

MACQUARIE UNIVERSITY

STUDIES IN ANCIENT EGYPTIAN ANATOMICAL TERMINOLOGY

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SUMMARY

In the 19 chapters of this thesis, many ancient Egyptian anatomical terms are carefully analysed with the objective of discovering their true meaning. The various current translations for a term are discussed in the introduction to each chapter. Then the lexicographical features of the terms are analysed. A term's position and associations in the anatomical lists often provides useful information and this is elaborated in a separate section. Particular attention is paid to the occurrences of a term in the medical texts and most medical case-studies containing the term are thoroughly analysed. Enormously valuable information about an anatomical term is often obtainable from non-medical texts and these are discussed separately. The conclusion to each chapter draws together all the findings and a decision is made as to the most precise meaning and best translation for the terms under consideration.

At the end of Vol.I, some general observations concerning ancient Egyptian perceptions about the human body are made. At the end of Vol.II, a Lexicon of Ancient Egyptian Anatomical Terms and an enumeration of the anatomical lists are given.

CERTIFICATE

I, James Walker, certify that the work presented here has not been submitted for a higher degree to any other university or institution.

23/6/93

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First of all, I want to express my sincere thanks to the members of the Postgraduate Studies Committee at Macquarie University for granting me an Australian Postgraduate Research Award which has enabled me to undertake the research on a full-time basis. Without such assistance, this project may not have been possible at all or else may have developed into a very protracted exercise.


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Finally, I owe special thanks to my long-suffering friends Gordon Bain and Jennifer Draper who have endured the highs and lows of the entire process and who have cheerfully given of their time and expertise to proof-read what has often been a very difficult manuscript.

PREFACE

As with many such ventures, this Ph.D. thesis began life as a much broader and quite different research project than the final product would suggest.

Most of the medical papyri are written in simple Middle Egyptian but when I examined the 1700 or so prescription-remedies and case-studies during work for an earlier thesis, I was struck by the relative incomprehensibility of these texts compared with many other Middle Egyptian texts which have been translated and interpreted with a great deal of subtlety. There are four main lexical classes of medical terms in the papyri - anatomy terms, pathology terms, therapeutic terms and medical idioms - and I perceived the major problem to lie with the second group, the pathology terms. There are about 150 of these, most of which are determined with the sign , and, to date, only a handful possess reasonably secure translations. Indeed, it is still unclear whether they primarily denominate subjective symptoms (e.g. pain), objective clinical signs (e.g. pus), disease states (e.g. mumps) or disease-causing agents. The original objective of the thesis was to attempt to achieve a translation for as many of the pathology terms as possible.

The methodology adopted was to select one term and to re-translate every case-study in which it appears in order to establish the precise anatomical context of the condition. From this, I hoped to be able to draw up a short list of pathological symptoms and states which are known to occur at that locus, one of which might be identifiable with the term under investigation. However, I soon discovered that I was being frustrated in this endeavour by the lack of precision in translation, or the complete inaccuracy, of many of the anatomical terms, both major and minor.

Much scholarship has been devoted to the 250 or so anatomical terms and at least 80 % of them are regarded as having quite secure translations while the rest remain contentious or untranslated. The realisation that traditional, well-established translations for these terms were not as meaningful or reliable as I had assumed, effectively subverted my research into the pathology terms. I decided to abandon my original topic and to embark instead on a thorough examination of those anatomical terms which seemed to me to be in need of re-translation or much finer definition than they currently possess.

As several of the terms are very common, I initially restricted my researches to the medical papyri and my methodology comprised translating every case-study in which the particular anatomical term under consideration occurs. This elicited much useful information but it became apparent that it would not always reveal the whole picture. Hence, the search was expanded to include usage of the terms in non-medical contexts, such as the literary, funerary and magical texts. It is often in such non-medical texts that the crucial pieces of evidence are found which enable an anatomical term to be identified precisely. The meaning of many terms (e.g. *irt* "eye") is very straightforward and beyond dispute; these have not been discussed in this thesis.

INTRODUCTION

This thesis is not in the form of a continuous narrative in which an hypothesis is introduced and then supported by successive argument until a final conclusion is reached. It comprises 19 chapters, each being a separate study devoted to one anatomical term or to a group of intimately related terms. Each study is largely self-contained and independent of the other studies. This means that the reader can exercise considerable latitude in approaching the thesis. The chapters/studies need not be read consecutively but can be consulted in random order or as the particular interest of the reader dictates.




In the introduction to each chapter the reasons for selecting the terms as suitable subjects for closer scrutiny are outlined. These reasons vary considerably. In most instances, it is because I believe that a term is currently being mistranslated and because I wish to propose a new translation. In other cases, it is because a term currently possesses a plethora of disparate translations and there is a need to discover the most precise meaning and to establish a most preferred translation. Of course, there remain several anatomical terms for which a plausible translation has yet to be achieved.

Appendix I in Volume II is a Lexicon and Glossary of Egyptian Anatomical Terms. This lexicon does not replace existing lexica - e.g. those of Grapow (*GdM* I), Lefebvre (*Tableau*), Lacau (*Noms*) and Weeks ("Anat.") - since these contain a wealth of textual analysis and references which are not duplicated here. Its sole purpose is to serve as a handy reference for all known Egyptian anatomical terms. It complements and supplements existing lexica in that it contains more entries and incorporates new words which have come to light in recent times, new translations and refinements of old translations.

Appendix II reproduces the 25 different anatomical lists of the ancient Egyptians. To some extent, these have been treated with suspicion by scholars but when they are analysed carefully they yield a surprising amount of very useful information; the lists are referred to constantly throughout the thesis. To my knowledge, this is the first time that they have all been brought together in the one place to serve as a convenient resource and research tool for scholars. The inventories of different cuts of meat obtainable from an animal, i.e. the specialist butchery terms, are given at the end of this Appendix.

PART A : GENERAL AND GENERIC TERMS

CHAPTER 1

h^c  ,  , 

Findings :

1. "body"
2. "self" "person" "own"
3. "surface" "skin"

h^c 

- an unidentified joint of meat

1.1 Introduction : semantic considerations


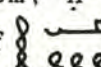
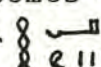
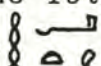
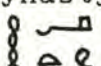
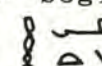
Two very common translations of h^c are "body" and "flesh" and, less commonly, it is translated as "limbs", "members" or "skin".¹ This seems rather a wide range of meanings for one term to possess. Apart from having to decide which one to choose, the modern translator faces another dilemma in that most of these translations are also used for *wt* or for *iwf*. Consequently, there is rarely any consistency in translation of these terms from author to author and, for texts in which all three commonly appear, such as the funerary and medical texts, this inconsistency can be confusing. For example, one author may translate h^c as "body", *wt* as "limbs" and *iwf* as "flesh" whereas another will render h^c as "limbs" and *wt* as "members" and a third may translate both h^c and *iwf* as "flesh". The ways in which the terms are currently translated conveys the impression that they are, to some extent, synonymous but this is simply not true. There is abundant evidence that the Egyptians carefully distinguished between them and that the three terms possess quite different specific meanings.

A further source of confusion concerning h^c is the fact that there are at least three other terms which are believed to denote the whole physical body, namely *h3t*, *ht* and *dt*. The objectives of this chapter are to identify exactly which anatomical structures are encompassed by h^c, to test the



veracity of the divers translations currently employed for this word and to distinguish between the different words currently translated as "body". It will be shown that h^c does indeed denote the whole physical body and that it is sometimes also employed with the meanings of "self", "person" and "own". There is good evidence that h^c also possesses an additional nuance of "skin". It does not however, specifically designate the soft tissues ("flesh"), the extremities ("limbs") or the parts ("members"), of the body.


There is another word h^c which denominates a particular joint of meat in the offering lists. Although they can have exactly the same writing, the two terms appear to be totally unrelated. The identity of the h^c -joint of meat has yet to be established (it is discussed in 1.7 below).


1.2 Lexicographical considerations

h^c is very rare in the Pyramid Texts and first appears in the pyramids of Pepy II and Neith; it is written simply as . ² In the Middle Kingdom, h^c becomes common and acquires its standard writing of  or , which give the impression of being plural. However, h^c takes the singular (masculine) forms of the genitive adjective and demonstrative pronoun, n and pn , and takes the masculine relative adjective, nty . ³ In the 19th Dynasty, h^c begins to be written with a t ending, e.g. , , , but here too singular (masculine) adjectives and genitive adjectives are employed. ⁴ Thus, despite the t endings, h^c remains consistently masculine in gender and, despite its apparently plural writings, it is nearly always treated grammatically as being singular. Clearly, h^c is a masculine collective noun.

True plural writings of h^c do exist but their writing is usually indistinguishable from the collective form. Their presence is revealed when the word is accompanied by plural genitive adjectives, plural demonstrative pronouns or sometimes by the inclusion of a w in the writing, viz.

 h^c  h^c .

