synthesis outlining this dissertation's *modus operandi* through a set of clearly formulated research questions and an articulation of methods.

2.1. Medical anthropology and history

Medical anthropologists and historians, by definition, operate in distinctly different ways. The historian attempts to analyse facets of historical cultures using extant source material, which is ideally as diverse as possible. The historian is primarily at the mercy of surviving written documentation, through which ideas concerning the body, sickness, and treatment practices are reconstructed. Conversely, the medical anthropologist studies human behaviour relative to healing practices through consultation with informants from the respective culture. They work in the field, alongside modern (biomedical) physicians and healthcare experts, as well as with

members of culturally diverse societies,[154] at times with the aim of ascertaining attitudes towards, patterns in behaviour regarding, or classification paradigms for sicknesses and treatments of that community in as neutral terms as methods of communication permit.[155] Limiting the influence of what has so far here been termed a 'Western' or 'biomedical' lens has remained a long-standing issue and a source of debate among anthropologists, especially in terms of how to approach analyses, in part stemming from a drive to integrate the discipline with that of biomedicine.[156] Such subjective research agendas, in their extreme form, have manifested in studies conducted with the primary objective of judging the efficacy of treatment strategies in terms of biomedicine.[157] These are considered ethnocentric, in that they place biomedicine in a 'superior position' over the world's plethora of practices, through which they are then viewed and assessed.[158]

Though distinctly different disciplines, many of the problematic approaches highlighted by medical anthropologists and historians pertain to the study of Egyptian medicine. The aforementioned predilection for Egyptologically trained (past) medical practitioners to study the ancient manuscripts, coupled with their apparent drive to structure and analyse medical papyri in a way which subscribes to Western sensibilities is an example of the current problems in approach. Another is the assessment of ancient pharmacology according to biomedical principles, especially as a research objective rather than as a too.[159]

Outside of Egyptology, both medical anthropologists and historians have developed epistemological frameworks through which emic perspectives from their target cultures can be better acquired. This first sub-chapter offers a summary of these. Some approaches discussed have been touched upon in the introductory chapter of the edited volume *Systems of Classification* as potential directives for the study of ancient medicine.[160] Those central to the present discussion are recapitulated and expanded upon here to better synthesise their implications with the issues raised in the Egyptological literature review, as well as the insights

[154] E.g., B. J. Good et al. (eds), *A Reader in Medical Anthropology: Theoretical Trajectories, Emergent Realities* (Chichester, 2010), 1-2.
[155] E.g., J. P. Olivier de Sardan, *Epistemology, Fieldwork, and Anthropology* (New York: 2015).
[156] Singer and Baer, *Medical Anthropology*, 4.
[157] E.g., R. Anderson, 'The Efficacy of Ethnomedicine: Research Methods in Trouble', *Medical Anthropology* 13 (1-2) (1991), 1-18.
[158] D. Levinson, 'Ethnocentrism', in D. Levinson and M. Ember (eds.), *Encyclopedia of Cultural Anthropology* (New York, 1996), 404-5; S. van der Geest, 'Ethnocentrism and Medical Anthropology', in S. van der Geest and R. Reis (eds.), *Ethnocentrism: Reflections on Medical Anthropology* (Amsterdam: 2005), 7-8;
[159] See section 2.3. of the present dissertation.
[160] U. Steinert with E. Hsu, 'Introduction: Sickness, cultural classifications and local epistemologies', in Steinert (ed.), *Systems of Classification*, especially pp. 1-17.

offered by ethnomedical studies discussed further on. The second sub-chapter introduces further cultural perspectives for consideration, using highly limited examples from the so-called 'big three' ancient written medical traditions, i.e., Graeco-Roman, Chinese, and Ayūrvedic medicine, which all share perspectives of sickness that incorporate a concept of 'balance'.[161] The variation in these perspectives presents new insights for consideration in the present analysis of Egyptian ideas represented in the medical papyri.

2.1.1. Considerations from medical anthropology

The dissection of the world's medical traditions (or aspects thereof) into dual categories, similar to that seen in the examples of Unschuld and Leitz cited above, has a long history in the field of medical anthropology. Before delving into these, however, it is useful to offer a short summary of the discipline and core discussions relevant to the present dissertation. This will also provide a useful timeline of theory adoption, discussion, and adaptation in anthropology which can be correlated with concomitant developments in Egyptology, as represented in the above literature review.

Though non-Western medical cultures had been the focus of study for a number of preceding decades,[162] it was not until the end of the 1960s that medical anthropology emerged as a distinct field of study,[163] gaining traction significantly through the 1970s with a shift towards the study of symbols and ideas in ritual and healing.[164] It is from this period that one begins to observe significant divergences between inquiries characteristic of Egyptological and anthropological academic discourse. Medical anthropology's shift towards the study of 'semiotics', or 'symbols' in sickness nosology called for increased attention on 'semantic

[161] E.g., p. Erickson, *Ethnomedicine* (Long Grove, 2008), 40-48; P. Horden, 'Introduction', in P. Horden and E. Hsu (eds.), *The Body in Balance: Humoral Medicines in Practice* (EH 13, New York, 2013), 1-21.
[162] W. H. R. Rivers has been noted by some to be the founder of medical anthropological inquiry through his study of models in the paper 'Massage in Melanesia', reprinted in B. Good et al. (eds.), *A Reader in Medical Anthropology: Theoretical Trajectories, Emergent Realities* (Chichester, 2010[1926]); cf. remarks in Good et al., (eds.), *A Reader in Medical Anthropology*, 9-10; also Erickson, *Ethnomedicine*, 2. For characterisations of the problematic and Western-centric nature of many early studies, see G. Lewis, 'Before and after fieldwork: ingredients for an ethnography of illness', in E. Hsu and C. Potter (eds.), *Medical Anthropology in Europe: Shaping the Field* (New York, 2015), 32-3.
[163] Though scholastic endeavours to explore health, sickness, and healing in local contexts long predate the inception of the field, 'contemporary medical anthropology can be traced to a lunch meeting at the Washington Hilton on December 2, 1967', Singer and Baer, *Critical Medical Anthropology*, 3;
[164] This initially challenged the professionalisation of medical practice through which physicians received a level of 'status of respect and authority that they no longer have in the twenty-first century'; Hsu, in Hsu and Potter (eds.), *Medical Anthropology in Europe*, 55-6; see also Lewis, in *ibid.*, 33; E. J. Sobo 'Medical Anthropology in Disciplinary Context: Definitional Struggles and Key Debates (or Answering the Cri du Coer)', in M. Singer and P. I. Erickson (eds.), *A Companion to Medical Anthropology* (Chichester, 2015), 9-28.

networks' – this began with the publication of a short article by Arthur Kleinman in 1973,[165] who stressed the dual nature of medicine as straddling both 'biophysical and human [or cultural] realities':

> 'Medical classificatory schemes are most often *not* objective descriptions of empirical reality. Rather they reflect healing concerns and the theoretical biases of given cultural and medical ideologies. Classification of disease is, in fact, the first therapeutic act. Classificatory schemes are intended to domesticate and make known a "wild" and unknown phenomenon, which threatens the very idea of social order and personal stability, and transform it into something known, named, and thus manageable'.

The paper pressed the need for greater emphasis on what Kleinman then called the 'symbolic realities' of medicine, encouraging research instead to explore the 'meaning of symptoms', the 'semantics of medical discourse', and associated 'semantic networks' in the terms of the target culture.[166] An influential study that picked up this thread in terms of semantic networks was Good's 1977 study of a community in the town of Maragheh in East Azerbaijan, Iran, members of which 'run together' both symbols and experiences into a 'culture-bound syndrome',[167] here using the example of a condition known colloquially as *narahatiye qalb*, literally translating to 'heart distress'.[168] Through a series of interviews conducted with members of his target community, Good sought to extrapolate the psychosocial and cultural factors which affected 'the incidence, course, experience, and outcome of disease', successfully demonstrating that the condition classified by this community cannot be mapped onto any defined using biomedical terms. Two accounts from interviews illustrate the significance of the semantic networks in understanding experiences of sickness, in this case intense stress and pressure suffered by the informants both with very different educational and socio-economic backgrounds:[169]

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[165] A. Kleinman, 'Medicine's Symbolic Reality: On a Central Problem in the Philosophy of Medicine', in B. J. Good et al. (eds.), *A Reader in Medical Anthropology: Theoretical Trajectories, Emergent Realities* (Chichester, 2010[1973]), 85-90, here 87.

[166] Good et al., *Medical Anthropology*, 79.

[167] A culture-bound syndrome (or CBSs) are 'are mental or behavioral disorders that only occur, or occur in a unique form, within a single culture or constellation of cultures… [they] are a traditional topic of ethnopsychiatry… An example from the English-speaking world is our folk diagnosis of the "crazy cat lady";' see M. Quinlan, 'Ethnomedicine', in M. Singer and I. Erickson (eds.), *A Companion to Medical Anthropology* (Chichester, 2015), 388-9, with a table (Table 19.1) with examples from selected cultures on p. 389.

[168] B. Good, 'The Heart of What's the Matter: The Semantics of Illness in Iran', *Culture, Medicine, and Psychiatry* 1 (1977), 25-58; Good's ' "syndrome" of symbols and experiences which typically "run together" for members of society' (*ibid.*, 25) is also noted briefly as an 'aspect of medical anthropological research that is of interest to historians working on ancient medical literature' in Steinert and Hsu, in Steinert (ed.), *Systems of Classification*, 6.

[169] Good, in *Culture, Medicine, and Psychiatry* 1, 34; 35.

> Case I: 'From the time we knew her, Mrs. Z. complained about heart distress… her weak condition, her lack of strength and lack of blood, and the lack of meat on her bones. She complained of her heart pounding, her nerves being upset, and the sensation of her heart being squeezed (*darux*) and depressed. This continued for the 18 months that we knew her, without any significant change in her symptoms… In an attempt to limit her family size, Mrs. Z. took birth control pills for a brief period (less than one month) at the urging of her more educated neighbours. But when she took the pill, she said, she had heart palpitations, shaking hands, and upset nerves, all symptoms that she had experienced before but that she believed were exacerbated by the pill… Mrs. Z. had once taken a whole month's supply in an effort to abort her last child (she thus associated the pill with abortion and with prevention of pregnancy). [She] used herbal medicines for both her weakness and her heart distress. She also visited the doctor several times to complain of her weakness and heart problems and was given a Vitamin B tonic. She never received any lasting relief.'
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> Case II: 'When we first met her, Mrs. B. complained occasionally of heart distress and upset nerves. She treated herself primarily with teas brewed with herbs bought from the bazaar… she began to complain of depression (*darixma*), of the sensation of her heart being squeezed, of weak nerves, and of colitis pains. She went to local doctors to treat her abdominal pains, and continued to treat her heart problems and depression with herbal teas (which are mild sedatives). She became more morose through the spring and began to avoid people...'

In both cases, the 'condition' of which both individuals complain is named 'heart distress' (*narahatiye qalb*), wherein the physical abnormal experience of the heart's condition is the defining aspect of the condition, and not, for example, depression, anxiety, or otherwise. Thus, 'heart distress' is a sickness classification that, if translated literally without due consideration of the semantic networks of the target culture, could entirely misrepresent its actual meaning. Good writes:[170]

> 'In these and other cases of heart distress, the illness is perceived as a complex which includes and links together both physical sensations of abnormality in the heart beat and feelings of anxiety, sadness, or anger. Why is the heart the focus of concern in these cases? Why are certain feelings of anxiety experienced and expressed as abnormalities of the heart?'

The answer to these questions is found in the 'explanatory models for the functioning and malfunctioning of the heart'. They are 'drawn primarily from the Galenic paradigm' of the heart as 'a central physiological organ (related to innate heat, nutrition, and distribution of the

[170] *Ibid.,* 36.

blood) and an organ of emotional functioning (or seat of the vital soul)'; 'it provides the "innate heat" and "vital breath" to the body and is the seat of emotions, particularly feat and anger'. These models, which were transmitted into later Islamic traditions (notably in the writings of Ibn Sina around the turn of the 11th century CE),[171] remained dominant in the target culture studied by Good:[172]

> 'The functioning of the heart and its physical activity is believed to be directly and adversely affected by stress and dysphoric affect – sadness, fear, anger, and general anxiety. These lead to irregularities in the beat of the body's "clock", threatening ultimately a temporary halt or sudden attack and death… [it] provides the explanatory model that links physical sensations of heart abnormality to affective states and the experience of social stress. It provides the theoretical framework for the expression of stresses peculiar to Iranian society and to Maragheh in the idiom of the heart. But why are certain peculiar stresses most commonly believed to cause heart distress?... Why, for example, is the contraceptive pill so generally believed to cause heart distress? … Illness categories can be understood as images which condense fields of experience, particularly stressful experience. And they can be understood as the core symbols in a semantic network, a network of words, situations, symptoms and feelings which are associated with an illness and give it meaning for the sufferer. The meaning of an illness term is generated socially as it is used by individuals to articulate their experiences of conflict and stress, thus becoming linked to typical syndromes of stresses in the society'.

The examples and explanations offered by Good stressed the interplay between what Kleinman called the biophysical and cultural realities which ultimate in a specific nosology with an—at times fluid—semantic network – a network of meaning which is closely bound to that culture, generating culturally unique experiences of sickness, known as 'local biologies'.[173] Of course, this presents a significant challenge to the medical historian, who is not always confronted with an explicated set of symptoms in descriptions of sickness classifications. Nonetheless, it expresses caution in focusing on the biomedical signification of sicknesses experiences when interpreting ancient categories, as has often been the case in Egyptological analyses. As Steinert notes, Good 'provides an appealing model for approaching similar terms found in ancient texts, such as the malady 'heartbreak' (*ḫīp libbi*) in Mesopotamia'.[174] Expanding upon this, it can be

[171] *Ibid.*, 36-7.
[172] *Ibid.*, 37-8.
[173] Cf. for example the difference in symptoms associated with menopause between Japan and North America as defined by Western biomedicine; Steinert and Hsu, in Steinert (ed.), *Systems of Classification*, 7; citing M. M. Lock, *Encounters with Aging: Mythologies of Menopause in Japan and North America* (Berkeley, 1993); see also 'The Tempering of Medical Anthropology: Troubling Natural Categories, *Medical Anthropology Quarterly* 15(4) (2001), especially pp. 483-7.
[174] Steinert with Hsu, in Steinert (ed.), *Systems of Classification*, 6.

noted that the literal translation alone cannot account for the divergent semantic network of symptoms that constitute a classification or syndrome, potentially leading an otherwise uninformed Western audience to understand the modern notion of 'heartbreak' to be encapsulated by this ancient nosology.[175] Furthermore, as will be seen, many of the classifications that indicate recipe uses—especially in the recipe lists that form the bulk of surviving documentation—do not elaborate on the network of symptoms that distinguished their categorical groupings.

Two studies were also released during the 1970s that—in similar fashion to the paradigms of Unschuld and Leitz cited at the start of this chapter—attempted to divide medical traditions according to distinctly opposing criteria. In 1976, Allan Young suggested that all medical traditions could be categorised as either being 'internalizing' or 'externalizing' belief systems.[176] He aimed to 'form an instrumental point of view' from which 'medical beliefs' could be studied cross-culturally.[177] In 'externalizing' traditions, Young understood 'etiological explanations' of sickness to dominate – these are sickness-causing events which take place outside the person's body, and often involve a pathogenic agency, which is often human or anthropomorphized.[178] In 'internalizing' traditions, 'physiological explanations' of sickness dominate – these focus on the state of the inner body as consequential to health, and incorporate 'markers which separate life from death (e.g. heat, pulsing, breathing) and imperative behaviour which is somehow mediated internally (e.g. hunger-thirst and evacuation)'.[179] He identified the expression of sickness as 'the consequence of a disturbed natural equilibrium which curers try to restore' as characteristic of internalizing systems, where 'diagnosis ultimately relies on the healer's ability to interpret symptoms' in this capacity.[180] While an interesting notion, and perhaps useful in terms of establishing terminology for comparative discussion of ancient concepts, this paper is an example of an analysis that placed Western medicine in an ethnocentric and 'superior position' in terms of perspectives. The most obvious indication of this is Young's reference to externalizing beliefs as characterising the systems of 'structurally simple, tribal societies' endemic to '"folk-traditions" of the villages and common people', and internalizing beliefs as a feature of 'complex literate societies',

[175] See examples discussed in section 3.2.
[176] A. Young, 'Internalizing and Externalizing Medical Belief Systems: An Ethiopian Example', *Social Science & Medicine* 10(3-4) (1976), 147-156.
[177] Young, *Social Science & Medicine* 10(3-4), 156
[178] *Ibid.*, 147-8.
[179] *Ibid.*, 147.
[180] *Ibid.*, 148.

‘characteristic of the professional medical culture and sometimes shared with the elevated strata of society’.[181] When viewed in terms of complex ancient Bronze Age societies, however, such a view becomes difficult to substantiate.

The concomitant and somewhat similar study of George Foster advocated for a separation of what he called ‘naturalising’ systems of medicine from ‘personalistic’ ones with the same goal of providing comparative frameworks.[182] His chosen terminology was ‘naturalistic’ and ‘personalistic’; it was stated as being a response to the even more-so problematic previous labels ascribed to traditions by ethnologists, which focused instead on ‘societal types’, such as ‘“primitive”, “peasant”, or “folk”.[183] To Foster, a personalistic system was one ‘in which disease is explained as due to the *active, purposeful intervention* of an *agent*, who may be human (a witch or sorcerer), nonhuman (a ghost, an ancestor, an evil spirit), or supernatural (a deity or other very powerful being)’, where the sick person is the victim. Naturalistic systems ‘explain illness in impersonal, systemic terms. Disease is thought to stem… from such *natural forces or conditions* as cold, heat, winds, dampness, and, above all, by an upset in the balance of the basic body elements’.[184] This incorporates sicknesses that result ‘from naturally occurring risks in one’s environment, [such as] ‘germ theory, or a similar contagious notion of “bad air”.’[185] This model of classification diverges from that of Allan, in the sense that the latter example can be considered externalising, though its defining characteristics are internalizing, demonstrating the blurred boundaries and thus problematic nature of both models. Shortly after the publication of Foster’s paper, anthropologists—including Kleinman—criticised the ‘sweeping comparative generalizations… based upon strikingly simple ideal-type categorization[s]’[186] of Foster, a generalisation which equally applies to Young’s categorical model. These are ‘reductions’ of overly complex cultural organisations of sicknesses which:[187]

> ‘draws a superficial picture of medical systems in non-Western cultures that medical anthropologists will find outmoded and unhelpful… its descriptive statements are too abstract… generates few important hypotheses… he seems to take for granted biomedical

[181] *Ibid.*
[182] G. M. Foster, ‘Disease Etiologies in Non-Western Medical Systems’, *American Anthropologist* 78(4) (1976), 773-782.
[183] Endemic in E. H. Ackernecht, *Medicine and Ethnology: Selected Essays* (Baltimore, 1971); Foster, *American Anthropologist* 78(4), 774.
[184] *Ibid.*, 775.
[185] Quinlan, in Singer and Erickson (eds.), *Medical Anthropology*, 386.
[186] A. Kleinman, ‘What Kind of Model for the Anthropology of Medical Systems?’, *American Anthropologist* 80(3) (1978), 663.
[187] *Ibid.*, 661-3.