This brings us to consider the best way to transliterate this term. The **Wb** (III p.37) has h^c but many authors prefer h^cw (e.g. *GdM* VII p.585). Since  is usually collective rather than plural, the **Wb** option h^c must be favoured. It has the advantage of permitting a distinction to be made between the collective and true plural forms of h^c . If the former are transliterated as h^c , the latter can be transliterated as h^cw , particularly when a w appears in the hieroglyphs.

In conclusion, the flesh determinatives with h^c confirm that it denotes some part or parts of the physical body. The fact that  is rarely plural and is nearly always collective raises serious doubts about the validity of plural translations given for h^c , such as "limbs" and "members". Being collective, h^c may designate a large continuous anatomical structure or a region containing several structures. It could even be a generic term designating a whole category of bodily structures.

1.3 h^c as the whole body

The following few texts are sufficient to confirm that h^c designates the physical body, the whole body.

PYR Sp.2244:

"O King, raise yourself upon your bones of bronze and bodily parts (cw t) of gold, for this body (h^c) of yours belongs to a god, it (the body, h^c) will not grow mouldy,

it will not be destroyed, it will not putrefy."⁵

CT Sp.106:

".... [what was taken] from me is reassembled for me so
that my body (*h^c*) may eat"⁶

In CT Sp.714, Nun declares;

"I brought my body (*h^c*) into being by means of my power,
I am one who made myself"⁷

CT Sp.847:

"Lift yourself up [in] your physical form (*im*),
for that is your body (*h^c*)."⁸

CT Sp.1125:

"I have raised up the orphan (Horus) so that he may make
complaint about the injury which was inflicted upon his
father (Osiris) by *Tbh3* (Seth) when his (Osiris') body
(*h^c*) was cut up/dismembered (*sm3*)."⁹

BD Ch.183 addresses Osiris as follows;

"It was your mother Nut, Bearer-of-the-Gods,
who brought your body (*h^c*) into being,
who bore you as the Greatest of the Gods."¹⁰

In the Story of Sinuhe, Sinuhe has been invited back to
Egypt by the King and he replies (B 204);

"Truly good is the kindness that saves me from death!
Your *k3* will grant me to reach my end,
my body (*h^c*) being at home!"¹¹

1.4 *h^c* as "self", "person", "own"

Because *h^c* denotes the whole body it is quite
reasonable that the word should also be able to refer to the
whole person or "self". Particularly when a pronoun is
suffixed to *h^c*, the possibility that it has this meaning
should be kept in mind. The following are examples of this
usage for *h^c*. On the Stela of Suti and Hor, it is said of
the Sun-god;

"You are Ptah, you fashion yourself

(*Pth tw nbi=k h^c=k*).¹²

CT Sp.49 reads:

"See, the god himself is afraid of the Evil Ones

(*mtn ntr h^c=f snd n bdww*).¹³

CT Sp.60:

".... the fear of {him}<you> (Osiris) has fallen on
himself (Seth) (*hr snd={f}<k> m h^c=f ds=f*).¹⁴

It is quite valid to translate such phrases in either of two ways; *h^c=f ds=f* can be "his own body" or "himself", *h^c=sn ds=sn* can be "their own bodies" or "themselves", etc. In the phrase *m h^c=f* (literally "from his body", "as his body" or "in his body"), *h^c* is often best interpreted as "self", "person" or "own". For example, *NN m h^c=f* is "NN himself" or "NN in person" and *b3 m h^c=s* is "her own b3". The same applies to the phrase *n h^c=f* (literally "of his body" or "belonging to his body"), which can be translated simply as "in person".¹⁵

For a wide range of contexts, one or other of these alternative renderings for *h^c* frequently produces a much more subtle and meaningful translation of the text than if *h^c* is consistently rendered as "body". Compare the following translations. CT Sp.40:

".... he has made me into a body of his own flesh,
the seed which issued from his phallus

(*iri.n=f wi m h^c n iwf=f mtwt prit m hnn=f*).¹⁶

".... he has created me from his own flesh,
(from) the semen which issued from his phallus."

CT Sp.50:

"I (Seth) will cause the god's body (*h^c ntr*) to fear,
I will inflict injury on him,"¹⁷

"I (Seth) will cause the god himself (*h^c ntr*) to fear,
I will inflict injury on him,"

BD Ch.133:

"The god's body of Re (\dot{h}^c ntr n R^c) ferries across Nun."

"The god Re himself (\dot{h}^c ntr n R^c) ferries across Nun."

For most occurrences of the phrase \dot{h}^c ntr, the translations "the god himself" or "the god in person" are more meaningful than "the body of the god" or "the god's body".

1.5 \dot{h}^c as the skin

Some writers have appreciated that, as well as denoting the whole body, \dot{h}^c can also designate the skin; the authors of *GdM*, for example, give "Körperoberfläche" (body surface) as one translation for this term.¹⁸ However, insufficient credence and attention has been paid to this nuance of \dot{h}^c . The following paragraphs examine a selection of texts in which \dot{h}^c probably possesses this secondary meaning.

In CT Sp.334, the god Horus declares;

"My White Crown of fresh \dot{h}^c was upon me

($\dot{h}dt=i$ tpy= i nt \dot{h}^c w3d),


my 3tf-crowns were on the crown of my head (wpt),

my Terrible One (i.e. the uraeus) was on my brow ($\dot{h}3t$)."¹⁹

The $\dot{h}dt$ is a crown of white leather which the King and many deities wear; it is particularly associated with Upper Egypt. $\dot{h}dt=i$ nt \dot{h}^c w3d almost certainly means "My White Crown of fresh leather/hide/skin". All the other usual translations for \dot{h}^c , namely "body", "flesh", "limbs" and "members", sit very uneasily in this context.

Analysis of the case-studies and prescription-remedies of the medical papyri in which the \dot{h}^c is the site of symptoms or the whole illness, or of the administration of a medicament, discloses 46 cases that record some form of treatment. Of the treatments prescribed, twenty are oils, ointments, powders or pastes to be rubbed, smeared or otherwise applied to the unbroken skin. In eleven other cases a medication is to be bandaged onto the skin.

Operation with a knife (incision through the skin) or cautery (application of heat to a surface lesion) are advised in six cases. Thus, 37 out of 46 treatments may be classified as being wholly external. This situation is totally the reverse of that which pertains to the word *iwf* in the medical texts. *iwf* is associated overwhelmingly with treatment by internal means and very few treatments are applied to the surface of the body (see Chapter 4). The preponderance of external treatments for the *h^c* hints at a particular association of *h^c* with the skin. In the nine cases where internal treatments are employed - oral medicines, mouth rinses with expectoration, an enema and a fumigation - *h^c* may simply be referring to the body.

inm is the term generally acknowledged to designate the skin. *inm* is never associated with the word *iwf* in the medical papyri but in several cases it is associated with *h^c*, for example, in two prescription-remedies for cosmetic ointments which appear consecutively in no less than three different papyri. Hearst 153 = Ebers 714 = Smith 21.3-6 is a remedy "for transforming (*spn^c*) the skin (*inm*)" and it directs, "the *h^c* is to be anointed therewith".²⁰ The titles of the second remedy, Hearst 154 = Ebers 715 = Smith 21.6-8, display interesting variations. Hearst 154 is entitled, "Rejuvenating (*snfr*) the skin (*inm*)", Ebers 715 is "Another (remedy) for rejuvenating the *h^c*" and Smith 21.6, "Another (remedy for) rejuvenating the *hr* ()".²¹ In the last mentioned, *hr* may refer to the surface of the body rather than to the face; this meaning for *hr* is quite common in the medical texts.²² Since the three prescriptions themselves are almost identical, it is plausible that the entities cited in their titles, *inm* (skin) *hr* (body surface) and *h^c*, are too.

Pap. Edwin Smith Case 47 concerns a gaping wound in the armpit (*httt*):

"If you find a wound, its h^c is thrown aside and its sides (are) apart (*ir gm=k wbnw $h3^c$ $h^c=f$ $w d^c$ $\check{s}wwt=f$*)" ²³
wbnw denotes a gash in the skin and the h^c which is thrown aside/laid back must surely be the skin of the armpit.

Case 8 in Pap.Edwin Smith concerns a non-compound fracture of the braincase (*dnnt*, cranium). Gloss A reads;
GLOSS: "As for, 'a smash in his braincase under the skin (*inm*) of his head (*tp*) there not being any wound upon him/it'

EXPLANATION: it means a smash of the shell/plate of his braincase, the h^c which belongs to the vault of his head (*d3d3*, calvarium) being uninjured." ²⁴

The gloss is highly specific; the location of the fracture can only be the thin "shell" of the skull that overlies the brain and underlies the scalp. h^c must refer to the scalp and cannot possibly mean "body", "limb" or "member". The human scalp mainly comprises skin, fat and fibrous tissue; muscles are present but, being thin, they are an insignificant component. Thus, of the five usual translations for h^c , "skin" is the most appropriate with "flesh" a possible but inferior choice. "The h^c which belongs to his *d3d3*" in this case is likely to be the whole thickness of the scalp overlying the braincase (i.e. skin plus subcutaneous tissues).

Case 1 in Pap.Edwin Smith describes a closed injury to the skin of the head. Gloss C reads;

GLOSS: "As for, 'penetrating to [the bone of his braincase (*dnnt*) without it having a gash]'

EXPLANATION: it means that there is a gaping of the h^c . . ." ²⁵
The gloss contains contradictory statements about whether a gash is present or not. The case-study as a whole supplies the following information: the injury is over the braincase (*dnnt*) which is not broken; the injury involves all the tissues of the scalp to the depth of the bone surface; it is

the *h^c* which is described as gaping, not the *inm* (skin). "Body", "flesh" and "skin" are all possible translations of *h^c* in the context but, because *h^c* is clearly designating the skin and subcutaneous tissues of the scalp extending down to bone, "skin" is probably the most apposite.

That the *h^c* includes tissues underneath the skin is further demonstrated by a clause which appears twice in Pap.Edwin Smith, in Cases 7 and 47. The first is a head injury case in which a gaping wound in the skin overlies a fracture of the base of the cranium, and the second case deals with a gaping wound in the shoulder. The clause reads (3.8 and 17.7); "... in that his *h^c* has developed *srf*-heat under that wound (*wbnw*)". The authors of *GdM* translate it as, "... his flesh has received heat because of that wound" but *hr* probably does have its most basic meaning of "under" in these two texts.²⁰ Irrespective of the way in which *hr* is interpreted, the condition being described is almost certainly a localised infection centred upon the *wbnw*, the break in the skin, and spreading to the adjacent subcutaneous tissues. "Flesh" is not an entirely satisfactory translation for *h^c*, particularly in Case 7, where the site of the injury is again the scalp. The *h^c* which has become hot under the wound will be the skin (*inm*) itself as well as the tissues beneath the break (the *wbnw*) in the skin.

Ramesseum III B8-10A pertains to an illness characterised by multiple skin lesions on the head:
TITLE: "Driving out *tp3w* [...]"
INGREDIENTS and PREPARATION: *pnnt* (? slug) is to be cut up and cooked in oil
INSTRUCTIONS: then you place a little of it (the medicated oil) against one *tp3*. If his *h^c* becomes hot/inflamed (*smm*) under it (or because of it) then do not use it for him. If his *h^c* is not inflamed under it, (let him) be

anointed many times, after he has been fumigated/censed in the early morning."²⁷

This is evidently a very irritant medicament and therefore has to be tested on a single lesion first; if it causes a burning sensation in the *h^c*, then it is to be abandoned. Although *h^c* could mean "body" here, it is probably referring to the surface tissues (skin) at the site of the lesion.


Ebers 860 describes a swelling in the neck. It begins: CLINICAL DESCRIPTION: "If you assess a *hnht*-swelling of fat (*d*) in the front of his neck (*h^cm*) and you find it like suet/fat (*shn*) of the *h^c* in that it is soft under your fingers and its composition is white, *dgy* (?) [...]."²⁸ The identity of *shn* here is uncertain (*shn* is discussed in Chapter 15). It may be a type of fat and its description as being white and soft is certainly compatible with that identification. If so, *shn n h^c* may denote the layer of fat that envelops the body beneath the skin.²⁹ Translating the phrase as "fat of the flesh" or "fat of the skin" seem too vague in meaning and "fat of the body" seems too general and non-specific. As an initial therapeutic measure, the text advises that the swelling be opened surgically. Thereafter the physician is instructed, "Then you should make for it medicines for treating it with a bandage, the *tw3w* having been broken open". *tw3w* evidently denotes the surface layer/crust of a lesion. Thus, treatment consists of opening the swelling by incising through its surface layer with a knife and then bandaging a medication over the open wound. The *hnht*-swelling in the neck which is "like the *shn* of the *h^c*" seems likely to be a superficial lesion, either in the skin or just beneath it.

Sometimes the metaphorical uses of a word can cast light on its true meaning. Anatomical terms are often used metaphorically and also as synonyms for non-anatomical

objects; for example, the "belly" of a muscle, the "bowels" of the earth, a "body" of water, the "skin" on old paint.

h^c appears to be functioning in this way in only one case in the medical papyri, Ebers 861, which also concerns a *hnhnt*-swelling in the neck:

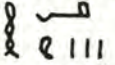
TITLE: "Instructions concerning a *hnhnt*-swelling of pus (*ryt*) in the throat (?*htyt*) of a man

CLINICAL DESCRIPTION: if you assess a *hnhnt*-swelling of pus in the throat of a man, it being large (^c3); they (i.e. the pus) have caused the heightening, it (the swelling) has formed *h^cw* of pus (), it has persisted for years or months, while the composition of what comes forth from it is like the *i3rt* of a catfish (*wh^c*) (or of) a great *srw*-animal

DECLARATION: then you shall say concerning it, 'one having *hnhnt*-swelling of pus, an ailment (*mr*) with which I will contend'

INSTRUCTIONS: then you should make for it medicines for pulling off the crusts (*spw nw ith tw3w*) from his throat
.....

DIRECTIONS FOR USE: it (the preparation) is to be bandaged onto the throat."³⁰

This swelling is probably a chronic abscess in the throat which has been draining pus onto the skin for months or years; it may be a tubercular or a mycotic infection. Since the remedy is intended to pull something out of the throat or off it, this something is likely to be either pus from within the abscess or encrustations of pus from the surface of the skin (such encrustations could be partially obstructing the abscess drainage holes).  here is followed by the plural genitive adjective *nw* which means that it could be the plural *h^cw*. If the usual translations of *h^c* - "body", "flesh", "limbs", "members" and "skin" - are tested in the context, particularly if they are pluralised, there are only two which make any sense at all; "it has

formed a body (or bodies) of pus" and "it has formed a skin (or skins) of pus". There is no evidence from elsewhere that *h^c* can denote the entirety, the "body", of a non-living object whereas it can denote skin or leather detached from a living animal (see CT Sp.334 above). Thus, "It has formed a skin/surface (or surfaces) of pus" seems most likely to be the true meaning of this passage in Ebers 861.

"A remedy for making sleek (*sph3*) the *h^c*" is the title of Ebers 713 = Hearst 152 and the principal ingredient is asses milk.³¹ Controversy attends the interpretation of the verb *sph3*; the authors of *GdM* render the title as, "A remedy for opening the body". They were probably influenced by the fact that the remedy is an oral one when making choices between "to open" and "to make sleek" (or "to influence") for *sph3*, and between "body" and "skin" for *h^c*. "Opening the body" implies that the remedy is a purgative. This is not likely at all however, because both Ebers 713 and Hearst 152 are located within groupings of cosmetic remedies; treatments for the skin, not for abdominal complaints. Asses milk, externally applied, is a skin toner of great antiquity and it was probably considered to have the same effect when taken internally. Of the ingredients, milk and honey are unlikely to have a purgative effect, and whether any of the others do cannot be determined. Interpretation of *h^c* here to mean "skin" was considered by the authors of *GdM* as a possibility but ultimately rejected.³² However, this cosmetic remedy probably is for "making sleek the skin/surface" rather than for "opening the body"; "skin" would appear to be a better choice than "body" for *h^c* in this text.

Ebers 197 seems to be describing the surface appearance of a patient when it states;

CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib* while his *h^c* is wrinkled/rippled (*hm33*) and

entirely strange (*sm3yw*); if you examine him and you do not find *h3yt*-illness in the torso (*ht*) apart from *hnwt* (something external) of the (*h^c*) like *pyt* (?)

DECLARATION: then you should say concerning it,

'it is roughness (*nh3*) of your domain/house (*pr*)'

.....

DIRECTIONS FOR USE: (the medicine is) to be eaten by the man (every morning) for 4 mornings in order to quench his thirst and in order to drive out the roughness (*nh3*) (from) his (*ib*) <? *r3-ib*>." ³³

This case is particularly difficult to interpret owing to the uncertain translation of many of the terms contained in it. The rippled, wrinkled or shrunken appearance is stated to occur in the *h^c*, which must be either "the body", "the skin" or "the body surface". In the treatment section, special attention is paid to quenching the thirst, implying that the patient is dehydrated. With dehydration there may be "shrinking", "wrinkling", "folding" or "roughness" of the surface of the body, the skin. The second reference to *h^c*, viz. "you do not find *h3yt*-illness in his torso, apart from the *hnwt* of his *h^c* being like *pyt* (ripples on the surface of the slag waste of metal refining)", equally may be describing the rippled surface of the skin. The authors of *GdM* agree that "the *hnwt* of his *h^c*" must allude to the appearance of the body surface but, nevertheless, demur from translating *h^c* as "skin" preferring the broader term "body". ³⁴ It is plausible however, that *h^c* in this case does designate just the surface layers of the body, rather than the whole body.