> categories (e.g. "disease", "diagnosis", "preventative measures", "medical system"), as if these were universal, culture-free, and therefore unproblematic… Foster's dichotomy would seem to be disconfirmed by the ethnographic evidence from Taiwan (Kleinman 1975; in press) and from other Asian and Middle Eastern societies (cf. Good 1977, Obeysekere 1976), which demonstrates that patients routinely integrate naturalistic and personalistic explanations of etiology into pragmatic strategies for managing specific cases of sickness'.

As noted by Peregrine Horden, Foster's 'distinction at once collapses when a divine being is seen as the ultimate cause of "natural" diseases and when the activity of demons or witches is thought to wreak havoc with the body's internal makeup'.[188] Nevertheless, these attempts to categorise medical thought at least provide a useful vocabulary for analytical discussion, though little more.[189] Of course, the hypothetical divisions posited by these anthropologists roughly follow the same attempted by Unschuld or exhibited in the Egyptologist's current preference for 'healing' over 'medicine'.

Such distinctions were later seen as being heavily based on superficial and Western-centric attitudes. As Nancy Scheper-Hughes and Margaret Lock wrote in their highly influential article from 1987, 'a singular premise guiding Western science and clinical medicine… is its commitment to a fundamental opposition between spirit and matter, mind and body, and (underlying this) real and unreal'.[190] This, they identified, stems largely from the Western predilection for a separation of being famously formulated by René Descartes (1596-1650) (the 'Cartesian dualism'):[191]

> 'Insofar as medical anthropology has failed to problematize the body, it is destined to fall prey to the biological fallacy and related assumptions that are paradigmatic to biomedicine. Foremost among these assumptions is the much-noted Cartesian dualism that separates mind from body, spirit from matter, and real (i.e., visible, palpable) from unreal. Since this epistemological tradition is a cultural and historical construction and not one that is universally shared, it is essential that we begin our project in medical anthropology with a suspension of our usual belief and cultural commitment to the mind/body, seen/unseen, natural/supernatural, magical/rational, rational/irrational, and real/unreal oppositions and assumptions that have characterized much of ethnomedical anthropology to date'.

[188] P. Horden, 'Introduction', in P. Horden and E. Hsu (eds.), *The Body in Balance: Humoral Medicines in Practice* (EH 13, New York, 2013), 6.
[189] Also Steinert with Hsu, in Steinert (ed.), *Systems of Classification*, 6.
[190] N. Scheper-Hughes and M. M. Lock, 'The Mindful Body: A Prolegomenon to Future Work in Medical Anthropology', *Medical Anthropology Quarterly* 1(1; New Series) (1987), 8-9.
[191] *Ibid.*, 6-7.

They also point out that the history of distinguishing health concepts according to the tangible and intangible in the Western mind stretches as far back as the Hippocratic writings of *c.* 5th century BCE. This is seen most clearly in *On the Sacred Disease*, which admonishes magico-religious thinking and instead appears to advocate 'a rational basis for clinical practice':[192]

> "I do not believe that the so-called Sacred Disease is any more divine or sacred than any other disease, but that on the contrary, just as other diseases have a nature and a definite cause, so does this one, too, have a nature and a cause… It is my opinion that those who first called this disease sacred were the sort of people that we now call 'magi'. These magicians are vagabonds and charlatans, pretending to be holy and wise, and pretending to more knowledge than they have".'

In the field of philosophy, academic discourse had already begun its attempt to 'collapse the Cartesian dualism' that permeates Western thought using the concept of 'embodiment' – in essence, a study of the body and its interactions with being-in-the-world as a subject, rather than an as object. Already in the 1940s, philosopher Maurice Merleau-Ponty had explored this as a means to overcome the dualism through the problematic of embodied perception.[193] By the end of the 1970s, however, philosopher Pierre Bourdieu had shifted the 'earlier focus on the body as the source of symbolism or means of expression', notable in the works of Kleinman and Good, 'to an awareness of the body as the locus of social practice'.[194] While these two philosophical perspectives on the phenomenology of the body were not to be reconciled until Thomas Csordas's seminal studies of embodiment,[195] Scheper-Hughes and Lock provided a general synthesis of the phenomenological and structuralist approaches to the body, the latter being posited by social anthropologist Mary Douglas in 1970, who observed two bodies: the

[192] Quotation of this passage from Scheper-Hughes and Lock, *Medical Anthropology Quarterly* 1(1; New Series), 9; it is of note that the 'Hippocratic' work *On the Sacred Disease* 'is perhaps the most frequently paraphrased and selectively cited' of the entire corpus, being 'celebrated for the supposedly rational stance evinced in the author's denial that 'the sacred disease' has a peculiarly sacred character'; see Craik, *The Hippocratic Corpus*, 192-3.
[193] M. Merleau-Ponty, *The Phenomenology of Perception* (London, 1962[1945]). As Sjaak van der Geest points out, the attempt to overcome the body/mind dichotomy, using the work of Merleau-Ponty, had previously been posited in the medical anthropological context by F. J. J. Buytendijk 30 years prior to Scheper-Hughes and Lock's paper, though this is seemingly not well understood, nor was it accepted by the 'hard scientists' of the time at whom his work was targeted; S. van der Geest, 'Alien origins: xenophilia and the rise of medical anthropology in the Netherlands', in E. Hsu and C. Potter (eds.), *Medical Anthropology in Europe: Shaping the Field* (New York, 2015), 14.
[194] T. J. Csordas, 'Somatic Modes of Attention', *Cultural Anthropology* 8(2) (1993), 135.
[195] T. J. Csordas, 'Embodiment as a Paradigm for Anthropology', *Ethos* 18(1) (1990), 5-47. Within Egyptology, the relationship between the phenomenology of the body and embodiment has already been introduced by Nyord, *Breathing Flesh*, who offers a detailed overview on pages 35-44 (for a discussion of Nyord, see section 2.2.2., below); given the present dissertation's limitations, a deeper analysis of this is dispensed with here – these overly abbreviated remarks are thus used only to frame the contribution of Scheper-Hughes and Lock.

'social' and 'physical body'.[196] Reworking this, Scheper-Hughes and Lock problematize current practice in a medical anthropological context, expanding to advocate that sickness and the body should be explored and compared not through dualisms, as is so often the temptation in Western philosophy, but rather through a complementary, not opposing, tripartite ground-up framework for analysis.[197] This was framed as 'the individual body', 'the social body', and 'the body politic'. As these notions are deeply complex, with detailed explanation of all three and their interrelatedness spanning over twenty pages, only a very concise summary of these and their concerns, with a focus on aspects more relevant to the present dissertation, can be offered here.[198]

The theoretical approach to the *individual body* is grounded in phenomenology and explores the 'sense of the lived experience of the body-self' – the individual's 'being-in-the-world'[199] is the subject of analysis. Following Clifford Geertz,[200] the opposition between individual and society so fundamental in Western epistemology of the person as 'bounded' and 'unique… is a rather peculiar idea within the context of the world's cultures'.[201] As the Scheper-Hughes and Lock formulated, this is relevant in the capacity of sickness concepts, as:[202]

> 'In cultures and societies lacking a highly individualized or articulated conception of the body-self it should not be surprising that sickness is often explained or attributed to malevolent social relations (i.e. sorcery), or to the breaking of social and moral codes, or to disharmony within the family or the village community. In such societies therapy, too, tends to be collectivized… [Conversely] Closely related to conceptions of self (perhaps central to them) is… "body image". Body image refers to the collective and idiosyncratic representations an individual entertains about the body in its relationship to the environment, including internal and external perceptions, memories, affects, cognitions, and actions. Many disorders that play havoc on body

[196] Within the structuralist discussion of group-grid theory, Douglas discusses 'the two bodies': the 'social body', and the 'physical body', the former viewed as constraining perception of the latter; M. Douglas, *Natural Symbols: Explorations in Cosmology* (New York, 2003[1970]), particularly 72-91.
[197] *Ibid*; Scheper-Hughes and Lock, *Medical Anthropology Quarterly* 1(1) (1987), 12; see also E. Hsu, 'The Biological in the Cultural: The Five Agents and the Body Ecologic in Chinese Medicine', in D. Parkin and S. Ulijaszek (eds.), *Holistic Anthropology: Emergence and Convergence* (Oxford, 2007), 91-2.
[198] Scheper-Hughes and Lock, *Medical Anthropology Quarterly* 1(1) (1987), 8-30.
[199] As the notion of 'lived experience' would later be expressed in the context of embodiment by Csordas: T. Csordas, 'Introduction: the body as representation and being-in-the-world', in T. Csordas (ed.), *Embodiment and experience. The existential ground of culture and self* (Cambridge Studies in Medical Anthropology 2; Cambridge, 1994), 1-24.
[200] C. Geertz, 'From the Native's Point of View: On the Nature of Anthropological Understanding', in R. Shweder and R. LaVine (eds.), *Culture Theory: Essays on Mind, Self and Emotion* (Cambridge, 1984), 126.
[201] Scheper-Hughes and Lock, *Medical Anthropology Quarterly* 1(1) (1987), 10.
[202] *Ibid.*, 15; 16.

image of patients, as well as neurotic anxieties about the body, orifices, boundaries, fluids; these are comparatively common.'

In the context of the individual body, certain features of the body take on conceptual roles. The skin is 'experienced as a protective hide and a defensive armour protecting the softer more vulnerable organs… particular organs, body fluids, and functions may also have special significance'. Scheper-Hughes and Lock cite examples such as the blame attributed to the liver for a variety of ailments among the French, Spanish, Portuguese, and Brazilians, comparing this with the English and Germans, who are 'far more obsessed with the condition and health of their bowels', as being grounded in a 'Germanic fixation with the bowels, cleanliness, and anality'.[203] 'In short, ethnoanatomical perceptions, including body image, offer a rich source of data both on the social and cultural meanings of being human and on the various threats of health, well-being, and social integration that humans are believed to experience'.[204] Study of the individual body is highly relevant to the study of Egyptian medical papyri as perceptions of sickness experience can be related to functions of the body and its constituent parts; however, its variation is observable through the primacy of more general anatomical terms such as *ḫ.t* 'belly', *jb* 'centre', and *mt.w* 'conduits', rather than organs, as will be seen.[205]

The *social body* encapsulates the body and the level of its interrelatedness with the broader world. Scheper-Hughes and Lock begin their discourse on this by outlining the extent to which 'humans find the body "good to think with", where bodily fluids are used metaphorically to represent 'natural, supernatural, social, and even spatial relations'. This can manifest in frequent associations between left- or right-handedness and concepts such as 'between left and that which is inferior, dark, dirty, and female', and 'between the right and that which is superior, holy, light, dominant, and male'. 'Insofar as the body is both [a] physical and cultural artifact, it is not always possible to see where nature ends and culture begins in symbolic equations'.[206] These symbolic equations extend to sickness – conceptual analogies between a healthy body and a healthy society or the sick body and a malfunctioning society are found cross-culturally. Though noting that there are 'dozens of ethnographic illustrations of the symbolic uses of the human body in classifying and "humanizing" natural phenomena, the authors use the example of the Qollahuaya-Andeans who live at the foot of Mt. Kaata in Bolivia

[203] *Ibid.,* 17.
[204] *Ibid.,* 18.
[205] See especially pp. 99-105, below.
[206] *Ibid.,* 18-19.

to illustrate the point – they 'understand their bodies in terms of the mountain', whose 'whole is greater than the sum of the parts':[207]

> 'Individual sickness is understood as a disintegration of the body, likened to a mountain landslide or an earthquake. Sickness is caused by disruptions between people and the land, specifically between residents of different sections of the mountain: the head (mountain top), heart (center village), or feet (the base of the mountain). Healers cure by gathering the various residents together to feed the mountain and to restore the wholeness and wellness that was compromised'.

Contrary to modern biomedicine, which understands that the 'body and self are… distinct and separable entities' where 'illness resides in either the body or the mind. Social relations are seen as partitioned, segmented, and situational – generally as discontinuous with health or sickness', many non-Western systems do not create such distinctions. In these cases, sickness is not centred in the body alone. 'Social relations are also understood as a key contributor'; it is vulnerable to influence of others, including spirits and ghosts; it is not a 'vast and complex machine, but rather as a microcosm of the universe'.[208] Exploring perspectives of sickness present in the medical papyri in terms of the social body enables for a better synthesis with dominant Egyptian world views, such as the view of a world inhabited by influential and oftentimes maleficent entities that manifest across all periods and social strata in material culture, even at a domestic level.[209] It also enables one to explore the Egyptian constructions of ideas concerning such phenomena as physiology, which—as will be seen—demonstrates conceptualisation extending beyond phenomenological experience of the individual body and incorporates understandings bounded to social roles and environmental observations.

Finally, the *body politic* refers 'to the regulation, surveillance, and control of bodies (individual and collective) in reproduction, sexuality, in work and in leisure, in sickness and other forms of deviance and human difference', incorporating relationships between individual

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[207] *Ibid.,* 20.
[208] *Ibid.,* 21.
[209] An example of this can be seen in images of protective genies that protect against an array of hostile entities; these include the engravings of the protective knife-wielding dwarf-god Bes on otherwise seemingly mundane items dating to the New Kingdom, such as bed-footboards or headrests; see e.g., K. Szpakowska, 'Feet of Fury: Demon Warrior Dancers of the New Kingdom', in R. Landgráfová and J. Mynářová (eds.), *Rich and Great: Studies in Honour of Anthony J. Spalinger on the Occasion of his 70th Feast of Thoth* (Prague, 2016), especially pages 314-8; see also 'Demons in the Dark: Nightmares and Other Nocturnal Enemies in Ancient Egypt', in P. Kousoulis (ed.), *Ancient Egyptian Demonology: Studies on the Boundaries between the Demonic and the Divine in Egyptian Magic* (Leuven, 2011), 63-76; 'Demons in Ancient Egypt', *Religion Compass* 3 (2009), 799-805; as well as R. Lucarelli, 'Demons (Benevolent and Malevolent)', in J. Dieleman and W. Wendrich (eds.), *UCLA Encyclopedia of Egyptology* (Los Angeles, 2010), 1-10.

and social bodies. Scheper-Hughes and Lock observe that much has been written on in this concerning 'complex, industrialist societies', pointing to multiple works of Michel Foucault,[210] but not on 'the ways in which preindustrial societies control their populations… in the service of some definition or collective stability, health, and social well-being'.[211] Nevertheless, it is noted that social behaviours such as witch hunts 'become the metaphor or cultural idiom for distress' when the 'sense of social order is threatened'.[212] In other senses, the body politic includes other areas in which the body is governed at a higher social level, such as body-related gender roles and what is considered 'sexual deviance'.[213] This can also include what is defined as sickness, and what is not, as an account from an Algerian informant living during the age of bio-medicalization relates:[214]

> 'In the old days, folk didn't know what illness was. They went to bed and they died. It's only nowadays that we're learning words like liver, lung . . . intestines, stomach . . ., and I don't know what! People only used to know [pain in] the belly; that's what everyone who died died of, unless it was the fever .... Now everyone's sick, everyone's complaining of something .... Who's ill nowadays? Who's well? Everyone complains, but no one stays in bed; they all run to the doctor. Everyone knows what's wrong with him now'.

Exploring perspectives in terms of the body politic is thus a useful way of considering the social implications of the sickness categories included in Egyptian therapeutic and incantation compendia, and which do not. Nevertheless, in many cases—owing to the succinct form of recipe lists—the body politic is perhaps harder to elicit. It can arguably be seen, however, in the social stratification of medical knowledge,[215] maintained—as attested by the aforementioned recipe copies existing between temporally and geographically separated manuscripts—and administered by the governing temple facilities which disseminated and preserved such knowledge.[216]

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[210] E.g., M. Foucault, *Madness and Civilization: A History of Insanity in the Age of Reason* (New York, 1973), which explores 'the meaning of madness' in the context of laws and politics in historical Europe.
[211] Scheper-Hughes and Lock, *Medical Anthropology Quarterly* 1(1) (1987), 8; 26.
[212] *Ibid.*, 24.
[213] *Ibid.*, 27-8.
[214] *Ibid.*, 27.
[215] See especially section 2.2., below.
[216] Though it should be remembered that little remains known of teaching dynamics, nor the precise relationships between temples and the scriptoriums which existed in their vicinity; see e.g., P. Ghalioungui, *The House of Life: Magical and Medical Science in Ancient Egypt* (Amsterdam, 1973), especially 63-78; N. Lazaridis, 'Education and Apprenticeship', in E. Frood and W. Wendrich (eds.), *UCLA Encyclopedia of Egyptology* (Los Angeles, 2010), 1-14.

The approaches set forth by Scheper-Hughes and Lock enable analyses of medical ideas to better overcome the issues posed by creating Western-centric dualities inherent in characterisations of medical perspectives, producing new directions for anthropologically-guided research into the ancient Egyptian individual, society, and state. In the capacity of studying the inner body and sickness, the model permits a clearer discussion of thought patterns cross-culturally, where the focus is on experience, construction, and social/state management of these themes, and not these themes as viewed through lenses imposed by superficial classifications. The alternative is being forever 'left suspended in hyphens… [such] as the bio-social, the psycho-somatic, the somato-social', which are 'altogether feeble ways of expressing the myriad ways in which the mind speaks through the body, and the ways in which society is inscribed on the expectant canvas of human flesh'.[217] Among these is the continued use of 'magico-medical' among some Egyptologists. The epistemological framework thus facilitates a departure from anthropologically outdated distinctions such as 'medicine', 'internalising', or 'naturalistic' on the one hand, and 'healing', 'externalising', or 'personalistic' on the other – superficial obstacles hindering otherwise potentially productive comparative research between cultures that differ in their emphasis on the three fluid 'bodies' outlined.

Following Scheper-Hughes and Lock's theorem, directives in the field of medical anthropology have adapted and expanded upon the modes of investigation characterised by their three bodies. Notable for the present dissertation is anthropologist and Sinologist Elisabeth Hsu's 'body ecologic':[218]

> 'In many medicines, humans are considered co-substantial with the natural environment, and accordingly, as is argued here, many key terms, such as hot and cold or wind and fire, convey culture-specific knowledge about experiences of ecological processes. How exactly such knowledge about ecological realities is contained in contemporary medical terminology is not a straightforward matter, however. It certainly would be futile to assess it by means of ethno-scientific tables only. Nor would a cognitive scientific approach that seeks for intrinsic qualities in the superiority of, for instance, dry over wet prove fertile to explain the esteem that the quality *jangala* ('dry') enjoys over *anupa* ('wet') in Ayūrveda'.