1.6 *h^c* in anatomical sequences

h^c is not cited as a separate bodily part in any of the lists which associate parts of the body with various deities but it does occur in statements which terminate some of the

lists. The list in the Litany of the Sun ends;

"His bodily parts (*wt*) are gods, he is a god completely,
there is no bodily part in him devoid of a god, the gods
have become his *h*" ³⁵

That on the Statue of Djedhor concludes;

"O cat, there is no bodily part (*t*) in you devoid of a
god, every one of them (the gods) is the protection of
your *h* from your head to your feet." ³⁶

Another list in Pap.BM 10321 (Paditwerisheru) ends with;

"I shall keep healthy all his *h* and all his bodily parts
(*wt nbt*) from his head to his feet." ³⁷

It seems certain that *h* means "body" (the whole body) in
these statements and not "flesh", "limbs", "members" or
"skin".

The close association of *wt* with *h* which we see in
these texts is found in many others, especially the funerary
and medical texts. CT Sp.235 declares:

"You have your legs (*rdwy*); lift up (*tsi*) your *h*,
gather together your bodily parts (*wt*),
that you may tread out the paces to the tribunal" ³⁸

The title of Ebers 551, a skin ointment recipe, reads:

"Here begin the remedies for driving out *bnwt*-illness from
the *h* of a man, from any bodily part
(*h3ty- m phrt nt dr bnwt m h n si m wt nbt*). " ³⁹

Hearst 160 is a conjuration of *mšpnt*-illness and it states:

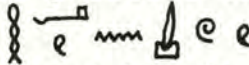
"The magic spells of Isis are the protection of my bodily
parts (*wt*).

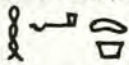
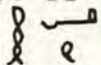
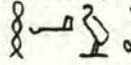

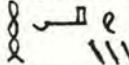
Evil will not come about in my *h*,
nor *mšpnt*-illness in my bodily parts (*wt*). " ⁴⁰

In Chapter 2, it is demonstrated that *t* designates any
part of the body whatsoever. The intimate relationship
between *t/wt* and *h* may be characterised as follows: *t* is
one bodily part, *wt* are several bodily parts, *wt nbt* are
all the parts of the body and *wt nbt* is equivalent to the

h^c . In other words, the collective noun h^c denominates a united entity, a composite whole, namely the whole body and the cwt are its particular individual components.

1.7 The h^c -joint of meat

h^c is not cited in any of the inventories of cuts of meat from a butchered animal. It is possible that an entry on the Ramesseum Onomasticon, viz. , contains the word h^c but the phrase is untranslatable.⁴¹

However, a h^c -joint of meat is encountered quite commonly in funerary texts and offering lists. In PYR Sp.83 it is written  and in the offering lists it is usually . The fact that the determinatives accompanying this term are always boneless cuts of meat suggests that the h^c -joint is obtained from the trunk and not from the limbs. On some occasions, the word is written as though plural; for example, , , .⁴² When a quantity is written, it is invariably 1. This may indicate that only one h^c -joint is obtainable from a carcase in which case the name of the joint will probably be a collective noun rather than a plural. The h^c -joint may be a single structure made up of several parts.

In the standard 5th Dynasty offering list, h^c occurs in the following position: "... , *mist* (liver), *nnšm* (spleen), h^c , *iwf h3t*."⁴³ In Chapter 4, it is concluded that *iwf h3t* is the fillet of muscle meat from alongside the thoracic spine. Because the h^c -joint is cited between two internal organs and a cut of muscle meat, it may belong to one or other of these two categories of meat. Interestingly, some offering lists record the h^c -joint as $h3t h^c$ or $h^c n h3t$ which, although reminiscent of *iwf h3t* / *iwf n h3t*, cannot be the same joint since the latter is cited immediately afterwards in the list.⁴⁴ These variant writings for the

\dot{h}^c -joint strongly suggest that it is obtained from the front half ($\dot{h}3t$) of the animal and their close resemblance to iwf $\dot{h}3t$ / iwf n $\dot{h}3t$, which is muscle meat from the thorax, implies that the \dot{h}^c -joint may be a very similar cut of meat.

In brief, the \dot{h}^c -joint may be a compound cut of muscle meat from the thoracic region. This deduction is highly speculative however, and the true identity of the \dot{h}^c -joint remains elusive. We can be certain of one thing; the name of this joint is an entirely different word from \dot{h}^c which denotes the whole body, the body surface and the self.

1.8 Summary and conclusion

The commonest meaning of \dot{h}^c is "body", that is the entire living physical body. Other terms alleged to denote the whole body are $\dot{h}3t$, $\dot{h}t$ and $\dot{d}t$. However, $\dot{h}3t$ exclusively refers to a dead body, a corpse, $\dot{h}t$ really only denotes the torso or trunk of the body (see Chapter 9) and $\dot{d}t$ is more a theological concept than a name for the living body. The $\dot{d}t$ is one's personal eternal form which transcends the living physical body; it is both serpentine and mummiform in appearance, it is the human body truncated and limbless (or at least armless).⁴⁵

Because \dot{h}^c designates the whole body, it can also serve to denote one's "self", "person" and "own".⁴⁶ Thus, in some respects, the \dot{h}^c is more than just the physical matter or substance of the body, it is "the physical aspect" of a person, in other words, it is one of his or her "states of being" ($\dot{h}prw$).

Evidence presented in this chapter shows that \dot{h}^c can also specifically denote the surface of the body. In the medical papyri, the preponderance of external treatments used upon the \dot{h}^c - the operations and poultices but

particularly the large number of ointments to be rubbed in or smeared on - links h^c strongly with the skin. Some pathological conditions are stated to exist beneath (hr) the h^c which can only mean beneath the skin. The translation employed for this nuance of h^c by the authors of *GdM*, viz. "body surface" (Körperoberfläche), has great appeal and merit.

The mention in Ebers 861 of " $h^c w$ of pus", which probably refers to crusts of pus, indicates that, as well as designating the physiological surface layer of the body, that is the skin, h^c can designate the surface layer of pathological lesions. Thus, "surface" or "surface layer" probably come closest in spirit to the true meaning of this secondary connotation of h^c .

Throughout the search for the precise meaning of h^c a dilemma has constantly arisen. A general term can be appropriate in most, sometimes all, contexts where a specific and particular term is really meant. This phenomenon confounds the analysis of h^c (and the interpretation of several other anatomical terms such as *tbty*, see Chapter 8). Almost everywhere that "skin" or "surface layer" is meant the word "body" also fits very well. For example, "The body is to be rubbed with it (the ointment)" means precisely the same as "The skin is to be rubbed with it" and yet, the skin and the body are by no means identical structures. Fortunately, the inability to distinguish between the two main nuances of h^c rarely compromises the sense of a text and, in many contexts, any one of the translations "skin", "surface" and "body" will be entirely appropriate.

Concerning the other translations currently employed for h^c , "flesh", in its strictest definition, refers to the soft tissues beneath the skin, between it and the bones, particularly the muscles and internal organs. These tissues

are encompassed by the term *iwf* which is only rarely associated with the word *h^c*. Because *h^c* does not specifically denote these deeper tissues, but rather the skin itself or the whole body, "flesh" is less than ideal as a translation of *h^c*; it should be employed with the greatest circumspection or, preferably, not used at all.

We have seen that an intimate relationship exists between the terms *wt* and *h^c*; the former denotes the individual components of the latter. They are not synonyms however, as is implied by the translations "limbs" and "members" which are given to both. In fact, *t* denotes any bodily part at all and "limbs" and "members" are really quite unsatisfactory translations for the word *wt* (see Chapter 2). Because *h^c* is a collective noun, and because it does not specifically refer to the limbs or to the many bodily parts or members plural, but to the body as a single unit, "limbs" and "members" are also unsatisfactory translations for *h^c* and should be abandoned.

CHAPTER 2

Findings :

‘t 𓂏 𓂏
 𓂏𓂏 , 𓂏𓂏

"bodily part"

2.1 Introduction : semantic considerations

‘t is the most common anatomical term in the medical texts and also occurs frequently in non-medical texts. It is usually translated "limb" or "member"¹ but, for several reasons, both these translations are less than satisfactory.

In human beings, only the arms and legs are counted as "limbs" whereas the head, neck and torso are not. As will be shown, ‘t was employed for these regions too. The formal meaning of "member" is "a part or organ of the body" (*Concise Oxford Dictionary*) which should make "member" a good translation for ‘t. However, the word derives from the Latin *membrum* "limb" and there persists a strong association of "member" with the limbs; the term is not readily identified with internal bodily structures such as the internal organs. Another problem is that "member" is a rather old-fashioned term which no longer enjoys great currency of usage.

In the medical texts, there are many ailments which are to be expelled from "any ‘t of a man" (‘t/‘wt nbt nt si).² If a translation states that they are to be driven out from "any limb (or member) of a man" the reader could gain a skewed impression as to the location of these illnesses and conclude that ancient Egyptian doctors were unduly preoccupied with ailments affecting the arms and legs; this impression would be entirely false. While it is certainly true that the limbs are included amongst the ‘wt of the body, it is not true that an ‘t is always, or even most often, a limb.

Alternative translations such as "body part" and "bodily part" have been steadily gaining in popularity.³ The following discussion will delineate the boundaries of meaning of *ˁt* in order to ascertain whether these translations are optimal for this term.

2.2 Lexicographical considerations

ˁt is a feminine noun. When the word is written with the three strokes of plurality the simple plural is always meant; *ˁt* never functions as a collective noun. This is confirmed in several passages where the archaic feminine plural demonstrative pronoun *iptn* accompanies *ˁwt* whereas other pluralised anatomical terms are followed by singular demonstrative pronouns which indicates that they are collective nouns. For example, in Ebers 1 (1.7),

A line of Egyptian hieroglyphs representing the text (m iw f=i pn m tp=i pn m qˁh w=i ipn m hˁ=i (pn) m ˁwt=i iptn).

(m iw f=i pn m tp=i pn m q^ˁh w=i ipn m h^ˁ=i (pn) m ˁwt=i iptn) and its parallel, Hearst 78 (6.7),


A line of Egyptian hieroglyphs representing the text (m tp=i pn m qˁh=i pn m hˁ=i pn m ˁwt=i iptn).



(m tp=i pn m q^ˁh=i pn m h^ˁ=i pn m ˁwt=i iptn) ⁴

The phrases *ˁt nbt nt si* and *ˁwt nbt nt si* ("any bodily part of a man") occur frequently in the titles of the prescription-remedies. Since *ˁt* is never collective, it seems prudent to preserve a clear distinction between the singular and plural of *ˁt* in transliteration; thus, is *ˁt nbt* and is *ˁwt nbt*.⁵ Transliterating as *ˁt* singular, or *ˁ.t*, is misleading because it implies that it is a collective noun.⁶ Ideally, the distinction between singular and plural should be preserved in translation too. In practice however, this results in considerable ambiguity. For example, Ebers 869 reads,

"If you assess a swelling of pus in *wt nbt* of a man and you find it, its head being raised, (it) being attached and being spherical"



Clearly, this single lesion is not present in "every bodily part" or in "all bodily parts" at the one time. The intended meaning of *wt nbt* here is probably that the illness is found as a solitary lesion and that it can occur in divers bodily parts. Hence, the translation "any bodily part" is closer to the intended meaning of both *t nbt* and *wt nbt* than "every bodily part" and is least likely to lead to misinterpretation of the extent of the illness in question. Whenever *t nbt* appears in the medical texts the possibility of a single lesion can be borne in mind but, conversely, the occurrence of *wt nbt* in no way implies that multiple lesions are involved or that an extensive illness is present.

In the medical texts, *t* is almost invariably determined with the flesh sign  suggesting that it denotes an anatomical entity. Originally, however, *t* was determined with varying images of different joints of meat. For example, PYR Sp.616 states,

"Nephthys has collected all your *wt* (Teti ,
Merenre ) for you in this her name of 'Seshat,
Lady of Builders'".⁸

The following observations may be made about these multifarious determinatives for *t*: all appear to be different joints of meat obtained from an animal; the final determinative of the Teti example may depict a whole limb but none of the others do; a typical *t* seems to consist of a complete bone with its attached musculature; the second determinative of the Merenre example portrays a boneless lump of flesh (probably an internal organ) which evidently also qualifies as an *t*.⁹

2.3 *ꜥt* and the limbs.

A preliminary point to be noted is that *ꜥt* is never written with a "limb" determinative, either  or , which seems rather curious if the term does indeed specifically denote these structures.

CT Sp.357 reads,

"I am he who crosses the sky,

I am the Lion on the day of butchery.

I have separated (*wn* lit. "opened" meaning "detached") the foreleg (*ḥpš*),

I have crossed the Two Lands with the *ꜥt*,

I have gone all over the banks north of the Field of Djeret".¹⁰

Undoubtedly, the *ꜥt* referred to here is the front limb (foreleg) of a sacrificial ox.

In CT Sp.397 we read,

"'What are those two *ꜥt* (*ꜥty*)?'

'They are the arm (*qꜥḥ*) and the leg (*wꜥrt*)'".¹¹

Although *qꜥḥ* and *wꜥrt* denote the shoulder and the hip respectively, they can also denote the whole arm and the whole leg respectively (see Chapter 7). They are likely to have their larger meanings here and so this text is probably an example of *ꜥt* being employed to designate an entire limb.

Ostrakon Gardiner 155 is a catalogue of the standard cuts of meat obtained from butchering an ox. Lines 3 and 8 on the recto read: "Foreleg (*ḥpš*) 2, each has {3}<4> *ꜥwt*, which makes 8 (*ꜥwt*)"; "Hindleg (*mnt*) 2, each has 3 *ꜥwt*, which makes {5}<6> (*ꜥwt*)".¹²

ꜥt here cannot denote a whole limb since each front limb is comprised of 4 *ꜥwt* and each hind limb 3.¹³ Almost certainly, *ꜥt* is designating each piece of a limb obtained by disarticulating it at the major joints. Thus, *ꜥt* was

used to denote not only a whole limb but also each separate portion of it.

The terms which denote anatomical joints, *ꜥty* and *r3-ꜥty*, are interesting; *ꜥty* is "(the junction of) two bodily parts" and *r3-ꜥty* may be interpreted as "the cavity belonging to two bodily parts" (see Chapter 3). If a joint was perceived to lie at the interface of two separate *ꜥt* then one would expect each of these *ꜥt* to be the structure on either side of the joint, specifically the bone and attached muscles, extending as far as the next joint.

BD Ch.39 contains an address to the evil Apophis,
".... your head shall be removed,
 (you) who are in your earth,
your bones shall be broken,
your *ꜥwt* shall be severed/cut out (*bḥn*),
the earth-god has condemned you,

 O Apophis, you enemy of Re."¹⁴

Faulkner translates the third line as, "your limbs shall be cut off" but *ꜥwt* in this passage cannot possibly mean limbs since Apophis is a snake living in the earth; Apophis has no limbs!

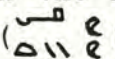
2.4 *ꜥt* and other parts of the body.

A magical spell in Pap.Leiden I 348 which is directed against a complaint affecting the head states (Rt 3.7),

"The *ꜥt* of your head is for him who is in front of your
 head (*ꜥt tp=k n ḥnty d3d3=k*);
your buttocks are cut off for (?) the West because of
 your name, <by> *Ini-ꜥ=f!*"¹⁵

Borghouts translates the phrase *ꜥt tp=k* as "the part of your head" which is a much better rendering than "the limb of your head" or "the member of your head". Although the text does not make clear exactly which part of the head is meant,

there can be little doubt that the head incorporates at least one *ˁt*.

Ebers 295 probably concerns a sprain in the neck and it contains the statement, "he suffers in *ˁty* () of his neck (*iw=f mn=f ˁty n nhbt=f*)".¹⁶ Almost certainly, the two *ˁt* here are two adjacent vertebrae belonging to the cervical spine in the neck. *ˁty* here may be an abbreviated writing of *r3-ˁty* "joint" (see Chapter 3 on *r3-ˁty*) rather than denominating "two *ˁt*". Either way, this statement confirms that the neck can possess *ˁwt*.

Another spell in Pap.Leiden I 348 begins (Rt 12.7),
TITLE: "Another spell for driving out *ˁhw*-illness from the torso/belly (*ht*).

INCANTATION: Come to me my mother Isis, sister Nephthys!

Behold, I am suffering in the interior of the body (in) the *ˁwt* therein (*hr mny m-hnw hˁ ˁwt im*)"¹⁷

The *ˁwt* in question must be located inside the body (*hˁ*) and, more specifically, inside the torso or belly (*ht*).