Hsu advocates a 'genealogical approach' for the study of the body ecologic, which in part follows the approaches to cultural history and conceptual meaning of philosophers such as

[217] Scheper-Hughes and Lock, *Medical Anthropology Quarterly* 1(1) (1987), 10; 31.
[218] E. Hsu, 'The Biological in the Cultural: The Five Agents and the Body Ecologic in Chinese Medicine', in D. Parkin and S. Ulijaszek (eds.), *Holistic Anthropology: Emergence and Convergence* (Oxford, 2007), 92.

Foucault who demonstrate, among other things, that although linguistic terms continue through time, their semantics change over time.[219] Hsu examines the concept of *wuxing* 'the five agents' as a case study,[220] examining differing layers of meaning through analysis of the arrangement and structure of manuscripts from modern Traditional Chinese Medicine (TCM) textbooks, retrograde through historical periods of Ming, Tang, Han, and the Warring States.[221] Replicating this methodology is difficult if not impossible for Egyptian manuscripts as—as will be further elaborated in the following sub-chapter[222]—unlike the canonised Chinese manuscripts which are recalibrated at particular intervals, the Egyptian papyri are unique in format and dependent upon the organisation method chosen by their scribe. Nevertheless, the genealogical approach can be cautiously attempted if one maintains the agency of independent scribes into the discussion; the body ecologic remains an important aspect of thinking about bodily sickness and can at least be cross-culturally compared with other traditions through detailed exploration of the given cultural contexts.

In sum, two useful considerations arise from an overview of the literature discussed here. Firstly, as outlined by scholars such as Kleinman and Good, exploring sickness classifications in terms of 'semantic networks'—such as through culturally determined symptoms—secures a less Western-centric appreciation of the Egyptian experience of sickness. In addition, adjusting the focus away from Cartesian modes of thought to more inclusive epistemological frameworks as posited by Scheper-Hughes and Lock, as well as Hsu, is to be considered more suitable for conducting research into perspectives of the body and sickness. From this vantage, it can be deemed imperative to dispense with past trends in Egyptology which translate or interpret such lexemes as sickness classifications through (what will be termed here) 'double-barrelled indications', such as *wḫd.w*-pain or *st.t*-mucosities, as—though they intend caution—they still implant categories into the mind of the reader based on modern interpretation. This should, by extension, apply to the use of 'retrospective diagnosis', even as a heuristic device. The ethnomedical practices recorded in Egyptian papyri, whether they be lists of therapeutics or incantations can and should, as is argued in this dissertation, be examined using accepted medical historical or anthropological epistemological frameworks.

[219] Otherwise known as the 'a history of ideas', M. Foucault, *The Archaeology of Knowledge and the Discourse on Language* (New York, [1969] 1982).
[220] See section 2.1.2., below.
[221] Hsu, in Parkin and Ulijaszek (eds.), *Holistic Anthropology*, 95; 97.
[222] See section 2.2.1., below.

2.1.2. Defining perspectives of the (inner) body and sickness: between balances and sickness entities

> 'Ethnomedicine is the area of anthropology that studies different societies' notions of health and illness, including how people think and how people act about well-being and healing… Bad health leads people to speculate about how they got sick, how it will affect them, and what they can do to make it better. People thus form an explanatory model of the illness by integrating idiosyncratic thoughts and circumstances with the popular illness ideologies of their culture… Culture influences the construction of explanatory models through theories and explanatory themes and images'.[223]

To explore perspectives of the inner-body and sickness as exhibited in the Egyptian medical papyri, it is useful to define 'explanatory models' in the contexts of some ethnomedicines, and the variety in their cross-cultural manifestation. To do so, this short chapter will offer some examples pertinent to the engagement with the Egyptian evidence in the present dissertation. The first are excerpts from texts of the ancient Graeco-Roman, Chinese, and Indian Ayūrvedic traditions; historically, these were known as 'the big three' or 'the three great medical traditions',[224] as they 'have flourished across the globe at various times during roughly the last two millennia', and can be 'characterized in a preliminary way by their explanation of health and illness in terms of the balance or imbalance of some fundamental properties or constituents of the body':[225]

> 'The body of man has in itself blood, phlegm, yellow bile and black bile; these make up the nature of his body, and through these he feels pain or enjoys health. Now he enjoys the most perfect health when these elements are duly proportioned to one another in respect of compounding, power and bulk, and when they are perfectly mingled. Pain is felt when one of these elements is in defect or excess, or is isolated in the body without being compounded with all the others. For when an element is isolated and stands by itself, not only must the place which it left become diseased, but the place where it stands in a flood must, because of the excess, cause pain and distress…'

- Hippocratic treatise, *The Nature of Man* 4.11-13[226]

[223] Quinlan, in Singer and Erickson (eds.), *Medical Anthropology*, 381.
[224] Coined by Charles Leslie in 1976; see C. Leslie, *Asian Medical Systems: A Comparative Study* (Berkeley, 1976).
[225] Horden, in Horden and Hsu (eds.), *The Body in Balance*, 2.
[226] Hippocrates, *Nature of Man* 4.11-13; Hippocrates, Heracleitus, *Nature of Man. Regimen in Health. Humours. Aphorisms. Regimen 1-3. Dreams. Heracleitus: On the Universe* (W. H. S. Jones (trans.); LCL 150; Cambridge MA, 1931), 4.11-13.

> ‘Vāyu, pitta, and kapha are in short, bodily doṣas and rajas and tamas are mental ones... Vāyu is non-unctuous, cold, light, subtle, mobile non-slimy and rough in properties and is pacified by the drugs having opposite properties. Pitta is lightly unctuous, hot, sharp, liquid, sour, mobile, and pungent and is pacified immediately by the drugs (and substances) having opposite properties. The properties of kapha (are)-heaviness, coldness, softness, unctuousness, sweetness, immobility, and sliminess (which) are subsided by (the drugs and substances having) opposite properties’.

- *Caraka saṃhitā* I 57-61[227]

> ‘… Qi Bo responded: “As for the five agents, these are metal, wood, water, fire, and soil. Alternately they resume high and low ranks. Through them one knows [whether a patient] will die or survive. Through them one decides about completion or destruction and [through them] one determines the [status of the] qi in the five depots, the time when [a disease] is light or serious, and the time of [a patient’s] death or survival”.’

- *Huang di nei jing su wen* 22:141, 9-11[228]

Initially, these traditions were categorised as ‘humoural’, from the Greek *chumoi*, though this is now viewed as misleading, as Horden notes:[229]

> ‘We cannot readily define humoral medical systems and isolate them from the rest. Heavily emphasized inverted commas must be understood as surrounding ‘humoral’… the whole notion of humour is too problematic. The definition and number of the humours changes even within a few canonical texts of the Hippocratic corpus. In the long tradition of premodern Western European medicine, the underlying ideas prove remarkably enduring, but this is precisely because of their vagueness and adaptability. The Hippocratic humours, literally fluids in classical Greek, are not quite those of Galen in the Roman Imperial period… The Graeco-Roman humours and their wider theoretical context cannot be mapped onto the three *doshas* of Ayūrveda (wind, bile, and phlegm)… ancient Chinese medicine is still less to be described as humoral. Its ‘five agents’ or ‘phases’ – the *wu xing*… - correspond to neither elements nor humours elsewhere’.

Leslie’s definition of these as ‘great traditions’ was an attempted departure from ‘humoural’, though this was later replaced with ‘scholarly traditions’ by Don Bates, as—in his view—a major aspect of each of the three representatives is that they ‘rest their claims to healing power

[227] P. Sharma, *Caraka-Saṃhitā: Agniveśa’s treatise refined and annotated by Caraka and redacted by Dṛḍhabala (vol. I: Sūtrasthāna to Indriyasthāna)* (Varanasi, 1981), 8.
[228] P. U. Unschuld and H. Tessenow (with Z. Jinsheng), *Huang Di nei jing su wen: An Annotated Translation of Huang Di’s Inner Classic – Basic Questions (vol. 1, Chapters 1 through 52)* (Berkeley, 2011), 383.
[229] Horden, in Horden and Hsu (eds.), *The Body in Balance*, 3-4.

largely on knowledge which is grounded in the study of written texts… such learning is at least partly theoretical, and, as such, operates at the interface between human beings and the universe'.[230] While a useful distinction, whether orally transmitted but organised knowledge should be incorporated into this category remains a question, especially in the context of what surviving evidence from ancient Egypt appears to suggest.[231]

To avoid offering a seriously essentialistic characterisation of either of these three traditions, as none represent a homogenous tradition and all exhibit what Foucault called 'a history of ideas', a more detailed overview of these traditions will not be attempted. A few points about these explanatory models and the cultural perspectives in which they are grounded are, however, relevant to the present dissertation. Beyond the varied ways in which balance manifests, these traditions have been noted to vary in their very perspectives of the body. For example, Shigehiso Kuriyama points out that the Graeco-Roman obsession with muscles is not shared in the ancient Chinese perspective of the body. Kuriyama offers the following two images for comparison, to highlight his point:[232]

[230] D. Bates (ed.), *Knowledge and the Scholarly Medical Traditions* (Cambridge: 1995), 2-3; Horden, in Horden and Hsu (eds.), *The Body in Balance*, 5.
[231] See discussion in section 5, below.
[232] Figs. 1 and 2 from S. Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine* (New York: 1999), 6-7.

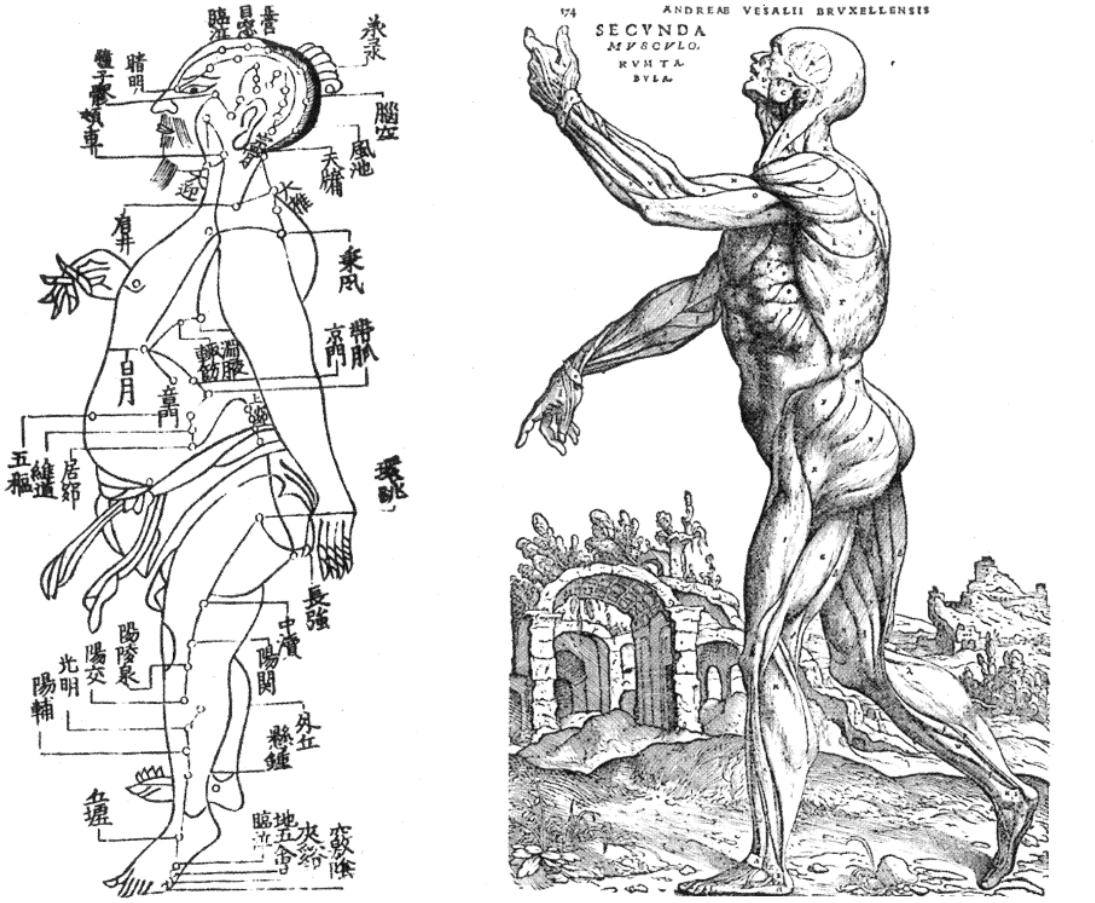

FIG. 1: after Figs. 1 and 2 from S. Kuriyama, *The Expressiveness of the Body and the Divergence of Greek and Chinese Medicine* (New York: 1999), 6-7.

The left-hand image is taken from Hua Shou's *Shisijing fahui* (1341 CE); the right-hand image is taken from Vesalius's *Fabrica* (1543 CE). As Kuriyama notes:[233]

> 'Viewed side by side, the two figures each betray lacunae. In Hua Shou, we miss the muscular detail of the Vesalian man; and in fact Chinese doctors lacked even a specific word for "muscle." Muscularity was a peculiarly Western preoccupation. On the other hand, the tracts and points of acupuncture entirely escaped the West's anatomical vision of reality. Thus, when Europeans in the seventeenth and eighteenth centuries began to study Chinese medical teachings, the descriptions of the body they encountered struck them as "phantastical" and "absurd", like the tales of an imaginary land. How can perceptions of something as basic and intimate as the body differ so?...'

[233] *Ibid.,* 8-9.

Kuriyama explains that the answer to the posed question is found in 'the different ways of thinking, or more slyly, of alternative perspectives' of the human body of each culture:[234]

> 'It would be impossible to narrate a history of Western ideas about the structure and workings of the body without reference to muscles and muscular action; and any summary of Chinese medicine which failed to mention acupuncture tracts would be radically incomplete.'

The distinction between the two perspectives is the precedence of anatomy over physiology of the human body, or vice-versa. In the case of Graeco-Roman and later European perspectives of the body, anatomical features take precedence – this, he notes, is evidenced in the preoccupation with dissection and anatomy which first appears in the 4th century BCE in Aristotle's studies of animals: 'anatomy eventually became so basic to the Western conception of the body that it assumed an aura of inevitability'.[235] The focus of the Chinese physician was distinctly different, one area was sensory perception of the physician, who placed a pronounced interest on visual perception, focusing on *se* 'colour' in terms of *wuse* 'the five colours' – these correspond to the *wuxing* 'five agents' central to manifestations of Chinese medicine.[236] Additionally, from undertaken dissections—though comparatively rare—the physicians 'lingered instead on measurements that Galen and his predecessors entirely ignored'.[237] A strong dissimilarity with Western perspectives, however, was the precedence given to physiological function over anatomy, essentially resulting in an entirely unique perspective.[238] This alternate perspective, Kuriyama suggests, 'is inextricably intertwined with the emergence of a particular conception of personhood' in the West.[239] Rather than imposing a new dualism of 'anatomical' and 'physiological' perspectives to the present dissertation, this can instead be rephrased, as it is consistent with divergent emphases on aspects of phenomenological experience of the 'individual body', as noted by Scheper-Hughes and Lock.

Interestingly, in the Āyurveda tradition a similarly distinct perspective of the inner body arises. Firstly, the principles of the tradition are drawn 'from the nature of the land, a tradition directly connected with ecology'. Francis Zimmerman gives the example of Kerala:[240]

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[234] *Ibid.,* 9.
[235] *Ibid.,* 116-8.
[236] S. Kuriyama, 'Visual knowledge in classical Chinese medicine', in D. Bates (ed.), *Knowledge and the Scholarly Medical Traditions* (Cambridge: 1995), 210-223.
[237] *Ibid.,* 158-9.
[238] Kuriyama, *The Expressiveness of the Body*, 111; 116-8; 144
[239] *Ibid.,* 144.
[240] F. Zimmerman, 'Aiming for Congruence: the Golden Rule of Āyurveda', in Horden and Hsu, *The Body in Balance*, 219-20.

> ‘Kerala, at the south-west of the Indian peninsula, enjoys a humid tropical climate… [it] mainly consists of an alluvial plain… Lagoons and slow-winding rivers form a vast communication network called the Backwaters; banks covered with luxuriant vegetation offer enchanting landscapes to the eye, but one senses what hold parasitic diseases as well as rheumatism and arthritis have in this climate… Rains and winds are internalized in the form of three humours – Wind, Bile, and Phlegm – and spices are defined as specifics curing such and such humours. It is a doctrine of a pre-established harmony between illness and remedies’.

Here perhaps we can talk of a dynamic between Scheper-Hughes’s ‘social body’ and the ‘body ecologic’. Similarly with Chinese medicine, however, physiology again appears to play a dominant role, and a lesser emphasis on the ‘individual body’ is congruent with the perspectives drawn from the former two, as Margaret Trawick writes:[241]

> ‘A… shared attribute of [Chinese and Āyurvedic] traditions is their stress on physiology at the apparent expense of anatomy… more interest in the subjective experience of the body than in the objective observation of it… From a Western point of view, both Confucian and Ayurvedic medicine suffer from an absence of realism… Organs, substances, and structures are described in the Confucian and Ayurvedic medical texts that cannot be found by dissection… Each of the three active forces (wind, bile, and phlegm) in the Āyurvedic body, each of the senses, each of the constructive substances and each of the waste products (*malas*) has its own channels (*nadis*) through which it is supposed to flow. Absolutely everything in the Ayurvedic body from bones to sneezes flows through channels (Car[aka Samhita]. II VII, 4; Su[shruta Samhita]. II, 210). Channels are said to spread all over the body, like veins in a leaf, sustaining and nourishing every part (Su[shruta Samhita]. II, 210). Every sense organ and every pore is the termination of a channel’.

These observations from ancient, written, non-Western traditions offer valuable insights into the variety by which mankind observes and experiences the body, especially in terms of the individual and social bodies, and the body politic and ecologic. It is perhaps worth noting that medical anthropologists and historians remain in much doubt concerning where the Egyptian (and Mesopotamian) corpora fit into such discussions.[242]

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[241] Trawick, M., ‘Writing the body and ruling the land: Western reflections on Chinese and Indian medicine’, in Bates (ed.), *Knowledge and the Scholarly Medical Traditions* (Cambridge: 1995), 283; 286.

[242] Horden, in Horden and Hsu (eds.), *The Body in Balance*, 7, notes only ‘corrupt residues’ in the Egyptian bodily perspective, as well as ‘*ma’at* (balance, order, justice), a concept with its eponymous goddess, seems to have been central to Egyptian medicine’; cf. also Erickson, *Ethnomedicine*, 21, who notes only that ‘in contrast to the incomplete information available for ancient Egypt and Mesopotamia, there are three great classical medical traditions that have extensive, written documentation from India, China, and Greece’.