Ebers 711 and Hearst 32 and 151 are almost identical deodorant prescriptions "for driving out stink (*hnš*) from the body (*hˁ*, var. *hr* "surface"). Hearst 151 reads,

"3*h*-bread and frankincense (*sntr*) are to be mixed together and made into a small ball, one of which is to be applied to the place where *ˁt* abuts with/adjoins to (*dmi*) *ˁwt* (every day) for 4 days".¹⁸

There is no site in the body where a limb abuts with or adjoins to other limbs (plural). It seems very likely that the site against which the perfumed ball is to be applied is none other than the armpit. If this is true then the singular *ˁt* in these remedies must be the upper arm and the plural *ˁwt* must be the torso, or at least the chest. Evidently, the torso is perceived to be a conglomerate of several *ˁwt*.¹⁹

If *ꜥt* is a specific anatomical term denoting a limb then it is curious that it is not included in any of the anatomical lists, those comprehensive inventories of bodily parts and their respective protective deities which are found in funerary and magical texts. Significantly, however, *ꜥt* does feature in most of the statements which terminate these lists. For example, that in the Litany of Re concludes,

"His (the deceased King's) *ꜥwt* are gods, he is a god completely, there is not an *ꜥt* in him without a god, the gods have become his body (*hꜥ*)"²⁰

It is clear that these allusions to *ꜥwt* are not final entries in the lists, nor are they appendices, but summaries of what has gone before. Thus, every anatomical entity enumerated in each list is an *ꜥt*. Not only the limbs but the hair, teeth, internal organs, sides of the chest, torso, back, fingernails, and so forth - all are *ꜥwt*!

2.5 Conclusion

It has been demonstrated that *ꜥt* can designate any part of the body at all. There is no evidence that *ꜥt* functioned as a specific term for a particular anatomical entity, such as a limb.

In his discussion of some anatomical terms, Dawson makes the following observation, "Now the Egyptians had no separate terminology for bones. Each member, or part of the body, was considered as a whole, and included not only the external skin but the underlying tissues and the bone or bones".²¹ The evidence presented in this chapter supports most of these assertions. His claim that each *ꜥt* includes the overlying skin remains unproven however, and is susceptible to challenge. A late hymn in the temple of Esna, to Khnum-Re the creator of bodies, states (250.3),

"He made hair sprout and tresses grow,
modelled/gilded the skin over the *ꜥwt* (*nbi inm hr ꜥwt*);
He built the skull, formed the cheeks,"²²

Although the clause referring to the *ꜥwt* is not unambiguous, the fact that modelling skin over the *ꜥwt* is worthy of specific mention suggests that the overlying skin is not an inherent component of an *ꜥt*. If we discount his comment about the skin, then according to Dawson's scheme, a typical *ꜥt* should be a complete bone and its attached soft tissues and this is exactly what most early determinatives of *ꜥt* portray.

That *ꜥt* also denotes boneless soft tissue portions of an animal is demonstrated by the abovementioned determinatives of *ꜥwt* in the Merenre Pyramid Texts where a boneless flesh sign is depicted alongside two limb joints which do contain bones. It is also implied in the following passage from CT Sp.217 which has the title, "Giving gifts in Heliopolis";

".... I am the Bull of Kenzet in Heliopolis
and the *ꜥ(w)t nt iwf* is in Heliopolis.

Five portions are in Heliopolis;

two are in the sky with Re

and three are on earth with Geb."²³

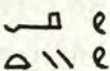
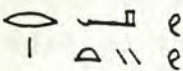
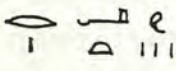
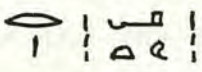
ꜥ(w)t nt iwf in this spell probably means no more than "cuts of meat" or "joints of meat". But because *iwf* denotes the soft tissues of the body, especially the muscles and internal organs, and is often contrasted with the hard tissues, the bones (see Chapter 4), *ꜥ(w)t nt iwf* logically ought to be designating boneless cuts of meat.

Butchery scenes in the temples and tombs show animals, particularly sacrificial oxen, being dismembered with a knife.²⁴ In such circumstances bones could not have been cut in half and butchery must have been effected largely by disarticulating the animal at its joints. This resulted in

a very standardised series of "joints" or "cuts" of meat, including complete bones from the limbs and their attached muscle meat as well as boneless cuts such as the internal organs. It seems probable that the concept of an *ʿt* originated in the practice of butchery. Over time, the meaning of *ʿt* evidently extended to cover not only joints of meat from a butchered animal, but any part of any body, be it animal or human, living or dead.

In conclusion, *ʿt* is the most common as well as the most general and non-specific of all Egyptian anatomical terms. In one sense, it is not an anatomical term at all in that *ʿt* does not denote a specific part of the anatomy; rather, it is a generic descriptive term like *iwf* "flesh", "meat". As a translation for *ʿt*, "limb" is far too specific; it should be discarded. Strictly speaking, "member" is accurate but it is unsatisfactory because it is a rather archaic word and because strong associations with the limbs are inherent in it. "Anatomical entity" most closely approaches the true meaning of *ʿt* but is no great improvement on "bodily part" which must remain the favoured translation.

CHAPTER 3

^cty 
r3-^cty 
r3-^cwt 
r3w-^cwt 

Findings :

"joint" (possibly ligamentous joints only)

"joint" (possibly synovial joints only)

"joints"

3.1 Introduction

Despite the obvious affiliation between ^cty and r3-^cty, the fact that there are two terms which denote an anatomical joint in general, prompts a closer inspection of these terms. Both ^cty and r3-^cty are rare and, indeed, their very scarcity is rather puzzling. It might be expected that a word, or words, denoting the joints would be quite common in the medical texts and even in non-medical texts. That the reverse is true is not readily explicable. One possibility is that it reflects a different perception from ours about the nature or importance of joints.

3.2 The meaning of ^cty

^cty is a dual noun formed from ^ct. ^ct means "bodily part" (see Chapter 2) and so a literal translation of ^cty is "two bodily parts". However, the word does not seem to refer simply to two separate or two different bodily parts, or even to a pair of similar bodily parts, but appears to be a separate noun denoting the junction between adjacent bodily parts, specifically, a joint.

^cty occurs in only two cases in the medical papyri and both concern an injury to the vertebral column in the neck.

Ebers 295 reads, in part,

"If you inspect a man having *stt*-illness in his neck (*nḥbt*), he suffers in *ʿty* (𐎢𐎠𐎢𐎠𐎢𐎠𐎢𐎠) of his neck (*iw=f mn=f ʿty n nḥbt=f*), he suffers in his head, the vertebral column (*ts*) of his neck is stiff, his neck is weighed down (*wdn*) so that looking at his torso/belly (*ht*) is painful to him" ¹

Now, *nḥbt* specifically denotes the posterior half of the neck, the rear compartment containing the 7 cervical vertebrae and the para-spinal musculature. Almost certainly, the two *ʿt* of the *nḥbt* are two adjacent vertebrae belonging to the cervical spine. The condition being treated seems to be a sprain; pain, stiffness and restriction of movement of the neck, as well as headache, are quite typical of a sprain in the neck. Since sprains occur at a junction between two bones, *ʿty* in this case is effectively denominating an intervertebral joint. That the patient suffers "in a joint (*ʿty*) of his neck" seems more meaningful and plausible than that he suffers "in two parts (*ʿty*) of his neck".

This conclusion receives qualified support from the presence of the masculine singular genitive adjective *n* after *ʿty* in Ebers 295. *ʿt* is a feminine noun and one would expect *ʿty* also to be feminine.² Stricker observes that when a noun is feminine, its dual can be masculine and that when this happens it indicates that the dual form denotes a new entity distinct from either of its two components.³ *ʿty* here may be another example of this phenomenon; that is, *ʿty* is not simply "two *ʿt*", "two bodily parts", but a new word altogether, "joint".

The second case, Pap. Edwin Smith 30, is accompanied by a gloss which reads,

GLOSS: "As for, 'a sprain'

EXPLANATION: he is speaking about a wrenching apart of *ʿty*

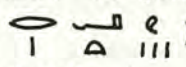
($\overline{\Delta \backslash e}$), it (each ϵt) is in its place

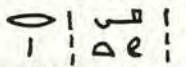
(*ir nrwt dd=f r ngt in $\epsilon ty iw=s m st=s$*)."⁴

The feminine pronoun *s* can only refer to *nrwt*, ϵty or one of the two components of ϵty and it is most likely that it refers to the last of these. Because the translation "he is speaking about a wrenching apart of two bodily parts, it (each part) is in its place" conveys exactly the same sense and meaning as, "he is speaking about a wrenching apart of a joint, it (each part) is in its place" it is not possible to declare that one of the translations for ϵty must be preferred over the other. This gloss is really rather a splendid definition of a sprain which is indeed the momentary wrenching apart of the bones of a joint, thereby damaging the ligamentous capsule around the joint. There is no fracture or dislocation with a sprain, each bone "is in its place". The sprain in Edwin Smith 30 is in the neck (*nhbt*), as is the sprain in Ebers 295, and it is noted in passing that ϵty is not recorded as being associated with other regions of the body, specifically, with the limbs.