As a secondary outcome, the issues raised here enable the termination of a longstanding debate in Egyptology: the question of the influence mummification—ritual evisceration of the corpse in preparation for burial—had on acquiring understandings of internal human anatomy and physiology. Assuming that this practice presented the Egyptians with an opportunity for gaining a firmer grasp of anatomy or physiology assumes perhaps a positivistic and Western-centric view that perspectives of anatomy and physiology can only be right or wrong.[243] Even if a close working relationship between embalmers and medical practitioners could be proven,[244] exposure to internal features of anatomy, even on a routine basis, 1) cannot be equated with investigation of (biomedical) physiological function;[245] 2) does not mean input from sensory perception was experienced in the same way, i.e. valuing tactile perception of texture over visual perception of colour; and 3) does not mean that the culture experienced the individual body, which can manifest in increased functionality attributed to physical structures in the body as an explanation of sickness, in an identical or even similar way. Thus, one should not expect to find names of organs as localisations of sickness in Egyptian—or any other—medical text.

2.2. New complementary directives from Egyptology

A series of articles by Egyptologists Tanja Pommerening and Rune Nyord, as well as the introduction of the concept of 'universality' in modes of human thought into Egyptology, offer new avenues of enquiry for future research on ancient Egyptian perspectives of sickness experience to pursue. In addition to this, the *modus operandi* of the *Science in Ancient Egypt* website constitutes not only a new method of composing anthologies of Egyptian texts in translation, but provides a foundational starting-point which greatly advances future study into the subject area. Alone, these provide an impetus for moving away from antiquated approaches within the field of Egyptology. Together with insights gained from an exploration of medical anthropological and historical literature, they offer new considerations for research into other ancient medical cultures, such as that of ancient Mesopotamia. It is for this reason they are discussed separately from the review of Egyptological literature presented above,[246] as—much like the publication of the *GdM* in its own time—the theoretical approaches are witness to a

[243] Such views are propagated in popular monographs, e.g., J. Nunn, *Ancient Egyptian Medicine* (London, 1996), 42-4.
[244] This position was most recently upheld in the *editio princeps* of pLouvre-Carlsberg, which—according to Schiødt—contains an embalming treatise embedded within a medical compendium; see Schiødt, *Louvre-Carlsberg*, especially the remarks made on pp. 1-2.
[245] A position most recently supported by Strouhal, et al., *Internal Medicine*, 2.
[246] See sections 1.1.1. and 1.1.2., above.

significant shift in direction in this field of research. This section of the Theory and Methods chapter offers a condensed summary of the contributions of the *SAE*, before going into greater detail on the contributions of Pommerening and Nyord. It closes with a short summary of the concept of 'universality' as a consideration for epistemological frameworks, contrasting it with 'cultural relativity'.

The *Science in Ancient Egypt* website of the Sächsische Akademie der Wissenschaften zu Leipzig:[247] this is now undoubtedly to be considered the most useful source of secondary literature, in the very least as a new anthology of primary sources which offers translations of Egyptian medical and medicine-adjacent literature. Authored in German, this continually updated page will undoubtedly be of use to a broader audience of academics and laypersons alike. The page now boasts the most up-to-date translations, and its online format enables it to be continually revised according to ongoing research, ensuring its position in this regard. The translations are accompanied by provisional lexicographic data, especially where a particular word has proven especially challenging or uncertain to previous authors such as Westendorf and Bardinet. Especially useful in such discussions is the incorporation of all known published views on a particular word, phrase, or sentence, at times offering provisional interpretations of a particular passage or text. In addition, it incorporates data on words where they are found in the text from key contributors, such as Dawson, Ebbell, the *GdM*, Germer, Aufrère, and Baum, noted above. The tool has proven invaluable to the present research in this regard, offering one easily accessible location for consultation in accessing other's views on a particular matter. It should be noted that, while the attached lexical metadata provides useful information to the reader, it does not offer more comprehensive commentaries on the interpretation of particular texts or groups of texts, and as such is not yet a domain for the publication of new ideas concerning Egyptian perspectives. Furthermore, at times, the translations of certain terms or formulae, as well as the determination as to what constitutes a difficult passage and where a footnote should be appended, differs from papyrus to papyrus, owing to each one being authored by a different (team of) individual(s). Of course, standardising these methods would increase the demands on the already monumental effort contributed by the team. Without such easily accessible tools as the *SAE*, research in the field of Egyptian medicine would certainly progress far slower, as can be attested perhaps by the wealth of scholarship reflected in the length of this literature review thus far.

[247] *SAE* (accessed 29-07-2022).

2.2.1. Pommerening: translation, interpretation, classification, and 're-enactments'

The contributions of Pommerening arguably underline the plethora of methodological issues with past studies of Egyptian medicine, some of which the first part of this literature review summarised. Ultimately, they problematize the ways in which past scholarship has been dominated by Western and at times positivistic approaches to interpretation, offering new perspectives for working with ancient medicines.

The first contribution assessed here, *Heilkundliche Texte aus dem Alten Ägypten: Vorschläge zur Kommentierung und Übersetzung*, was published in 2016 in an edited volume on the broader topic of working with ancient technical literature.[248] The paper was aimed at '*Rüstzeug zur Beurteilung bereits vorliegender Übersetzungen bieten und gleichsam in Schwierigkeiten, Methoden und mögliche Lösungswege bei der Übertragung der Texte in eine heutige moderne Zielsprache einführen*'.[249] A sizeable paper of over 100 pages, the text is subsectioned into two major components: the *Vorschläge* themselves, and then useful *Beispiele* to further illustrate the points made, with the aim of proposing a method for coming as close as possible to the ancient Egyptian perspective of the subject matter.[250] As this first section provides the methodological framework for the second, it is this half of the article that is discussed in detail here.

In the first section of the *Vorschläge*, useful guidelines are offered – these are reminiscent of the concept of scientific reproducibility in other fields, such as the medical sciences: to provide every detail that not only contributed to the discussion, but also to the initial translation of the text. Suggestions include the provision of clear images of the original source, as well as transcriptions and transliterations accompanying the translations.[251] Another point stressed is the need to have knowledge of and to tap into data offering insights into the Egyptian cultural mind-set; these are of course crucial for limiting the influence of modern or even biomedical lenses. In particular, this section of the paper calls for a thorough lexicographic analysis of terms used in the Egyptian original before a translation can be offered and philological hypotheses reached. Use of the *Thesaurus Linguae Aegyptiae* website (hereafter '*TLA*') is recommended.[252] Certainly a working process in this direction would aid

[248] Pommerening, in Imhausen and Pommerening, *Translating Writings*, 176-279.
[249] *Ibid.*, 176.
[250] *Ibid.*, 176-7.
[251] *Ibid.*, 180-81.
[252] *Ibid.*, 183; see the *Thesaurus Linguae Aegyptiae* website of the Berliner Thesaurus Linguae Aegyptiae [hereafter abbreviated TLA] < https://aaew.bbaw.de/tla/index.html > (accessed 14.09.2021); since the submission

the substantiation of new ideas, unavailable in selected major publications such as that of Bardinet. Furthermore, an over-reliance on existing research tools, predominantly the *GdM*, is cautioned against owing to it being over sixty years in age and therefore incapable of incorporating data from newly published textual sources of both medical and non-medical content.[253] Thus, even though Westendorf included the material from the first millennium BCE, the aged approach and information offered by the monumental nine volumes is insufficient in light of current lexicographical research.

The second section of the *Vorschläge* specifically concerns suggestions for translation and commentary of such literature. It is noted that while the vocabulary of the medical texts is largely drawn from the common language, a question remains as to whether their application in this literature is semantically more specific than application elsewhere.[254] It is advised that, in the editing process, the provision of a word's root and possible meanings enable the reader to gain a clearer indication of the semantic field of a term adapted for use in medical literature. Pommerening also reminds the reader that—as with all languages—the meanings of words can shift over time.[255] The application of modern medical terminology in translating Egyptian words is cautioned against, unless it can be proven and explained that both the ancient and modern term share the same semantics.[256] Given the breadth of anthropological literature in this direction, however, such explanations should be viewed as unlikely. Pommerening's view is qualified through an illustration of the differences in classificatory criteria of modern German and ancient Egyptian, using the example that the ancient language held no specific word for '*einzelnen Knochen, Sehnen, Adern, Venen, Muskeln, Hautpartien, o.ä.*', but rather maintained more generic words such as 'bone' (*qs*), 'flesh' (*jwf*), and 'skin' (*jnm*).[257] She points out that all '*strangartigen Körperteile* (*Ardern, Venen, Muskeln, Sehnen* etc.)' were denoted by the word *mt*, and that in her view, it is best to translate such terms uniformly, here suggesting 'strand'. While the uniform approach is certainly to be supported, the assumption that this classification (and indeed others) represents a physically observable anatomical feature rather

of this thesis, a newer version of this website can be found on the *Thesaurus Linguae Aegyptiae v2* website < https://thesaurus-linguae-aegyptiae.de/ > (accessed 19.03.2024).

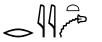
[253] Pommerening, in Imhausen and Pommerening (eds.), *Translating Writings*, 181-3.

[254] *Ibid.*, 183-4.

[255] *Ibid.*, 186. Pommerening points the reader to a note to *Beispeile* text II.4, note 3 (*ibid.*, 270), which assumes the meaning of the term *jb* against *ḥ³tj* as posited by Walker, *Anatomical Terminology*, 147-186; cf. section 3.2., below.

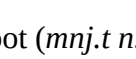
[256] Pommerening, in Imhausen and Pommerening (eds.), *Translating Writings*, 187.

[257] *Ibid.*, 189.

than a physiological perspective, remains to be discussed.[258] The observations relevant for anatomical terms are noted as also being pertinent for sickness classifications. It is outlined that classifications for illnesses across cultures—while some may share common features—rarely share identical meanings, and that best practice dictates that words such as *wḫd.w* and *ʾȝʿ* cannot and should not be translated at all, but instead should receive an 'epithet' based on the classifiers used for each word.[259] Reliance on such double-barrelled epithets to characterise complex Egyptian perspectives in translation, however, is especially fraught with risks in comparative research, as they assume a grasp of the underlying semantic networks. Furthermore, one should question whether we can correctly appreciate all motivations for the ascription of classifiers for such terms. Is there an underlying difference in motivation, for example, between the use of *snf*  'blood' and *sry.t*  '*sry.t*-cough(?)', or *sry.t*  and *wḫd.w* (especially when *sry.t* can also receive the Aa2 classifier)?[260] Finally, how would one choose an epithet for the alternate writings of the same word, such as *st.t*  and *st.t* ?[261] Is an epithet, or any form of translation a necessity? Regardless of these questions, the complexities of translating such terms are otherwise well elucidated and encourage the researcher to exercise caution in working with the ancient source material using previously published research. Even though the information conveyed is aimed at students, the proposals apply to academics of all career stages; it clearly highlights pitfalls inherent in the methodologies of the *GdM*, Bardinet, and Westendorf's otherwise insurmountable efforts, as well as the significant shortcomings in more recent scholarship, such as Fukagawa, Radestock, and Strouhal et al.[262]

A second area to which the *Vorschläge* significantly contributed is the interpretation of recipe indications through the use of practical experimentation. The study of Eb. 63 highlighted the potential of this approach, demonstrating how a recipe can be assessed as a 'medical re-enactment' of the sickness-to-health trajectory. Essentially, it outlined how ancient perspectives of ingredients and those of the sicknesses they were intended to treat can be

[258] *Ibid*; it is assumed here that '*Ein solcher Strang scheint hohl, mit der Möglichkeit der Erschlaffung und Erstarkung sowie als verbindende Leitung zwischen Innen und Außen oder zwei inneren Körperteilen gedacht worden zu sein*'. Although the connectivity described here is certainly distinguishable from biomedical perspectives of the body, the notion of such conduits being '*hohl'* is nowhere specified in any ancient text, though is perhaps implied especially in contexts where the 'air'/'words' of the heart are concerned (see discussion of Eb. 854c [855e] in section 3.2., below).
[259] *Ibid.*, 191.
[260] E.g. *GdM VII*, 773; cf. section 1.1., above.
[261] E.g., *GdM VII*, 812-3.
[262] See section 1.1., above.

analogous, providing a further indication for the motivation of initial ingredient selection beyond biomedically observed efficacy.[263] Eb. 63 uses a specific processing of pomegranate tree root (*mnj.t n.t nhm* ) against *ḥf**.t*-worm(s) perceived as being in the belly (*ḥ.t*):

> Another: root of the pomegranate tree; to be triturated in beer 1-*dja* and left overnight in a *hin*-vessel with water 5-*dja*; you (rise early in the) morning in order to squeeze it through cloth; to be drunk by the man.

Firstly, it is noted that the processing instructions encoded in this excerpt[264]

> 'make sense from a modern perspective. It makes available the main active substances of the root of the pomegranate tree, namely alkaloids bound to tannins... which the plant contains mainly in the bark of the root, trunk, and branches. The preparation of the potion is appropriate to bring the active substances to their target area. The amounts applied in the Ancient Egyptian recipe (300ml root [= *c*. 60ml bark = *c*. 30g bark] in 900ml water) is comparable to the ones used today to prepare remedies against worms'.

Following a discussion of the Egyptian lexemes and their translation, the recipe instructions are then followed to enable a study of the medicine's materiality:

FIG. 2: after Pommerening, in Imhausen and Pommerening, *Translating Writings*, fig. 7, 265; © Tanja Pommerening.

[263] Pommerening, in Imhausen and Pommerening, *Translating Writings*, 259-267; an expanded version of these results exists also in Pommerening, in Rosati and Guidotti (eds.), *Proceedings of the XIth Congress of Egyptologists*, 519-26; for such analogies, see especially Leitz, in Fischer-Elfert (ed.), *Papyrus Ebers*, 41-62; further examples of analogous relationships between conditions and treatments are given in Pommerening, in Rosati and Guidotti (eds.), *Proceedings of the XIth Congress of Egyptologists*, 521-4; 519.
[264] Pommerening, in Rosati and Guidotti (eds.), *Proceedings of the XIth Congress of Egyptologists*, 519.

> ‘The main drug of the prescription represents the cause of the abnormal condition – in our case, the root represents the *ḥfꜣ.t*-worm. The drug is altered through processing – as a representative of the cause of the abnormal condition, so that the substances of the abnormal condition are eliminated or banned. This means, in our prescription, that the woody body of the root is crushed into smaller pieces, with a great effort [*ḥbq*[265]], meaning that the word is destroyed’.[266]

The results of this investigation are certainly undeniable and demonstrates the necessity to investigate materiality where possible – a novel approach for the study of ancient Egyptian medicine. Whether such re-enactments were intentional and a regular part of the ‘performative’ or ‘symbolic’ aspect of ancient therapy remains an open question.[267] Symbolism in therapeutic performance has been noted in both traditional medical systems as well as the practice of biomedicine. A prominent example of this from the anthropological literature is Kleinman’s report from 1980, where he often observed a somewhat unnecessary use of the injection to administer medication to patients in Taiwan which could otherwise just as easily be consumed, as injections were—according to Kleinman’s report—viewed as ‘the essence of all that is powerful in Western medicine... they are believed to be extremely powerful with dangerous side-effects but working immediately...’.[268] Whether such performative behaviours are preserved in such medical re-enactments or elsewhere in the ancient manuscripts has yet to be determined, but a broader appreciation could serve to further elucidate the dynamism of therapeutic action in such ancient societies. Nevertheless, this epistemological technique offers a potential additional material insight into the manifold sickness classifications attested throughout the compendia, such as *wḫd.w*, *st.t* and *sry.t*.

Considerations for the acquisition of reliable translations are expanded upon in the second paper, ‘*Wege zur Identifikation altägyptischer Drogennamen*’,[269] shifting the focus of the discussion over to the potential pitfalls in translating ancient terms for *materia medica*—and by logical extension any ancient classification for organic or non-organic matter—into modern languages. Primarily, it explores the methods pursued by previous scholars who have attempted translations for ancient drug names,[270] including Ebbell, Dawson, the *GdM*, Harris,

[265] Discussion of this term is included, see *ibid.*, 525.
[266] *Ibid.*
[267] Compare for example the models used in the modern biomedical profession, where maintaining certain standards of professional culture and authority is a key aspect of the doctor-patient interaction; S. E. Barkan, *Health, Illness and Society: An Introduction to Medical Sociology* (2nd edn.; New York, 2021), 155; 167-72; see also: T. Parsons, *The Social System* (New York, 1951);
[268] A. Kleinman, *Patients and Healers in the Context of Culture: An Exploration of the Borderland between Anthropology, Medicine, and Psychiatry* (Berkeley, 1980), 286ff..
[269] Pommerening, in Dils and Popko (eds.), *Zwischen Philologie und Lexikographie*, 82-111.
[270] *Ibid.*, 88-104.

and Germer. The efficiency of the eight methods presented are discussed together with examples but cautions against overreliance on only one or a few of these methods, with examples demonstrating the inherent pitfalls. The methods discussed include identifications derived from: 1) labelled containers with contents;[271] 2) descriptions of characteristics and/or origins of ingredients offered in textual evidence;[272] 3) attempted correlation of ingredients available in ancient times with modern binomial classifications;[273] 4) correlations of text with images;[274] 5) etymology and word formation;[275] 6) correlation with Coptic derivatives;[276] 7) the use of synonym lists, such as in Dioscorides' *De materia medica*;[277] and 8) intercultural pharmacognosy.[278]

In producing validity assessments of previously suggested identifications, it is advised that an over-reliance on any one of these methods, without thorough consultation of all available data (e.g., linguistic or archaeobotanical) should be considered significantly flawed. Especially in the context of ascribing modern Latin binomials according to Linnean taxonomy, it should be remembered that one culture's principles for ethnobiological classification are much varied. Pommerening compares classification principles of the West with those of the Baatombu in modern Benin as an example. This group classifies items primarily according to

[271] For which caution is advised in interpretation as contents and residues are still susceptible to contamination or deterioration; *ibid.*, 89-91.
[272] For which it is advised to consider the ancient availability of ingredients such as through consultation with archaeobotanical catalogues, *ibid.*, 90-91; this is the most widely used, for example in Germer, *Hanbuch*; the cited archaeobotanical catalogue is that of C. Vartavan, et al., *Codex of Ancient Egyptian Plant Remains* (2nd rev. and ext. edn.; London: 2010); consultation with the new *Archaeobotanical Database of Eastern Mediterranean and Near Eastern Sites* website of the Eberhard Karls-Universität Tübingen: < https://www.ademnes.de/ > (accessed 14.09.2021) can now be added as a useful tool for exploring which ingredients were accessible more broadly in Egypt, the Eastern Mediterranean, and Western Asia.
[273] Pommerening, in Dils and Popko (eds.), *Zwischen Philologie und Lexikographie*, 92-4.
[274] *Ibid.*, 94-6; included in this is the use of determinative in the orthography of the word; this of course requires a certain identification of what is depicted in the image.
[275] *Ibid.*, 96-7.
[276] *Ibid.*, 97-8; again, caution for these is especially prescribed here, as the meaning of apparent derivatives can shift over time, as with other languages.
[277] *Ibid.*, 98-103; chiefly among the discussion it is noted that Germer demonstrated that the Egyptian 'synonyms' in such lists do not correlate with ingredients whose name in the medical papyri is known with certainty, such as *Juniperus phoenicea* L., whose Egyptian name in Dioscorides is listed as *Libium*, but whose name in the medical papyri is wan; see Germer, *Handbuch*, 14.
[278] Pommerening, in Dils and Popko (eds.), *Zwischen Philologie und Lexikographie*, 103-4; one needs to be especially critical in this approach, to consider such things as whether the sources primarily describe the obvious and optimal uses of a plant, as well as whether their combination with other *materia medica* and processing stages correlate. For example, in Germer, *Handbuch*, an assessment of indication validity is built only through decontextualising ingredients from their original, larger, recipes. Processing methods for preparation of *materia medica* in recipes, including their combination with other ingredients, has a significant potential to change the resulting bioactive compounds; see e.g., T. Pommerening, 'Überlegen zur Beurteilung der Wirksamkeit altägyptischer Arzneimittel aus heutiger Sicht', in K. Zibelius-Chen and H.-W. Fischer-Elfert (eds.), *"Von reichlich ägyptischem Verstande": Festschrift für Waltraud Guglielmi zum 65 Geburtstag* (Wiesbaden, 2006), 103-112; Z. Zhao, et al., 'A Unique Issue in the Standardization of Chinese *materia medica*: Processing', *Planta Medica* 76(17) (2010), 1975-86.

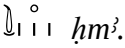
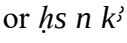
shape and colour (as does Linnaean taxonomy), but also according to items being 'good', 'bad', 'old', 'new', as well as according to the topographical origin of the parent plant, such as whether they grow in the centre of a village, on a hill, or the type of soil in which it is grown. This observation is consistent with the other observed principles dictating classification in other cultures, some being of higher salience (such as the examples of shape and colour) than others.[279] As with the *Vorschläge* for terms denoting the body and sickness, it is advised that for this endeavour, the differences between the natural history of the Egyptian world and the science of European modernity be more closely examined in order to avoid the misleading results which predominate even in modern Egyptological scholarship.[280]

The final paper by Pommerening discussed here is titled 'Classification in Ancient Egyptian Medical Formulae and its Role in Re-Discovering Comprehensive and Specific Concepts of Drugs and Effects'.[281] As part of an edited volume which explored ways in which natural phenomenon have been categorised by historical societies, the paper draws on previous studies such as that of Berlin (1992) that observed the existence of hierarchical criteria across a diverse array of modern cultures.[282] In this capacity, the introduction to the paper in question outlines its aim to 'document what informative value the classification phenomena... may have with regard to recovering concepts of drugs and effects'. Crucially for the non-Egyptological medical historian, it is also noted here that the Egyptian medical compendia are not formulated to transmit concepts as with later written traditions, nor to relate classes or effects of drugs. They instead only permit indirect access to the underlying concepts through their content, structure, and agreement within the greater context of a document.[283] The term 'concept'—technically a semantically charged Western construct—is usefully defined, and is followed by the present dissertation:

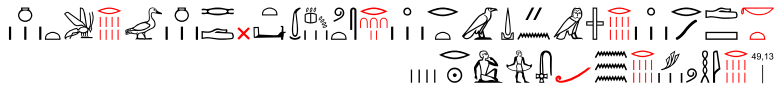
> 'A concept is here understood as culturally and cognitively formed and organized conglomerates of properties or (mentally anchored) knowledge components. They may be transmitted by various media (images, texts, objects) subject to different processes of formation. The media may express different properties or knowledge components, depending on the

[279] The seminal study of this is in the broader field of anthropology is B. Berlin, *Ethnobiological Classification: Principles of Categorization of Plants and Animals in Traditional Societies* (Princeton, 1992); this volume, among others, maintains that while human categorisation is dominated by such realities as distinctive morphological features, it is also influenced by cultural realities such as an organism's salience in local environments, usage, and judgements of degrees of similarity and differences between classified taxa.
[280] Pommerening, in Dils and Popko (eds.), *Zwischen Philologie und Lexikographie*, 105-6.
[281] Pommerening, in Pommerening and Bisang (eds.), *Classification*, 167-198
[282] Berlin, *Ethnobiological Classification*; T. Pommerening and W. Bisang, 'Classification and Categorization through Time', in Pommerening and Bisang (eds.), *Classification*, 1.
[283] Pommerening, in Pommerening and Bisang (eds.), *Classification*, 167.

> context (discourse, type of source, space, time, individual). Concepts in historical sources are hardly ever transmitted fully formulated and without being subject to certain changes... Conceptualization can be seen as a device to divide semantic space into subdomains.'.[284]

Four levels of classification are observed; the first two inform on the guiding principles for Egyptian classifications, these are: 1) the use of classifiers (determinatives), e.g., for ingredients:  N33+Z2 conceptually groups together 'minerals, pulverised components and fruits', based on their appearance;  M2+Z2 'plant-like objects', and so on;[285] 2) in nominal compounds that create 'subordinate-level categories', e.g., the superordinate classification  *ḥmꜣ.t* 'salt' is subordinated as *ḥmꜣ.t mḥ.t* 'salt (from Lower Egypt)', or *ḥs n kꜣ*  'bull excrement' and *ḥs n kꜣ dšr* 'red bull excrement'.[286] The use of classifiers informs on major ancient categorical groups by which natural phenomena were organised and associated with each other, a crucial facet for understanding cultural perspectives of *materia medica*, and one which is only available to anthropologists through elicitation techniques such as 'free-listing'.[287]

The third classificatory level discussed concerns the formulation of recipes (*pḫr.t*) – these texts are short and succinct but are ordered in a manner that suggests they were 'quickly comprehensible as to content'. The following example of Eb. 268 is given:[288]



> Another [remedy which is made for (some)one suffering from an accumulation in his urine]: red-substance 1/8-*dja*, the insides of the carob 1/32-*dja*, pounded (beer) grains 1/4-*dja*, goose fat 1/8-*dja*, honey 1/8-*dja*, *jḥ.w*-plant 1/8-*dja*, water 2-*dja*; to be heated, strained, and drunk for four days.

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[284] *Ibid.*, 168; herself following G. Lakhoff, *Women, fire, and dangerous things: What categories reveal about the mind* (Chicago, 1987); A. Blank, 'Words and Concepts in Time: towards Diachronic Cognitive Onomasiology', in R. Eckardt, K. von Heusinger, and C. Scwarze (eds.), *Words in Time: Diachronic Semantics from Different Points of View* (Berlin, 2003) 37-66; G. L. Murphy, *The Big Book of Concepts* (Cambridge MT, 2004); and M. Schwarz, *Einführung in die Kognitive Linguistik* (Tubingen, 2008).

[285] *Ibid.*, 169, 169-176; for a full table of classifiers used, see Pommerening, in Pommerening and Bisang (eds.), *Classification*, Table 2, 172-4.

[286] *Ibid.*, 169; 177-81.

[287] Berlin, *Ethnobiological Classification*; see sections 2.3., below.

[288] For consistency throughout this dissertation, I have used my own translation here together with transcription for transparency. My own and Pommerening's translation here diverges especially concerning: *ḥnʿ.w*, which she translates as 'concretions', and *dšr.t* as 'linseed', as opposed to 'red substance' (likely a red dye such as that from ruddle; see Russell, in *ZÄS*, forthcoming), and *sw.t sḥm.t* 'pounded (beer) grains'.

It is observed that the meaning of the sickness classification and its potential association with the constituent ingredients is obscured for the modern reader; this is implicit knowledge, 'known to both the author and to the target group envisaged by him',[289] but otherwise not expanded upon. Pommerening assumes that the concise titles of each prescription, such as this one (in red), describe 'what the symptoms [of the sickness] were'; however, whether such titles always indicate tangible symptoms, or whether they also encode lexical categories of sickness experience or even the models by which they were understood to have been caused requires further analysis.

The fourth level of classification assesses the overall composition of the compendia. Citing the *GdM*,[290] it is noted that owing to the dissimilarities in the structure of all known recipe compendia, 'an extensive collection of medical notes must have served as the template for the medical papyri, and the scribes joined the texts together according to certain criteria upon being commanded to do so'. The key point is that the resulting arrangement 'is what permits us to reconstruct concepts of drugs and efficacy, using the classification yielded by the arrangement'.[291] Using markers in the texts themselves—such as the *ḥꜣ.t-ʿm* 'beginning with' formula—Pommerening conjures a useful list of headings from pEbers to illustrate the conceptual arrangement in manuscripts. She suggests that the forepart of the document is grouped by superordinate levels such as 'abdomen' (up to Eb. 335), and that their internal cohesion is then arranged according to symptoms. This observation is invaluable to the present study as it provides a theoretical framework with which to further elucidate the conceptual relationships between areas of the body for which treatments are often clustered together (such as the 'belly', 'lungs', and 'lower belly', marked as 'divergent classification criteria' by Pommerening). Similarly, it permits a more objective analysis of the relationships between sickness classifications such as *wḫd.w*, *st.t*, and *sry.t* and the sickness experiences they might encode.

2.2.2. Nyord: Conceptual metaphor theory and the analysis of medical texts

A 2017 paper by Nyord[292] explores the potential of analysing metaphors for re-accessing ancient Egyptian sickness concepts. Although his work into ancient Egyptian medicine is

[289] *Ibid.*, 182.
[290] *GdM II*, 97 ff.
[291] Pommerening, in Pommerening and Bisang (eds.), *Classification*, 184.
[292] R. Nyord, 'Analogy and Metaphor in Ancient Medicine and the Ancient Egyptian Conceptualisation of Heat in the Body', in J. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine* (SAM 49; Leiden: 2017), 12-42; see also, but to a lesser extent, R. Nyord

comparatively more limited, it is drawn from extensive research into the uses of applying conceptual metaphor theory to the study of ancient Egyptian texts more generally. First developed by George Lakoff and Mark Johnson in their highly influential work *Metaphors We Live By*, Nyord demonstrates how this methodological approach can be utilised for an analysis of ancient concepts. His earliest contribution on the topic was the official publication of his PhD thesis in 2009[293] – this subjected selected *Coffin Texts* to the systematic analysis with the aim of attaining the ancient perspective of the human body. In order to explore Nyord's later contributions to the field of medicine, it is first necessary to summarise the underlying methodology of all contributions, advanced in this first publication. Nyord outlines this in little under 50 pages of his theory and methods chapter from the 2009 volume.[294] For convenience, a skeleton of this complex theory is reproduced here.[295]

Conceptual metaphor theory suggests that human expression reflects a conceptual structure; metaphors are not simply stylistic devices in language or literature, but actually reflect embodied cognition.[296] It studies the 'domains' that make up a metaphor: the *source domain* – or the terms by which the thing described by the metaphor are understood; and the *target domain* – or the thing described by the metaphor. Using the examples of 'your claims are *indefensible*' and 'I *demolished* his argument', Nyord outlines that the underlying conceptual metaphor tapped into by these statements is 'ARGUMENT IS WAR'. The 'ARGUMENT' is the target domain being described, and the source domain, 'WAR', provides a cognitive structure that explains the otherwise abstract notion of 'ARGUMENT'.[297] The provision of the

'Experiencing the dead in ancient Egyptian healing texts', in U. Steinert (ed.), *Systems of Classification in Premodern Medical Cultures* (London, 2021), 84-106.

[293] R. Nyord, *Breathing Flesh: Conceptions of the Body in the Ancient Egyptian Coffin Texts* (CNI 37; Copenhagen, 2009); it is of note that the epistemology guiding this work is grounded in the same philosophical routes (such as Merleau-Ponty's *Phenomenology of Perception*) that engendered the more recent and influential medical anthropological research discussed above. Such studies often share a core motivation for overcoming the Cartesian dualism; for Nyord's discussion on the topic, see *ibid.*, 35-41.

[294] *Ibid.*, 4-51.

[295] It should be pointed out that even Nyord noted his 50-page introduction to the theory was not sufficient for a thorough exposé, pointing the reader instead to Z. Kövecses, *Metaphor: A Practical Introduction* (Oxford, 2002). Though this review can only oversimplify the methodology, it should be pointed out that the adoption of conceptual metaphor theory as a method of enquiry is now well established and manifests both in Egyptological studies and studies dedicated to ancient medicine more generally; e.g., C. Di Biase-Dyson, 'Metaphor', in J. Stauder-Porchet, A. Stauder, and W. Wendrich, *UCLA Encyclopedia of Egyptology* (Los Angeles, 2012), 1-17; J. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine* (SAM 49; Leiden: 2017).

[296] G. Lakoff and M. Johnson, *Metaphors We Live By* (Chicago, 2003[1980]).

[297] Nyord, *Breathing Flesh*, 6.

example of 'LOVE IS A JOURNEY' further demonstrates the complex dynamics of such expressions:[298]

Source: JOURNEY	->	*Target*: LOVE
the travellers	->	the lovers
the vehicle	->	the love relationship itself
the journey	->	events in the relationship
the distance covered	->	the progress made
the obstacles encountered	->	the difficulties experienced
decisions about which way to go	->	choices about what to do
the destination of the journey	->	the goal(s) of the relationship

Metaphors such as 'the relationship is foundering' fit the 'explicit mapping' '*vehicle -> relationship*'. Importantly, it is noted that while such metaphorical mappings 'may seem self-evident, the similarity between LOVE and a JOURNEY is not a pre-existing given' for every culture.

Following Lakoff and Johnson, three categories of metaphor are underscored by Nyord. The first of these are 'structural metaphors', such as LOVE IS A JOURNEY, or ARGUMENT IS WAR, where the target domain is abstract and has very little structure alone. The second are 'ontological metaphors', which are less structured and serve to 'give a basic ontological status to various objects and concepts that are difficult to understand in themselves'. An example of this can be found in the expressions '*inflation is lowering* our standard of living' or 'buying land is the best way of *dealing with inflation*', which tap into the conceptual metaphor INFLATION IS AN ENTITY. The third are 'orientational metaphors' which often operate on a binary-structure, 'such as UP-DOWN or FRONT-BACK'. These metaphors also do not provide much structure, but 'serve to correlate a whole system of concepts with each other', such as in '*I am elated*' or '*I am feeling down*', which tap into the Western conceptual metaphors HAPPY IS UP and SAD IS DOWN, respectively.[299] Where possible, attaining a firmer grasp of Egyptian conceptual metaphors used in medical compendia makes it possible to draw further links

[298] *Ibid.,* 7.
[299] *Ibid.,* 9-10.

between perspectives of sickness experience and determination, especially where it can be said that alternate lexemes are used to encode the same perspective.

In addition to this, Nyord's commentary on *image schemata* is also highly pertinent to eliciting concepts of the body and sickness. Image schemata diverge in terms of their abstractness from the 'rich, detailed mental images', such as those noted above; they arise from 'basic experience' such as 'putting things into and taking them out of containers (e.g., the human body)'.[300] Examples of image schemata from the Coffin Texts are offered, such as 1) the CONTAINER schema, e.g. where the *jb* is stated to be *inside* the *ḫ.t*;[301] the NEAR-FAR schema, e.g., in attestations of the *jb* or the *ḥꜣtj* being 'at hand' or 'brought' to the deceased; or 3) the CONTROL schema, e.g. where a being *sḫm m* 'has power over' the *jb* or the *ḥꜣtj*.[302] Such schemata are highly abstract; other examples include BLOCKAGE, PATH, FULL-EMPTY, SURFACE, BALANCE, and COUNTERFORCE. Following Johnson, Nyord points out that there 'is likely to be only a finite number of image schemata in existence', many of which 'can be arranged into a hierarchy – e.g., FULL-EMPTY is clearly dependent on the higher-level CONTAINER schema'.[303] This is an area of pronounced interest for the study of perspectives of the body, as the schema are not universally applied across cultures; they are reliant on culturally-specific concepts; 'if image schemata arise directly from our bodily experience, we would expect them to be more or less universal'.[304]

Nyord problematizes the study of non-biomedical conceptions of the human body from the opening passages of his volume,[305] and is consistent in his critique of previous attempts to render modern language equivalents for Egyptian words. Nevertheless, despite his otherwise surgical caution, many anatomical classifications discussed retain their Western identifications; as an example, the semantic differences between *šnʿ*  , rendered here as 'chest', and *šnb.t*  , rendered here also as 'chest' are not expanded upon sufficiently.[306] A better illustration of his attempts to problematise past hypotheses is found in his discussion of the Egyptian word *mt*  , which he opens by critiquing the *GdM*'s proposal of translating the term

[300] Nyord, *Breathing Flesh*, 12 ff.
[301] *Ibid.*, 68-9, cf. the many other examples of both *jb* and *ḫ.t* being structured according to the CONTAINER schema, 72 ff.
[302] *Ibid.*, 81.
[303] *Ibid.*, 81.
[304] *Ibid.*, 14.
[305] *Ibid.*, 2.
[306] *Ibid.*, 135 and 136, respectively.

as ‘vessel’, ‘strand’, ‘muscle’ – presumably dependent on the context in which it is found.[307] He favours instead any approach which advocates a more consistent application of a translation in all occurrences of the Egyptian term, as in the application of ‘*conduit*-met’ by Thierry Bardinet;[308] ‘anatomical conduit’, by Walker; and ‘*Gefäß*’, by Westendorf.[309] In his own analysis of this term, it is stated that a question remains as to whether the word ‘covers a very diverse range of body parts which are classified very differently in modern medicine’.[310] Of course, whether indeed this term need apply to an anatomical structure at all, especially in a medical context, needs re-evaluation.

Of course, Nyord never intended to direct his focus to the sick body in a *Sitz im Leben* context in this volume, nor were lexical semantics of anatomy or the physiology of afflictions from an Egyptian perspective ever an area for major consideration. Medical literature was consulted, though only in support of the analysis of the parts of the body found in the *Coffin Texts*, such as *ḫ.t*, *jb*, and *ḥꜣtj*. The funerary texts subjected to his study are decidedly different in both form and content from the medical papyri, and one can therefore expect that this is also reflected in a difference in vocabulary, as well as underlying thoughts and concepts that guided their composition. Nevertheless, the overall working methodology of applying conceptual metaphor theory formed the basis of two more recent contributions to the field of Egyptian medicine.