3.3 The meaning of $r3-\epsilon ty$

$r3-\epsilon ty$ is a compound noun which only occurs twice in the medical texts, in the parallel remedies Ebers 654 = Hearst 123. These are remedies for, "softening a $r3-\epsilon ty$ in any bodily part (*sgnn $r3-\epsilon ty m \epsilon t nbt$*)."⁵ That the condition being "softened" is stiffness is suggested by the next title cited by Pap.Ebers; Ebers 656 is, "Another (remedy) for softening stiffness/hardness in any bodily part of a man (*kt nt sgnn nh \dot{t} tt m $\epsilon wt nbt nt si$*)."⁶ The stiffness in a bodily part which might be susceptible to "softening" by the ointment and poultice which these remedies prescribe is, of course, stiffness in a joint, particularly a major joint of the leg or the arm.

The plural of *r3-ty* appears in CT Sp.769,
 "Your head shall be knit to your bones,
 your joints (*r3-ty* ) shall be joined together
 as for Horus who stands"

Beatty 13a contains a different plural form. It begins,
 "If it flows forth as do afflictions of *bnw*-illness upon
 the bladder (and) *snkt*-illness in/from his joints
 (*r3w-ty* ) while he sends forth liquid between
 his buttocks, his bodily parts (*ty*) being burdened with
 fever"

This serious illness is evidently characterised by urinary
 frequency (or else urethral discharge), diarrhoea, fever
 and, apparently, some sort of effusion in, and/or discharge
 from, the joints. The precise diagnosis here is not
 immediately obvious.

Literally translated, *r3-ty* is "the mouth of two
 bodily parts". In English usage, the word "mouth" is most
 often conceptually linked with openings and portals,
 entrances and exits; for example, the mouth of a river and
 the mouth of a vase. In Egyptian words that are compounded
 with *r3*, these connotations are overshadowed by the
 perception of the mouth as a cave/cavern/cavity, a chamber,
 a room. That is, to the Egyptians, the enclosed space
 comprising the oral cavity is the most salient feature of
 the mouth.*

Typical *ty* were those portions of a limb obtained by
 disarticulating it at the major joints (see Chapter 2) and,
 in a limb, those joints formed a well-defined natural
 boundary between neighbouring *ty*. The principal functions
 of the major joints of the limbs are to hold contiguous
 bones together and yet to permit movement. They are called
 synovial joints and each consists of interconnecting
 ligaments between the bones, a flexible ligamentous capsule
 and, inside the capsule, a cavity which contains a lubricant

(the synovial fluid). If *ꜥty* means "joint" (see above), then *r3-ꜥty* means "a cavity joint" and the plural *r3-cwt/r3w-ꜥwt*, "the cavities of the bodily parts", are "cavity joints". Thus, *r3-ꜥty* is seen to be a very appropriate term to denote the major synovial joints of the limbs.

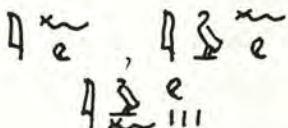
3.4 Conclusion

There appears to be a link between the presence or absence of *r3* ("cavity") in the word selected to denote a joint and the presence or absence of a synovial cavity at the joint. The fact that *ꜥty* is only found in connection with joints such as the intervertebral joints in the neck, and not with the major joints of the limbs, may not be pure coincidence. Although it is always hazardous to base general theories upon small samples, the use of *ꜥty* may have been restricted to such non-synovial joints, joints in which the bones are directly held together by ligaments and/or cartilage and which do not possess a sizeable synovial cavity. It is quite possible, on the other hand, that the use of *r3-ꜥty* was restricted to synovial joints, those joints in which the bones are only indirectly joined, they being separated from one another by an intervening cavity (*r3*).

Reflected in the terms *ꜥty* and *r3-ꜥty* is an important difference between Egyptian perceptions of the body and its joints and our modern perceptions. To the Egyptians, the ligaments, cartilages and cavities or potential spaces between the bones are more important than the bones themselves. Joints are viewed as the sites at which the body naturally divides into its many separate entities and at which, of course, it can readily be divided up artificially. We, on the other hand, perceive the ends of the bones on either side of the joint cavity to be most important in the definition of a joint and, indeed, it is

they which are being "joined". To us, a joint is an anatomical complex which unites the divers parts of the body; joints are the sites at which the body is held together so as to maintain its integrity as a whole, as a single unit. This conceptual difference has important implications for the study of Egyptian anatomical terms, particularly those which denote portions of, or structures belonging to, the limbs.

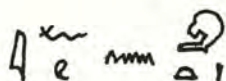
CHAPTER 4

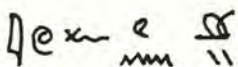
iwf 

iwf w3d

iwf psi

iwf sndm

iwf n h3t 

iwf n phwy 

wr n iwf 

hr n iwf 

Findings :

"flesh" "soft tissues"

a. "meat" "muscles"

b. "insides" "internal organs"

"raw meat"

"cooked meat"

"spiced meat"

? "rib fillet"

? "loin fillet" ? "rump steak"

- unidentified joint of meat

- unidentified joint of meat








4.1 Introduction : semantic considerations


iwf is a very general term which can be used to refer to either animals or humans, living or dead. Its usual translations are "flesh" and "meat".¹ The formal meaning of "flesh" is the soft tissues lying between the skin and the bones (*Concise Oxford Dictionary*), that is, the fat, muscles and internal organs of the body. In common usage, however, it is clear that "flesh" possesses other nuances of meaning. Phrases such as "it's only a flesh wound", "goose-flesh" and "it makes one's flesh creep" indicate that "flesh" can also mean the skin. Other phrases like "in the flesh", "one's flesh and blood" and "sins of the flesh" indicate that "flesh" can mean the whole body.










In English, the word "meat" is used of the edible parts, particularly the muscles and internal organs, of a slaughtered animal or an animal destined for slaughter.

Whenever *iwf* appears in the clinical description sections of the medical case studies, it is referring to the *iwf* of a human being. In these contexts, the translation "meat" is totally inadmissible because English usage does not permit this word to be used in reference to human tissues. Translating *iwf* consistently as "flesh" however, is too general and imprecise and can result in serious misinterpretation of the case studies. This chapter will seek to ascertain exactly which body structures are included within the ambit of *iwf*, and thence, to determine the best way to translate this term.

4.2 Lexicographical considerations

iwf is written   if in the Old Kingdom, which changes to   *iwf* in the Middle Kingdom and thereafter   , with plural strokes, is the usual writing.² It can readily be demonstrated that the presence or absence of plural strokes in the writing of *iwf* is completely unreliable as a guide to the number of anatomical structures being discussed. *iwf*, with or without plural strokes, is followed by the masculine singular demonstrative pronouns and genitive adjectives, *pn* and *n*, and does not appear as a dual or with a feminine *t* ending.³ Thus, *iwf* is a masculine collective noun which should always be transliterated *iwf*, never *iwf*w.

From the very beginning, *iwf* is determined with the flesh sign . An interesting exception to this rule occurs in CT Sp.238:

"Hail to you, Great One (fem.) behind your lord;
 who raises him up [after being] limp,
 who gathered together (*inq*) my body (   ),
 who held together (*s3q*) my flesh (*iwf*   )"⁴
 Here *h^c* and *iwf* are determined with  instead of  to

emphasise the fact that the body and flesh are those of a dead person, not those of someone who is living.

The flesh sign is the generic determinative for a majority of Egyptian anatomical terms and seems to indicate no more than that they name one or other part of the body. Terms for both external and internal structures can be determined with this sign (e.g. *msdr* ear, *db^c* finger, *mist* liver) and, certainly, the "fleshiness" or otherwise of the structure does not seem to have much bearing upon whether this sign is employed in the writing of its name.

There is, however, a particularly intimate connection between the flesh sign and the word *iwf*. On many occasions in the medical papyri, *Q* stands alone as a complete word. It seems to be an abbreviation for *iwf* and therefore, *Q* on its own is virtually an ideogram for the concept embodied by *iwf*.⁵ Interestingly, the abbreviated writing of *iwf* nearly always occurs in contexts where the part of the body so designated must be the vagina (see 4.3.3 below).

4.3 Structures which are encompassed by the term *iwf*

4.3.1 *iwf* and the whole body

Very few texts permit *iwf* to be construed as designating the whole body. They include the following:
PYR Sp.1298:

"O King, stand up and sit upon the throne of Osiris!
Your entire *iwf* (*iwf tm*) is that of Atum,
your face is that of the Jackal (i.e. Wepwawet)"⁶

CT Sp.44:

"May you sail southward in the Night-bark and northward in
the Day-bark;
may you recognise your *b3* in the upper sky,
while your *iwf*, your corpse (*h3t*) is in Heliopolis."⁷

CT Sp.312:

"I am one of those gods or spirits who dwell in the
sunshine, whom Atum created from his *iwf*,
who came into being from the root of his eye,"

A variant form of the spell has *h*° "body" in place of *iwf*.⁸

CT Sp.1013:

"My face is that of a god, my *iwf* is that of a man; I have
appeared and have been on high as *b3ty t3y*"⁹

CT Sp.1037:

"I have seen what I have restored to health in Osiris,
so do not mourn over his *iwf*."¹⁰

Pap.Edwin Smith (18.9, 19.9 and 20.11):

"Horus, Horus, healthy despite Sakhmet,
is around my entire *iwf* (*iwf=i tm*) for life."¹¹

Although *iwf* can be interpreted as meaning the entire body in these excerpts, none of them provides incontrovertible evidence that it has this specific meaning. *iwf* could possess the narrower meaning of "flesh" in every one of the above passages without seriously distorting the sense.