The first of Nyord’s articles explored here, ‘Analogy and Metaphor in Ancient Medicine and the Ancient Egyptian Conceptualisation of Heat in the Body’, was published in an edited volume that explored metaphor in medical texts from the ancient Mediterranean and Western Asia.[311] This paper provides an example of how the complex methodology explicated in *Breathing Flesh* can be applied to passages from medical papyri. As such, the first pages are dedicated largely to reiterating the methodology and the kinds of metaphor as delimited by Lakoff and Johnson.[312] Of these, Nyord notes that ‘of particular relevance to conceptions of the body in ancient medicine’ are structural metaphors, which reveal conceptions related to ‘the workings of the human body, especially its inside’ which are ‘necessarily described with

[307] Nyord, *Breathing Flesh*, 45; cf. *GdM VII*, 400-408.
[308] Bardinet, *Les papyrus médicaux*.
[309] Westendorf, *Handbuch*.
[310] Nyord, *Breathing Flesh*, 45.
[311] R. Nyord, ‘Analogy and Metaphor in Ancient Medicine and the Ancient Egyptian Conceptualisation of Heat in the Body’, in J. Wee (ed.), *The Comparable Body: Analogy and Metaphor in Ancient Mesopotamian, Egyptian, and Greco-Roman Medicine* (Leiden, 2017), 12-42.
[312] *Ibid.*, 12-17.

terminology adopted from other domains of experience, usually in terms of "physical" qualities and movements more readily observable through embodied experience'.[313]

Nyord elaborates on the differences between the everyday use of metaphor and the conceptual approach to metaphor; he places 'metaphor' as the subject of analysis on a continuum of two axes. The first concerns a metaphor's '*truth-functionality*' or '*ontological commitment*'; i.e., the extent to which the speaker considers the statement to be true. The example expression 'Achilles is a lion' is used to clarify this point; when used metaphorically, the speaker does not consider the statement to be true: Achilles is a human and the expression only emphasises his prowess as a warrior. Alternatively, were the speaker to be pointing to the name of a lion in a zoo, then the statement is instead true.[314] The second axis on the metaphorical continuum is '*lexicality*', which he illustrates using the expression 'there are blood vessels in the body', the truth of which 'most English speakers today would not deny'.[315] Of course, the lexeme 'blood vessels' contains the element 'vessels', referring specifically to arteries, veins, and capillaries. Nevertheless, the statement shows ontological commitment in its truth; it is not a metaphorical statement. Instead, the original meaning of 'vessels' has been 'stretched' semantically to create an entirely new, 'fully lexicalised, or even dead, metaphor' as a distinct classification.[316] This enables one to move beyond appreciating metaphor on 'the rather unhelpful binary distinction of "literal" versus "metaphorical".' A useful table is offered which further explicates this continuum for the reader:

	Lexically central [words used in standard sense; little 'semantic stretch' and no domain transfer]	**Lexically medial** [words used in a sense departing from the central one; some semantic stretch and domain transfer]	**Lexically marginal** [words used in novel or otherwise non-standard senses with strong semantic stretch and domain transfer]
Ontological commitment [e.g., statements that the speaker would consider true]	Literal language: e.g., 'the cat is on the mat'	Technical language: e.g., 'blood vessels'	Religious language: e.g., 'I believe in God, the Father almighty'
No ontological commitment [e.g., statements that the speaker would not consider (entirely) true]	Analogy/Simile: [use of explicit simile ('like') in such cases allows the usage of terms to remain lexically central (in this case 'balls' and 'sticks'; without the comparative 'like', the sentence requires semantic stretch] e.g., 'a molecule is like balls connected with sticks'	Idiomatic language: e.g., 'the sun rises'	Poetic language: e.g., 'Tis the East, and Juliet is the Sun'.

[313] *Ibid.*, 17.
[314] *Ibid.*, 17ff.
[315] *Ibid.*, 20ff.
[316] *Ibid*; this position follows, most recently, chapter four of G. E. R. Lloyd, *Being, Humanity, and Understanding: Studies in Ancient and Modern Societies* (Oxford, 2012).

TAB. 1: after Nyord (modified), in Wee (ed.) *The Comparable Body*, 23; the smaller font size indicates paraphrased explanatory footnotes added below Nyord's original table in the article.

In this table, we see that 'blood vessels' is considered 'true' but lexically medial, as semantic stretch occurs in its use of the word 'vessels'; however, it is as true as the statement 'the cat is on the mat', which shows no semantic stretch. The third example with ontological commitment is 'I believe in God, the Father the almighty', where the semantic stretch has far exceeded the meaning of 'Father' in its original meaning. Compared with these are statements which show no ontological commitment. Uses of simile are considered as lexically central as no semantic stretch has occurred; nonetheless, the speaker does not actually think that molecules are exactly the same as 'balls connected with sticks'. At the other end of the continuum, we find poetic language: 'Juliet' is decidedly not understood as being 'the sun' by the speaker. The application of this framework promises great potential for the study of Egyptian medical expression, and enables discourse to extend beyond simplistic binaries that determine statements as 'being' or 'not being' metaphor.

Nyord applies this methodological framework for assessing the Egyptian perspective of heat in relation to sickness in medical compendia. For his analysis, he selects texts that include the term *t*ꜣ*.w*  'heat' and relates its application to other words such as *h*(ꜣ)*b*  'deep penetration', *sš* 'nest', and *šnʿ*  'an obstruction'.[317] As he points out, the word *t*ꜣ*.w* is 'conceptually rich'. It is commonly used to denote a temperature appropriate for bread-baking,[318] and carries a further nuance of 'unpleasantly high temperature', making reference to the passage in pBerlin 3024 (87-8), in which the man speaks to his soul, saying: 'look, my name is reeking (*bʿḥ*); look, more than carrion's smell on harvest days, when the sky is hot (*t*ꜣ).[319] In these cases, heat has a transformative power, enabling dough to transform into bread, or a corpse to emit smells; they are literal uses (i.e., lexically central with ontological commitment). This contrasts with the uses in the medical texts, where *t*ꜣ*.w* is characterised as a mobile agent which can 'penetrate' and cause 'nests' and 'obstructions'. The source domains of *t*ꜣ*.w* as a metaphor are considered according to two phenomenological realities. The first being that 'heat is a salient aspect of experience for the lived body, even in numerous cases where a thermometer might not register a change in the "objective" temperature'. The second

[317] *Ibid.*, 26-30.
[318] Nyord (in Wee (ed.), *The Comparable Body*, 26, n. 27) cites a caption from the tomb of Meresankh III: 'hurry up, this (i.e., the oven) is hot (*t*ꜣ)!', citing W. K. Simpson, *The Mastaba of Queen Mersyankh III G 7530-7540* (Boston, 1974), fig. 11; cf. many other examples of this use and others in entries of *TLA* (2022), lemma-no. 168890.
[319] Nyord, in Wee (ed.), *The Comparable Body*, 26; J. P. Allen, *The Debate between a Man and His Soul: A Masterpiece of Ancient Egyptian Literature* (CHANE 44; Leiden, 2011), 78-9.

domain is cited as ‘a wide range of every day experiences, perhaps most notably in the production and consumption of food, suggesting that such areas of experience could be highly productive as source domains of metaphors’.[320] Although earlier in the paper he alludes to the significance of environmental factors, he does not include this among his list of domains, influential to the development of what anthropologists understand as ‘explanatory models’, in this case that of *tȝ.w*. Furthermore, a number of popular but misinterpreted characterisations of the ancient Egyptian tradition more broadly are made, likely resulting from the fact that the study only analysed passages in which *tȝ.w* occurs. The most evident of these is his assertion that:[321]

> ‘Unlike many humorological traditions, the Egyptian medical texts do not seem to regard temperature of the body and its parts as an equilibrium of forces that needs to be sustained. Rather, heat in various forms is portrayed as a sign or cause of illness, while cooling and coolness is its antithesis that leads back to a healthy state’.

Here, Nyord understands the use of ‘heat’ strictly as a metaphor for sickness, rather than as part of a complex explanatory model; this assumption is problematic especially when one considers the extent to which other words for heat are found in these texts, such as *hh* , *qȝd.w*  , *psiˁ*  (not only in the sense of ‘heating’ ingredients, see Eb. 854c), *ḫm*  , and *šm*  , to name a few. Together with his observation regarding the phenomenological realities of ‘heat’, its extensive use actually suggests that a body-ecologic informed the understanding of sickness causation, implying a more dynamic perspective than is offered in the texts themselves. Moreover, while it is true that terms such as *qb* ‘to be cool’ appear with far less frequency and only in instances where it is lexically substituted for words such as *snb* ‘to be healthy’, it must be remembered that the surviving healing texts are predominantly compendia of practical measures for treating sicknesses. The healthy-state of the body is never the primary concern and thus receives very little—if any—explicit description. It is worth recapitulating that—as has been noted by the medical anthropological literature discussed above—the designation ‘humorological’ is problematic and cannot be readily defined in the context of other ‘balance’ traditions. Nyord offers no working definition of the designation nor any further comment in the direction of balances in Egyptian medicine, and thus the question as to whether such a concept existed remains open. These quibbles aside,

[320] *Ibid.*, 25.
[321] *Ibid.*, 25-6.

the analytical models promulgated and adapted by Nyord for the study of sources that shed otherwise restricted light on ancient Egyptian ethnomedicine remain indispensable.

2.2.3. Universality, cultural specificity, and intercultural knowledge transmission

Given the overall comparatist's agenda guiding the thesis, it is necessary to comment upon the opposing extremes of the 'universalist' and 'cultural relativist's' approaches to the study of cultures. Epistemological consideration of these two opposing schools of thought was first introduced into Egyptology and Assyriology by Bruce Trigger. The debate between universalist and cultural relativist essentially questions the extent to which such patterns can be considered the product of a balance struck between the 'biological similarities and the cultural diversity of human beings'.[322] While the latter of these is reflected in cross-cultural variations of thought and behaviour, the former is argued to be reflected in 'patterning', especially 'in the demonstrated absence of historical connections'.[323] In the opening chapters of his book,[324] Trigger presented a historical overview and core philosophies of the two opposing vantages in their commentary of the degree of similarity in human behaviour and thought shown in disconnected cultures throughout the world, and how these can be measured against analogous circumstances, such as the body or local environment.

On the one hand are the extreme relativists who would claim that 'no one… can understand one or more other cultures sufficiently well enough to make comparisons that are more than projections of ethnocentric fantasies'.[325] On the other are the universalists who advocate the necessity of further research into both the limitations and patterning in human behaviour, clearly explicated by Donald Brown in 1991[326] and expanded upon by Trigger in terms of evidence from 'pristine cultures'.[327] Trigger's own justification for his analysis is grounded in the ethos that 'to abandon an effort to understand patterning in human behaviour on the grounds of such dogmatic and unsubstantiated assertions [of the cultural relativist] would be a shameful act of intellectual cowardice'.[328] From examples of historical medical cultures, the universalist might demonstrate patterns in human thought such as the 'body in

[322] *Ibid.*, 3.
[323] Trigger, *Early Civilizations*, especially pp. 3-4, and 14.
[324] B. Trigger, *Understanding Early Civilizations: A Comparative Study* (Cambridge, 2003), 3-39.
[325] Trigger, *Early Civilizations*, 14.
[326] D. E. Brown, *Human Universals* (New York, 1991).
[327] Each culture studied is defined as being '"primary" or "pristine" in the sense that its institutions do not appear to have been shaped by substantial dependence upon or control by other, more complex societies'; this includes both Mesopotamian and Egyptian civilization; Trigger, *Early Civilizations*, 29-33; here 29.
[328] *Ibid.*, 14.

balance' that pervades Graeco-Roman, Chinese, and Indian medicines.[329] Conversely, the relativist would draw attention to the divergence between anatomical or physiological perspectives, facets of which are arguably ingrained in dissimilar cultural configurations of emphases on the individual or social bodies.[330] Medical anthropology has engaged with this discussion through varied guises, for example in Kleinman's discussion of 'biophysical' and 'cultural' realities as informants on medical practices.[331]

In the past decade, the study of universals in ancient cultures—or even 'relative universals', a term employed to reduce absolute binary distinctions, for example in compared cultures that occupied a region with similar geographical environments during a given time-frame—has increased in traction.[332] This better engages comparative research with the question of which patterns in thought and behaviour can be considered as either a) the result of cultural interconnectivity, or b) the result of universal biological or environmental realities. This discussion especially adds further epistemological depth to an analytical engagement with similarities in perspectives of the body and sickness as they appear in Egyptian and Mesopotamian sources. Where similarities occur, it is necessary to consider which were developed locally by those cultures (i.e., relatively unique concepts), which concepts are shared between them as the result of analogous environmental factors (i.e., resulting from human experience of living in prominently riverine societies), and which can be seen as a more universal way of thinking (perhaps derived from biophysical experience of the human body). Furthermore, where similar paradigms of thought can be demonstrated, these three considerations add a further dynamic to discourse on why such concepts might transmitted cross-culturally.

[329] See section 2.1.2, above.
[330] See now also Russell et al., *Ethnopharmacology* 265, 1-10, which explored a potential pattern in thought concerning a conceptual relationship between bodily obstructions and sickness genesis; this uses a case study of Egyptian teaching texts from pEbers (Eb. 188-220) and concepts central to modern TCM.
[331] See section 2.1.1., above.
[332] E.g., Pommerening and Bisang, in Pommerening and Bisang (eds.), *Classification*, 1-20; also now J. Althoff, D. Berrens, and T. Pommerening, 'The Construction and Transfer of Knowledge in the Pre-Modern Era', 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* (Bielefeld, 2019). Focus on the universality or cultural specificity of ideas is the overarching focus of research in the *Gradiertenkolleg 1876* at the Johannes Gutenberg Universität, Mainz, titled: *Frühe Konzepte von Mensch und Natur: Universalität, Spezifität, Tradierung* (https://www.grk-konzepte-mensch-natur.uni-mainz.de/). This collaborative effort groups together researchers working more broadly on selected concepts from the ancient and medieval cultures of the Mediterranean basin, Egypt, and Western Asia, and is an initiative that I have been most grateful to be associated with for the past years.

2.3. Insights from ethnomedical quantitative fieldwork data analysis

The Egyptian therapeutic compendia are dominated by lists of therapeutic recipes. Each recipe entry includes a title that is highly abbreviated in terms of anatomical region of the body or the sickness (experience) classification against which it is utilized. While each entry often includes recipe processing instructions (i.e., 'to be heated', 'strained', 'incinerated', etc.) and administration instructions (i.e., 'to be bound', 'drunk', 'eaten', etc.), it is the composition of the recipe's ingredients, sometimes including specific measurements of each, which is the most significant and unabbreviated part of each entry.[333] Up to this point, little has been offered in terms of how *materia medica* can further inform on the Egyptian perspective of sickness, beyond the development of the 'medical re-enactment' forwarded by Pommerening.[334] As has been noted in the literature review, the composition of recipes in Egyptian therapeutic compendia—the primary *raison d'etre* for these manuscripts—has either been analysed solely with the objective of appraisal according to biomedical perspectives,[335] or avoided altogether.[336] A total of around 1,000 individual recipes make up the corpus of recipes studied in this thesis from the second millennium BCE texts,[337] indicating that some form of quantitative analysis of recipe composition could be a useful additional analytical tool, especially for exploring similarities in sickness experience encoded by sickness classifications. The method of data analysis chosen by the present thesis summarised here is inspired by ethnomedical quantitative data analyses of the so-called 'free-list' and 'successive free-list'. It is posited here that this method is particularly useful for exploring commonalities and differences between different papyri and their subsections, better accounting for the myriad ways that sickness experiences could be expressed. Before outlining these in greater detail, however, it is necessary to outline some points that steer the intertextual analysis.

The first point concerns the use of explanatory models for assessing the relationship between sickness identification and therapeutic application – a central objective in the study of ethnopharmacology in particular. In an influential study from 1975, during the height of the rationality debate, Bernard Oritz de Montellano demonstrated that precolonial Aztec medications for headaches, whose chemical compounds had been identified to cause nosebleeds, were prescribed because from that culture's perspective, headaches were

[333] E.g., Westendorf, *Handbuch*, 87-9.
[334] See section 2.2.1., above.
[335] Most notably Campbell, *Pharmaceutical and Therapeutic Merit*.
[336] E.g., Radestock, *Prinzipien*.
[337] Each entered into a database: see appendix 2.

understood to be caused by an excess of blood in the head.[338] Whether or not the remedy cured headaches was not examined; it hypothesised only that this was an example of the convergence between 'the phenomena described [from the Aztec perspective] and bioscientific understandings' of the recipe composition. Such ethnomedical lines of enquiry began to diverge in the 1980s from that of the medical anthropologist, with the latter being more focused on the experience of sickness from the perspective of the sufferer, whereas—it was argued—ethnomedicine became biomedically subjective and 'confined to eliciting taxonomies of disease without considering their application in practice'.[339] Nevertheless, for the historian, who is limited only to textual extracts and otherwise unable to consult living members of the studied societies, these ethnomedical lines of enquiry can provide an additional tool for investigation.

The second is that within medical traditions worldwide, a level of 'medical pluralism' persists. This can manifest in the presence of distinct classes or even hierarchies of practitioners. In Western culture, even biomedicine has many professions, e.g., surgeon, pharmacist, and general practitioner – each having a unique educational trajectory. In addition to this, still other systems operate, such as TCM specialists, herbalists, and yoga instructors.[340] Additionally, practitioners within one system can offer 'alternative causal explanations of sickness'.[341] Continuing with the example of Western culture, in 1978, Kleinman et al. explained that:[342]

> 'The illness process begins with personal awareness of a change in body feeling and continues with the labelling of the sufferer by family or by self as 'ill'. Personal and family action is undertaken to bring about recovery, advice is sought from members of the extended family or the community, and professional and "marginal" practitioners are consulted… an estimated 70% to 90% of all self-recognised episodes of sickness are managed exclusively outside the perimeter of the former health care system'.

This level of social involvement, even today, results in an array of different perspectives of the cause of the sickness in question and appropriate treatment strategy to follow being hypothesised, and while popular home-remedies are well known within a community, the

[338] B. Oritz de Montellano, 'Empirical Aztec Medicine', *Science* New Series 188(4175) (1975), 215-220.
[339] E.g., Lock, *Medical Anthropology Quarterly* 15(4) (2001), 479; 481; cf. C. H. Browner, B. R. Oritz de Montellano, and A. J. Rubel, 'A Methodology for Cross-cultural Ethnomedical Research', *Current Anthropology* 29(5) (1988), especially pp. 681-2.
[340] E.g., Leslie, *Asian Medical Systems*, 406-7.
[341] E.g., Fábrega, *Sickness and Healing*, 10-11; H. A. Baer, 'Medical Pluralism: An Evolving and Contested Concept in Medical Anthropology', in Singer and Erickson (eds.), *Medical Anthropology*, 406-7.
[342] A. Kleinman et al., 'Culture, Illness, and Care', *Annals of Internal Medicine* 88 (1978), 251.

sickness experience is shared by many, with each participant, including family members, borrowing their knowledge from other groups, rendering approaches somewhat eclectic.[343] In both professional practice and the administration of popular home remedies, ingredients can be replaced with others when the preferred ingredient is not accessible;[344] doses of constituent ingredients can vary from informant to informant, and multiple names for *materia medica* can exist within one language group (e.g., in the English 'spring onion', 'scallion' and 'green onion' all refer to similar subspecies of *Allium*).[345]

The same is true for the use of classifications used to diagnose sicknesses, as well as the terminology used to designate the part of the body afflicted. Multiple words for common sicknesses (e.g., 'rashes', 'pox', and 'pimples' can be used interchangeably depending on whom you ask), bodily actions (e.g., 'breastfeeding', 'lactating', and 'nursing', or 'upset stomach' and 'vomiting'), and even body parts (e.g., 'belly', 'stomach', 'gut') can exist at all levels of society: 'Does "stomach" refer to a single organ or to the general area? Is it synonymous with gut and belly?'[346] Within a society at a given point of time, this suggests there could be multiple known recipes for a sickness, multiple names for the same sickness, multiple methods for preparing or administering a same recipe, and so on. All of this is heavily dependent upon a multitude of variables, such as the patient's own background and typical mode of expression, and similarly the person(s) involved in sickness explanation and subsequent prescription of the therapeutics. Even the geographical location and time of year (e.g., for ingredient availability) play a huge role in dynamic and pluralistic forms medical practices take.[347]

The final point is that nosologies in some societies are not fixed entities; such classifications can be fluid within one community, depending on whom you ask. In Jean-Pierre Olivier de Sardan's research into the Songhay-Zarma peoples of West Africa, for example, 'illness entities' are assigned to sets of symptoms, though the boundaries blur considerably.[348] The examples of '*yeyni*' and '*weyno*' are used, two words for which even the etymological

[343] E.g, Fábrega, *Sickness and Healing*, 10-11; Quinlan, in Singer and Erickson (eds.), *Medical Anthropology*, 391-2; Baer, in Singer and Erickson (eds.), *Medical Anthropology*, 405.
[344] E.g., A. L. Ososki et al., 'Medicinal plants and cultural variation across Dominican rural, urban, and transnational landscapes', in A. Pieroni and I. Vandebroek (eds.), *Traveling Cultures and Plants: The Ethnobiology and Ethnopharmacy of Human Migrations* (New York, 2007), 14-38.
[345] M. B. Quinlan, 'The Freelisting Method', in P. Liamputtong (ed.), *Handbook of Research Methods in Health Social Sciences* (Singapore, 2019), 1442.
[346] *Ibid*.
[347] *Ibid*.; Kleinman, *Patients and Healers*.
[348] See also the comments on Olivier de Sardan's work in Steinert with Hsu, in Steinert (ed.), *Systems of Classification*, 15.

route of the terms cannot provide any satisfactory meaning.[349] Three types of *yeyni* are identified 'with no apparent connection': *yeyni fara* – a pain from the bones or even marrow; *yeyni fuusu*, swellings of the flesh of the legs, arms, or belly, bringing about hernias or oedemas; and *gunde yeyni*, seemingly indicating stomach pains which in some cases is said to move about the body. *Gunde yeyni* is related in terms of sickness experience to the second sickness entity named, *weyno*, which also relates to the stomach. Reports from some informants name *yeyni* as the 'mother of *weyno*', whereas for others, the reverse is true. This point is illustrated by the accounts of three different informants:[350]

> 'There is also the *yeyni* that you have in your belly, it moves around in your belly as if you were pregnant; this kind of *yeyni* stays with you as if it were married to you, it takes control of your belly, it becomes *weyno*; *yeyni* is the mother of *weyno*'.
>
> 'There is a kind of *yeyni* that is not *yeyni fara* and which is the child of *weyno*, it can circulate in your body; when *weyno* persists and remains hidden, it turns into *yeyni*, a very bad form of *yeyni* which penetrates everywhere'.
>
> '*Weyno* and *yeyni*, it's all the same, *weyno* is just *yeyni*'.

A focus of an ethnomedical researcher is to establish any existing boundaries in classification schemes – these are known as 'cultural domains' – these exist in all aspects, not just sickness.[351] For example, if one were to ask a modern English speaker to create a list words which fit into the category 'animals', that list could include a wide set of answers, including 'dogs', 'cats', 'pelicans', 'birds', 'mammals', etc.[352] This example shows semantic relations between its members, as they can be structured hierarchically: 'dogs' also belongs to the domain 'mammals', and so 'mammals' is a superordinate level in the domain 'animals'.[353] Furthermore, depending on who is asked, some entries would appear with a higher level of

[349] J.-P. Olivier de Sardan, 'Illness entities in West Africa', *Anthropology and Medicine* 5(2) (1998), 195-196.
[350] *Ibid.*, 197.
[351] See Goldwasser (*Wor(l)d Classification in Ancient Egypt*, 25-38) for a summary of prototype theory and membership as can be applied to the study of ancient Egyptian determinatives as 'classifiers'; this is built on the work of psychologist Eleanor Rosch ('Principles of categorization', in E. Rosch and B. Lloyd (eds.), *Cognition and Categorization* (Hillsdale, 1978), 28-49) and Berlin (*Ethnobiological Classification*).
[352] The following explanation of cultural domains offered here is a summary of S. P. Borgatti, 'Elicitation Techniques for Cultural Domain Analysis', in J. Schensul, M. LeCompte, S. Borgatti, and B. Nastasi (eds.), *The Ethnographer's Toolkit* 3 (Walnut Creek, CA, 1998), 115-51; see also the classic overview provided in S. C. Weller and A. K. Romney, *Systematic data collection (Qualitative Research Methods)*, (Newbury Park CA, 1988), especially pp. 9-14.
[353] For superordinate levels expressed in the Egyptian writing system, especially in terms of the use of classifiers and names for *materia medica*, see Pommerening, in Pommerening and Bisang (eds.), *Classification*, 170-176; this builds on the work of Orly Goldwasser in a medical context; see O. Goldwasser, *Prophets, lovers and giraffes. Wor(l)d classification in Ancient Egypt* (CCAE 3; Wiesbaden, 2002).

'cultural salience'. As 'dogs' and 'cats' are common 'pets' in many modern societies, these are more likely to occur with higher frequency across informants than would, for example, 'pelicans', as they belong to the superordinate domain 'pets', a domain to which many informants from Western culture would more commonly be exposed. Thus, culture and lived experience dictates the formation of such lists. A final note is that in such lists, 'synonyms and redundant phrasing' can be a regular occurrence in such lists.[354] To clarify, a list of 'my favourite foods' would not constitute a cultural domain, as the answers are subjective to the individual and do not reflect categorical principles shared by the society as a whole. Cultural domains from disparate cultures—including domains of sickness experience—can be exacted through the creation of what is known as a 'free-list' elicitation technique. In field interviews, this is a simple method whereby members of a community can be asked to list all items in the domain of 'X'. The aim is to identify contents and boundaries of cultural domains.[355] For example, 'list all sicknesses that result in diarrhoea', 'what symptoms belong to the sickness entity "X"', or 'what sicknesses are caused within the body'.[356] The resulting free-list is thus an informant-by-item matrix which can be created from a typical free-list: i.e., informant 1 listed item A, B, C, and D, in his/her answer to the question 'list all medications used to treat sickness X'; informant 2 listed items B, D, and E; informant 3 listed A, B, D, G, and H; and so on.[357]

While this technique offers invaluable insights into how to manage the quantitative datasets of recipes, there is an obvious problem with applying the analytics to ancient source material: while salience of recipes or ingredients can be explored where categorised lists are known (e.g., the recipe list headings present in pEbers: *ḥ³.t-ʿm pḫr.t n.t* X 'the start [i.e., of the list] is a recipe for 'X'), the ancient informants (i.e., the initial source of a given recipe) obviously cannot be consulted for further corroboration. Furthermore, while salience can be measured by repeated variations of the same kind of recipe within one list, this does not necessarily always reflect a level of cultural salience alone, especially as the analysis is reliant on but a small number of scribes who composed each manuscript, rather than the twenty or so informants used in ethnomedical questionnaires. Of course, where repeated examples of the same recipe category appear across multiple papyri from different periods or locations, this can

[354] Quinlan, in Liamputtong (ed.), *Research Methods*, 1442.
[355] *Ibid.*, *passim*; C. G. Gravlee, 'Research Design and Methods in Medical Anthropology', in M. Singer and P. I. Erickson, *A Companion to Medical Anthropology* (Chichester, 2015), 81-4.
[356] E.g., *ibid*.
[357] E.g., Ryan et al., 'Successive Free Listing: Using Multiple Free Lists to Generate Explanatory Models', *Field Methods* 12(2) (2000), 85.

move us closer towards a useful discussion of salience of a recipe within the cultural domain wherein it is found. This makes it easier to conduct even cross-cultural comparisons, e.g., by comparing potentially salient treatments and domains between cultures. It should also be noted that cultural salience does not always reflect efficacy from a biomedical perspective (one might think of the salience of venesection in throughout European medical history), though in some cases it can certainly hint towards it.[358] Nonetheless, gaining the perspective of the target culture remains paramount – such indications of salience for certain treatment strategies can further shed light on the typical experiences from the perspective of both the sufferer and those involved in prescribing the treatment. Supporting philological analyses thus remain the core tool at the historian's disposal. Of course, the questions in the mind of an ethnomedical analyst—i.e., structural relationships between members of a domain (or recipe list), synonymous expression, etc.—remain pertinent to the analysis of the quantitative datasets.

As demonstrated by Olivier de Sardan's example of sets of experiences or symptoms belonging to Songhay-Zarma sickness entities, cultural domains of sickness experience can be difficult to elicit or even interpret due to their inherent fluidity. To overcome this, or more clearly illustrate the extent to which domains of sickness are fluid in cultures, ethnomedical analysts have used an embellished version of the free-list analytical technique, known as the 'successive free-list'. It is argued here that this method is a useful tool for further exploring patterns in and relationships between certain sickness domains.

In the study of Gerry Ryan et al., it was noted that regular free-list data[359]

> 'are limited in that they only produce a two-mode, informant-by-item matrix. Relationships between items or people are based solely on the similarity of the content and organisation of informants' lists. Investigators are left to generalize about the rules informants use to order or categorize listed items'.

The successive free-list combines free-list data from varying free-lists between which the ethnomedical analyst pre-emptively suspects a relationship might exist. This was demonstrated using P. Stanley Yoder's free-list datasets which explored domains of diarrheal disorders in

[358] Salience may of course also reflect importance of colour to a given culture, or even confidence in a strategy which can only be explained biomedically through the placebo phenomena; e.g., D. E. Moerman, 'Agreement and Meaning: Rethinking Consensus Analysis', *Journal of Ethnopharmacology* 112 (2007), 451; I. Vandebroek and D. E. Moerman, 'The Anthropology of Ethnopharmacology', in M. Heinrich and A. K. Jäger (eds), *Ethnopharmacology* (Chichester, 2015), 19-20.
[359] G. W. Ryan et al., 'Successive Free Listing: Using Multiple Free Lists to Generate Explanatory Models', *Field Methods* 12(2) (2000), 86.

Lubumbashi Swahili.[360] Among the information elicited by Yoder emerged—through three separate group interviews of mothers with small children—four major categories of sickness described by the informants, *Kahura*, *Kilonda Ntumbo*, *Lukunga*, and *Kasumbi* – these arose with blurry domain boundaries, as the data from their table of Yoder's free-list data demonstrates (see TAB. 2, below). The enquiry undertaken by Yoder, and processed in Ryan et al. of course contained detailed descriptions of signs and symptoms, causes, as well as the methods of treatment. Secondly, multiple persons were interviewed within each group again producing better results

[360] P. S. Yoder, 'Examining ethnomedical diagnoses and treatment choices for diarrheal disorders in Lubumbashi Swahili', *Medical Anthropology* 16 (1995), 211-48; especially the ethnomedical data in Yoder's appendix, pp. 233-45.

Group ID	*Illness*	*Sign and Symptom*	*Cause*	*Treatment*
1	Kuhara	Frequent stools, vomiting, fever, no appetite	Teething, poorly prepared bottle, intestinal worms, diarrhea from walking, eating dirt (ground), lukunga	SSS, rice water, carrot juice, guava juice
2	Kuhara	Frequent stools, watery stools, general weakness, intense thirst	Bad food, teething, intestinal worms, bottle-feeding, eating dirt (ground)	Go to health center, SSS and ORS, terramyacin, rice water, carrot juice
3	Kuhara	Very frequent stools, no appetite, listlessness, crying, thirsty	Unboiled water, bad food, poorly prepared milk, eating many different kinds of food, intestinal worms	Rice water, SSS
1	Kilonda ntumbo	Fever, stools with undigested food, watery stools, very frequent stools	Food that is too sweet, fruit that is not ripe	Put Vicks on anus; put banana leaves and palm oil on anus
2	Kilonda ntumbo	Rash on buttocks, very frequent stools, anus becomes enlarged	Eating foods that are too sweet, e.g., porridge, sweetened drinks, tea	Put Vicks on anus; suppository of tomato leaves
3	Kilonda ntumbo	Rash on buttocks, frequent stools, anus becomes enlarged, stools with undigested matter, stools containing fibrous matter	Food that is too sweet, suckers (candy), mangos that are not ripe	Put Vicks on anus; sit in basin of water containing mango bark
1	Lukunga	Very frequent stools, clacking of the tongue, vomiting, sunken fontanelle, spots/bumps on palate	If a mother eats fish called *kabambale* or *mulonge*, she may give birth to a child with lukunga	Any plant picked up at a crossroads can be burned and mixed with palm oil and local salt and applied to palate
2	Lukunga	Frequent stools, clacking of the tongue, split in the palate, sunken fontanelle, green stools	A child can be born with it, bottle-feeding a child	Burn the head of mulonge fish and mix with palm oil and local salt to apply to palate; apply a mixture of burned banana bark, palm oil, and local salt to palate
3	Lukunga	Clacking of the tongue, intense thirst,	Sorcery	Burn some trash from the market, mix

TAB. 2: after Ryan et al., *Field Methods* 12(2) (2000), 89-90

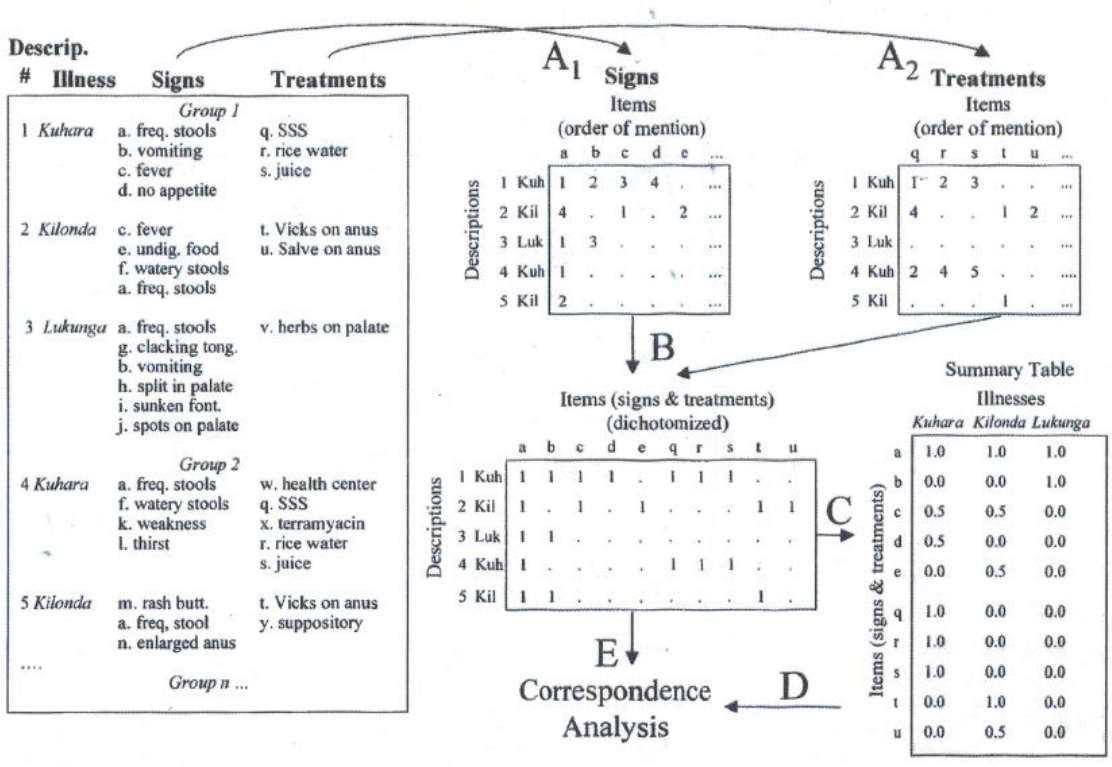

FIG. 3: after Ryan et al., *Field Methods* 12(2) (2000), 91

in terms of salience than would, for example, be able to be confirmed in a study of Egyptian recipe lists. Nevertheless, at least in terms of salience, the groups were then analysed as though

they were one informant offering a list of items in a free-list. The question asked in Ryan et al.'s study was how the relationship between the three overarching sickness domains could be determined based on three entirely separate domains of 1) signs and symptoms; 2) cause; 3) treatments, each with their own entirely separate and incomparable members.

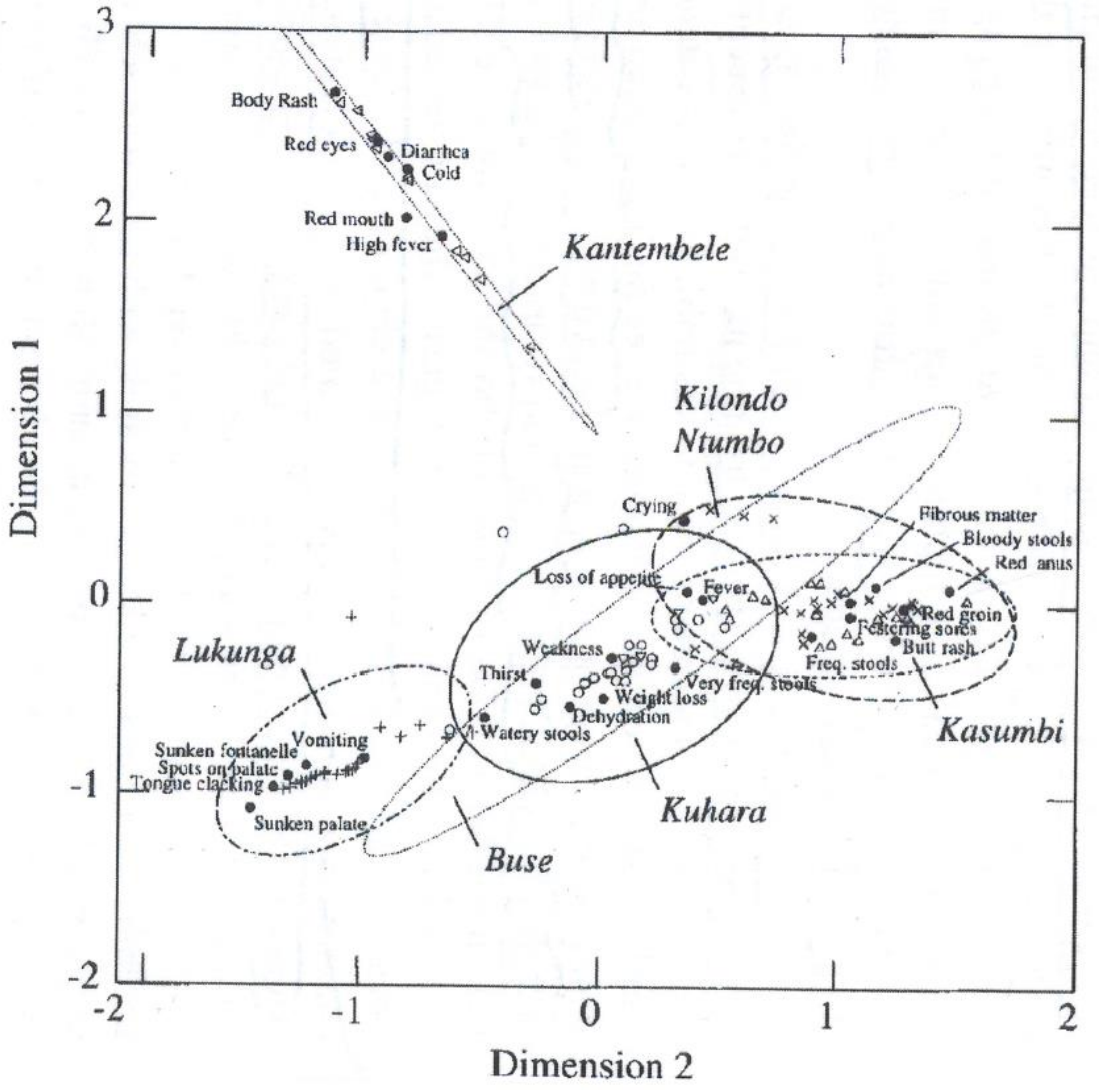

FIG. 4: after Ryan et al., *Field Methods* 12(2) (2000), 100.

Ryan et al. proposed a data analysis technique known as a 'correspondence analysis' to overcome this obstacle. A series of data-wrangling steps for processing the raw free-list data are required for doing so (see TAB. 2, above). The first step for doing so is to combine the free-lists into separate informant-by-item matrices ordered by mention (step A1 and A2 in FIG. 3), dependant on the subdomain – i.e., in Ryan et al.'s case, separate matrices for signs and treatments. These individual matrices are then combined into a matrix dichotomised by informants (step B) which is then converted into a summary table (step C). The matrices created through steps B and C are then combined, to form the correspondence analysis, which measures

the distance between sickness domains according to its members, in this case the data from the successive free-lists of subdomains 'signs' and 'treatments' (see FIG. 4, above). Incidentally, the correspondence analysis was also trialled by Fukugawa for a study of ingredients in pEbers, though—as noted in the literature review—with very limited results, owing to its restricted application. In Ryan at al.'s example, what is shown is a spatial relationship between the sickness classifications, showing areas of convergence and divergence in a visually accessible format. Of course, again, the technique needs to be modified to account for the disparity between a historical source and informant interview data.

What needs to be determined for this to be of use is first the structuring of information in individual papyri recipe categories. This is easy for pEbers, which—as has been noted—is conveniently studded with headings. For pHearst and pBerlin this is less simple, as the heading markers are not present and, as pointed out by Pommerening (see section 1.2.1., above), their arrangement follows dissimilar organising criteria. Furthermore, the data from the papyri themselves will need to be inputted into the analysis program in a way tailored specifically for the dissimilar data types. In sum, however, frameworks for analysing data from the free-list elicitation technique used in ethnomedical studies highlight useful considerations for analysing the recipe data-sets. Furthermore, the 'successive free-list' analytical model offers a promising tool not only for exploring relationships between different domains of sickness in one papyrus, but also for observing convergences and divergences between manuscripts with similar themes from different geographical locations or periods. This technique will be adopted here as a tool to complement a philological textual analysis, however, and not the other way around.

2.4. Research questions and methods

Reflecting the diversity of Egyptological, Assyriological, medical historical, and anthropological and ethnomedical insights discussed in the previous sections, the epistemological frameworks necessary for the endeavour of the present dissertation are multifarious. To address the deficit in Egyptological literature for an understanding of the ancient Egyptian perspective of the inner body and sickness (experience), as well as the recorded treatment strategies utilized against such sicknesses, the present research will address three interconnected facets of the broader question: what was the ancient Egyptian perspective of the inner-bodily sicknesses: how were these classified, experienced, and treated? The first facet intends to address the appearance of the inner body, its anatomy, and its physiology, as a staging point for sickness experience. The second explores the explanatory models used to structure sickness experiences – this includes an inquiry into whether the Egyptian concepts

are influenced by thought patterns in line with an individual or social body, and is expanded to consider topographical and environmental realities, as well as known cultural narratives. The final central facet concerns the use of treatment strategy lists and how cultural salience of certain treatment types might further inform on the blurred boundaries between sickness categories or explanatory models, in terms of the sickness experiences they might encapsulate.

Once a clearer view of the Egyptian perspectives has been gained, the thesis will offer a final towards its historical contextualisation by focussing on a very select case study of Mesopotamian source material, wherein the three interconnected questions listed above will be applied to the cuneiform source material. The broader question here is: how do the results of the investigation into Egyptian sources compare with those of the Mesopotamian case study – what are the major differences between the results, and—if similarities are present—can these be considered evidence of a more relatively universal construction of thought, or instead witness to a degree of interconnectivity in thought in this region of the ancient world?

To fulfil the already broad-reaching objectives of the dissertation, the parameters of the investigation—the scope of the core primary sources studied—are firmly limited to Egyptian therapeutic compendia that include dedicated chapters on inner-bodily therapy. Furthermore, to account for the huge time-span throughout which these manuscripts are dated, the study of Egyptian material will be divided into three parts, reflected in three chapters. Owing to the nature of the source material, the first chapter will be the most extensive, and will set the theoretical ground-work with which the source material in the second and third chapters are compared. This first chapter will focus specifically on pEbers and pHearst, dated to around mid-second millennium BCE. The former includes unique and well-known passages that offer greater insight into the Egyptian perspectives of the inner body and sickness: notably the two 'knowledge' (*rḫ*) chapters on the conduits (*mt.w*) and the *r³-jb Lehrtexte*.[361] These require a dedicated exegesis before the overall investigation moves to examine the given cultural domains of sickness experience and their associated therapies. The second chapter moves on to two well-preserved documents from a slightly later period – namely pBerlin 3038 and pChester Beatty VI; this will conclude with a discussion of observations that serve to indicate any development of concepts, or rather whether the encoded concepts reflect and support those exhibited by the manuscripts of the first chapter. The third chapter will consider two far-later

[361] E.g., Westendorf, *Handbuch*, 80-96; T. Pommerening, 'Die *šs³.w*-Lehrtexte der heilkundlichen Literatur des Alten Ägypten Traditionen und Textgeschichte', in D. Bawanypeck and A. Imhausen (eds.), *Traditions of Written Knowledge in Ancient Egypt and Mesopotamia* (AOAT 403; Münster, 2014), 7-46.

and far more fragmentary documents: pRubensohn (pBerlin P10456) and pVindob 6257; the former is dated to the 26th Dynasty, whereas the latter to the mid-second century CE. Unfortunately, the temporal lop-sidedness of this structure reflects the comparative deficit in currently published later sources, as the two manuscripts in the third group constitute the only therapeutic compendia dealing with afflictions of the inner body. Further manuscripts have, however, been identified, and—as noted in the literature review above—are soon to be published (the Saite-period text by Juliane Unger, and the demotic Tebtunis manuscripts by Amber Jacob). Nevertheless, and luckily for the objectives of the present study, the cultural domains of sickness experience in these manuscripts are comparable as both include treatment strategies against bronchial conditions; their inclusion here thus provides a valuable insight into the later transmission of earlier Egyptian concepts. The final comparative case study from Mesopotamian source material restricts its focus only to the so-called 'Bronchia' tablets from the broader Nineveh Therapeutic Compendia (NTC); this subsection of the NTC was chosen as—as will be seen—the comparable nature of its content with both the earlier more complete and later fragmentary Egyptian documentation.

The documents from all four groups have been fully re-translated to enable the study full and uninhibited engagement with the documents at a lexical level; these are provided in a 'text appendix'. The Egyptian texts are fully supplied with hieroglyphic transcription and transliteration, as well as minor lexical commentary, where considered necessary. For the Akkadian tablets, their translation is accompanied by a full rendering of the original cuneiform first in cuneiform transliteration and secondly in Akkadian normalisation. The only exception to this rule is that—given its comparative monumental size though conveniently separated chapters on inner-body and outer-body therapeutics—the passages of pEbers included in the appendix only consists of the core sections studied, these are: Eb. 1-335; 477-81; 627-96; 750-82; and 854-6. Any further passages from pEbers, or indeed any other non-core source material discussed as supporting documentation in the present dissertation is supplied in-text with Egyptological or cuneiform transliteration, with a complete reference to relevant published editions of these texts which might contain facsimiles, transcriptions, or otherwise.

The translations of Middle Egyptian source materials follows James Allen's grammar;[362] for demotic, Janet Johnson's grammar;[363] and for Akkadian sources, John

[362] J. P. Allen, *Middle Egyptian: An Introduction to the Language and Culture of the Hieroglyphs* (Cambridge, 2013).
[363] J. H. Johnson, *Thus Wrote 'Onchsheshonqy – An Introductory Grammar of Demotic* (3rd edn., SAOC 45; Chicago, 2000).

Huehnergard's grammar is followed.[364] For sign-lists, Egyptian hieratic follows that of Georg Möller; for demotic, Wolja Erichsen's and Ola el-Aguizy's sign lists are followed;[365] for cuneiform texts, the sign-lists of both René Labat and Rykle Borger are followed.[366] Finally, beyond those of the *GdM*, the primary Egyptological dictionary consulted is the *TLA*, through which references to other dictionaries have been followed where necessary; for demotic, both Wolja Erichsen's *Glossar* and the *Chicago Demotic Dictionary* (*CDD*) have been followed;[367] for Akkadian, Jeremy Black et al.'s *Concise Dictionary* and the *Chicago Assyrian Dictionary* (*CAD*) have been followed.[368] The semantic fields of Egyptian lexemes are considered throughout this dissertation using Helmut Satzinger and Danijela Stefanović's recently published *Root Lexicon*,[369] and etymologies for terms, where known, are considered using the published works of Gabor Takács.[370] It should be noted that due caution is necessary in any consideration of etymological relationships in terms grouped by these volumes; the latter, especially, has received much criticism.[371] Etymologies of Akkadian words will only be considered through their relationship to Egyptian terms, as to do otherwise would extend far beyond the scope of this project.

Each chapter will first (re-)consider the significance of the scribe's chosen arrangement of the manuscript studied more generally, and remark upon any pertinent similarities and differences. The first chapter will begin with an extended discussion of the 'knowledge' and '*Lehrtexte*' from pEbers, noted above. The objectives in this section are somewhat different to the remaining discourse, and can be defined here as a) to consider the overall layout of these

[364] J. Huehnergard, *A Grammar of Akkadian* (3rd edn.; Winona Lake, 2011).
[365] W. Erichsen, *Demotische Lesestücke I* (Leipzig, 1937), 41-6; O. el-Aguizy, *A Palaeographical Study of Demotic Papyri in the Cairo Museum from the Reign of King Taharka to the End of the Ptolemaic Period (684-30 BC)* (MIFAO 113; Cairo, 1998). It is of note that—to date—any comprehensive Demotic palaeography remains to be desired; for an overview of this matter, see e.g., J. F. Quack et al., 'Demotic Palaeography', in V. Davies and D. Laboury (eds.), *The Oxford Handbook of Egyptian Epigraphy and Paleography* (Oxford, 2020), 605-17.
[366] R. Labat, *Manuel d'épigraphie akkadienne (Signes, Syllabaire, Idéogrammes)* (6th edn.; Paris, 1988); R. Borger, *Mesopotamisches Zeichenlexikon: Zweite, revidierte und aktualisierte Auflage* (AOAT 305; Münster, 2010).
[367] Erichsen, *Glossar*; the *CDD* is available online, open access: https://oi.uchicago.edu/research/projects/chicago-demotic-dictionary-cdd-0 (accessed 15.04.18).
[368] J. Black et al., *A Concise Dictionary of Akkadian* (SANTAG 5; Wiesbaden, 2000); *CAD*: Gelb, I. J. et al, *The Assyrian Dictionary of the Oriental Institute of the University of Chicago* (OIC; Chicago, 1956-2010).
[369] H. Satzinger and D. Stevanović, *Egyptian Root Lexicon* (LÄ 25; Hamburg, 2021).
[370] G. Takács, *Etymological Dictionary of Egyptian 1: A Phonological Introduction* (HdO 48/1; Leiden, 1999); *2*: *b-*, *p-*, *f-* (HdO 48/2; Leiden, 2001).
[371] For the present purpose, the volumes maintain a usefulness as a reference work compiling and scrutinising all present and previous observations of possible etymological relationships between Egyptian and other Afro-Asiatic languages; e.g., L. Depuydt, Review: *Etymological Dictionary of Egyptian*, vol. 3: *m-* by Gabor Tacáks, *Journal of the American Oriental Society* 129 (4) (2009), 682-4. As Lutz Popko kindly points out to me (personal communication), Satzinger and Stefanović's *Root Lexicon* is too new to have been reviewed, though some entries are given in a somewhat problematic apodictic way and must therefore also be taken with due caution.

texts as a potential marker for Egyptian groupings of bodily and sickness phenomena; b) to explore the manner in which sickness entities are expressed, especially in terms of semantic networks and metaphors; this includes consideration of patterns in the use of image schemata and conceptual metaphors in general in order to elucidate prominent contributors to the conceptualisation of the 'sick body', such as environmental realities, etc.; c) to gain a clearer image of the Egyptian perception of the role of 'anatomical' or 'physiological' components in categorising sickness experience. Building upon decades of research, primarily that of Westendorf, Bardinet, and Kolta and Schwarzmann-Schafhauser, this stage of the analysis will offer a clearer view of structures from an Egyptian perspective, informing especially on the emphasis the ancient users of pEbers ascribed to the 'individual', 'social', or 'ecologic' body, resulting in a clearer appreciation of the Egyptian mindset.

Having developed a clearer appreciation of characteristics in Egyptian modes of thought, the remaining discourse will focus primarily on sickness experience in terms of the cultural domains by which it was categorised according to the recipe lists that form the majority of entries in pEbers, and almost all in pHearst. It will further expand upon the salient explanatory models by examining recipe categories, groupings, and clusters of ingredients therein. The materiality and—at times—the activities (where obvious) of recipes will be considered either through textual analysis alone, where possible, or through recreation of selected recipes, where necessary and when our knowledge of the *materia medica* and ingredient availability on the Dutch market permits. Of primary focus in this investigation is the exploration of potential relationships and 'blurred boundaries' between listed cultural domains of sickness experience, and to determine any key characteristics of exhibited explanatory models. Both pEbers and pHearst will be compared and contrasted, in these terms. The second and third chapters will be notably shorter, with the first acting as a foundational reference benchmark from which to further determine the degree of similarity or difference in perspectives, and to explore the cultural and historical significance of these results. Finally, the comparative case study with the chosen corpus of Mesopotamian tablets—the Bronchia subseries of the NTC—will follow the same pattern in academic discourse. Rather than optimistically looking for similarities or parallel ideas, the objective of this section is to highlight both similarities *and* dissimilarities between the traditions observed in the source material, and to subject these results to a more rigorous analysis that considers whether such ideas are universal, local, or borrowed.

To aid the detection of patterns in cultural domains, lexical data from recipe lists will be inputted into a large database, assigned to an appendix. To limit the degree of human error in this process (such as misspellings, which can corrupt the data), the data is 'tidied', using the open-access platform OpenRefine. Quantitative data used in the assessment of recipe lists is processed using RStudio, and the coded script created for the analyses is entered into a 'code appendix' for scientific reproducibility. Ryan et al.'s method of analysing successive free-list datasets is adapted to the more limited datasets available in the Egyptian papyri: it includes a column of sickness category, anatomical terminology, ingredient groupings (established following a philological analysis), and processing and administration instructions. As these datasets are somewhat different, a 'Principal Component Analysis' (PCA) is used instead of the 'Correspondence Analysis' (CA) used by Ryan et al., as well as Fukagawa.[372] It should be noted that this is used as an exploratory tool in addition to traditional philology as it supplies a useful mode of processing a perhaps otherwise unwieldy quantity of recipe data. It is not proposed here as research methodology for such investigations into ancient medicine in and of itself. The patterns detected by the programming require full and rigorous qualification through analysis.

A note on the re-creation of recipes: following the considerations outlined by Pommerening (discussed above, 1.2.1) for doing so, upon determining the reliability of proposed translations for *materia medica*, recipes were recreated for analysis in a home environment. Recipes were chosen by the availability of their ingredients on the Dutch market; these were acquired mostly from health-food stores or spice vendors in Den Haag; carob was acquired from an industrial complex at the Rotterdam harbours through appointment. Given that 'beer' (*ḥnq.t*) and variants thereof—dissimilar from any of those available commercially today—formed one of the core ingredients of many recipes investigated, and for the purposes of limiting the scope of the investigations, this vehicle was recreated following the beer-brewing techniques hypothesised by Delwen Samuel.[373] It should be noted that, during this process, minor flaws were found with the hypothesised manufacturing process. To overcome these, certain steps were taken, informed by Egyptian classifications for ingredients. A full report of this is offered in the appendix and is written so as to allow for scientific reproducibility.

[372] See section 1.1., pp. 19-20, above.
[373] D. Samuel and P. Bolt, 'Rediscovering Ancient Egyptian Beer', *Brewer's Guardian* 124 (12) (1995), 26-31; D. Samuel, 'Brewing and Baking', in P. T. Nicholson and I. Shaw (eds.), *Ancient Egyptian Materials and Technology* (Cambridge, 2000), 577-608.

As a final remark, it is necessary to declare that the initial research proposal for this project submitted to the *Nederlands organisatie voor Wetenschappelijk Onderzoek* outlined an intention to conduct biomedical investigative trials of selected recipes. This method of analysis will no longer form part of this dissertation. Trials of selected recipes have indeed taken place – these investigate the metabolic profiles of the recreated therapeutics using NMR-spectroscopy, as well as gas and liquid chromatography mass spectrometry (GC- and LC-MS).[374] The results of these will be published separately in a forthcoming open-access paper. The reasons for excluding this analysis are threefold. Firstly, the intervention of COVID-19 meant that access to the laboratory facilities was delayed significantly, occurring only in October of 2021, during which the analysis and official write-up of this project had to be integrated with that of the dissertation, which had already been adjusted in scope to account for the potential disruption caused by the pandemic. This separate project is—at the time of the submission of this thesis—still being written up by its contributing authors. Secondly, it was felt that, as only a small selection of recipes could be tested, the inclusion of the results here would unfairly disadvantage the philological assessment of other recipes discussed. Finally, to incorporate the results would necessitate even more technical explication of methodologies, lengthening this already extensive thesis far beyond the traditional scope of a PhD dissertation at Leiden University.

[374] E.g., J. M. Vithner, S. G. Wubshet, and D. Staerk, 'NMR-based Metabolomics and Hyphenated NMR Techniques: A Perfect Match in Natural Products Research', in M. Heinrich and A. K. Jäger, *Ethnopharmacology* (Chichester, 2015), 63-74.