4.3.2 *iwf* and the internal organs

The anatomical list in Pap.Vatican Magical is in the form of a long series of injunctions for the protection of bodily parts. One of the injunctions mentions *iwf* and Gardiner translates it as follows;

"Thou (poison) shalt not take thy stand in his *mist*
(liver), in his *nnšm* (spleen), <in his> *wf3* (lung) or in
any flesh that is in his body (*m iwf nbt imy ht=f*);
Imseti, Hapy, Duamūtef and Kēbhšnēwef <are against
thee!>, the great gods who are in his body (*imy ht=f*)."¹²

Since four gods are listed, but only three organs, it is safe to assume that one organ has been inadvertently omitted

and that this would have been the intestines (*mhtw*), usually associated with Qebehsenuef.

Another list in Pap.Chester Beatty VII contains a similar passage which Gardiner translates,

"Thou shalt not take thy stand in his *mist* (liver), in his *wf3* (lungs), in his *h3ty* (heart), in his *ggt* (kidneys), in his *nnšm* (spleen), in his *mhtw* (intestines), in his *spr* (or *spt?*), or in any flesh of his body (*m iw f nb n ht=f*); Imseti, Hapy, Duamūtef and Kēbḥsnēwef, the gods who are in <his> body (*imy ht*), are against thee."¹³

In both texts, *ht* is to be translated "torso" rather than "body" (see Chapter 9). The terminal phrases *m iw f nbt imy ht=f* (Vatican) and *m iw f nb n ht=f* (Chester Beatty VII) are not additive to these short lists of body structures but are summary and inclusive; they categorise each cited structure as *iwf* or, at least, intimately associate it with *iwf*. These two texts are identifying the internal organs of the thoracic and abdominal cavities as *iwf*.¹⁴ A more apposite translation for each terminal phrase is, "in any organ which is in his torso" and "in any organ of his torso", respectively.

Chapter 42 of the Book of the Dead contains the only other anatomical list that mentions the word *iwf*. Significantly, this rather extensive catalogue does not include any of the internal organs that appear in the two texts quoted above. At approximately the position where they might be expected to occur is found the entry, "My *iwf* is (that of) the Lords of Kheraha."¹⁵ Certain vignettes accompanying BD Ch.42 depict three gods in the column pertaining to *iwf*, indicating a plurality of the Lords of Kheraha.¹⁶ *iwf* here must stand for three or more bodily parts and the obvious choices are the internal organs of the torso, particularly the four associated with Imseti, Hepy, Duamutef and Qebehsenuef, the Children of Horus.¹⁷ Variants

of BD Ch.42 exhibit some confusion between *iwf* and *wf3* (lungs) which is understandable since the vocalisation of the words was undoubtedly very similar.¹⁸ That the *wf3* (lungs) could replace *iwf* in an equation with the Lords of Kheraha without being deemed inappropriate is probably a reflection of the fact that the *wf3* are counted among the *iwf* and also because the lungs are under the protection of one of the Children of Horus (*alias* the Lords of Kheraha).¹⁹

Berlin 138 in the medical papyri seems to identify *iwf* with the bowels/intestines. It is an oral remedy, almost certainly a purgative, entitled, "A remedy for causing to come out all *stt*-illness, which exists coming and going, from the *iwf* (*Q3^x₂*) of a man."²⁰

The verb *h3i* "to come down" "to come out" is often employed in cases where natural defaecation or artificial purgation of the bowels is described.

Pap.Edwin Smith 31 describes a dislocation of a vertebra in the neck which has caused the patient to become quadriplegic. Breasted translates one of the presenting symptoms as follows (10.14), "his flesh has received wind" (*iw* *šsp.n iw**f=f t3w*).²¹ An accompanying gloss specifies that the tissues over the site of the dislocation are uninjured (*wd3*) (*iwf* is used again in this gloss which is discussed in 4.3.5 below), that is, no open wound is present. Neither is there any mention of concurrent trauma to the chest in this case. This means that the *t3w* in the *iwf* is very unlikely to be gas in the muscles of the neck, or air under the skin (subcutaneous emphysema). Breasted's medical consultant, Dr.Luckhardt, interprets the phrase to refer to the distension of the bowels with gas which often supervenes in the event of severe trauma to the spinal cord of the neck.²² If this interpretation is correct, the inescapable conclusion is that the *iwf* in question are the intestines. It is a controversial conclusion, one which

Lefebvre and Weeks seem prepared to accept²³ but which the authors of *GdM* strongly reject.²⁴ A more plausible interpretation than Luckhardt's has yet to be put forward however.

4.3.3 *iwf* and the vagina

In many gynaecological/obstetric cases in the medical papyri the remedy prescribed is, "to be poured/injected into her *iwf* (Q) (*wdh/wdh m iwf=s*)."²⁵ Ebers 783 is an interesting preparation designed to prevent conception. It advises that lint/seed-wool is to be impregnated with the medicament, undoubtedly a spermicide, and then placed in the *iwf* (Q) of the woman. Ebers 806 is a remedy designed to initiate or to promote labour in a pregnant woman; the ingredients are to be made into a suppository/pessary (*mt*) which is then put into the woman's *iwf* (Q).²⁶

London 41 and 42 are magical incantations designed to staunch blood loss in a woman, undoubtedly uterine blood issuing from the vagina.²⁷ In London 41, the physician/magician incants over strips of fabric which are then tied into a knot which is "to be put into the interior of her *iwf* (*Q*) (*rdiw r hnw iwf=s*)."²⁸ In London 42, knots of fabric are to be put "into the cavity of the interior of her *iwf* (*Q*) (*r r3 n hnw iwf=s*)."²⁹ This incantation is a good illustration of *r3* having the meaning of "cavity" rather than "mouth" or "opening".³⁰ If *r3* meant the latter then the knotted fabric would be placed "against the opening of/to the interior of her *iwf*", that is, against the vulva. This scenario is possible but it is much more likely that it is to be placed right inside the vagina.

Pap. Carlsberg VIII nos. IV and V are procedures to determine whether a woman will give birth. In the first, a clove of garlic (*t3 n hdw*) is left overnight in her *iwf*

(*Q3^xe*) and if a garlic odour can be detected in her mouth then she will give birth successfully. The text of no.V is damaged at a crucial point but the principal element of the procedure is a fumigation which is to enter the woman's *iwf* (*Q3^xe*) and, following this, if she vomits when her membranes rupture, then she will not give birth successfully.²⁹

A case in Pap.Edwin Smith concerning an accumulation of blood within the uterus (*idt/hmt*) advises (21.3),

"You should apply myrrh with frankincense between her thighs (*mnty*) so that the fumes therefrom may enter into her *iwf* (*Q3^xe III*)."³⁰

Ebers 789-795 are procedures "for causing the descent (*h3i*) of the placenta of a woman from its place." Ebers 793 instructs, ".... the woman is to be fumigated with it and let the fumes thereof enter into her *iwf* (*Q*)."³¹

Thus, we see that a seed-wool tampon, a medicated pessary, knots of fabric and a clove of garlic can all be put (*rdi*) into the *iwf* of a woman, medications can be injected (*wdh*) into it and fumigant vapours can enter (*°q*) into it. In all the cases cited above, it seems incontrovertible that *iwf* is designating the vagina. But in what sense is the word being employed here? Does *iwf* possess a specific meaning of "vagina", does it possess its usual generic meaning of "flesh", or, is it doubling as a euphemism for "vagina"? These questions will be addressed in the conclusion to this chapter.

4.3.4 *iwf* and the muscles

Evidence that *iwf* denotes human muscles is surprisingly sparse. In the medical texts, only one case, and a related gloss, can be cited in support of this meaning. Berlin 154 is probably a case of severe constipation with vomiting; it

states,

".... the *iwf* is weary (*wrdt*) like a man whom the road has exhausted"³²

A gloss which helps to explain this statement is found elsewhere, in Pap.Ebers (Ebers 855x);

GLOSS: "As for, 'His entire *iwf* is *ddnw* just as the *ib* of a man is weary because the road has exhausted him'

EXPLANATION: it means that his *iwf* is weary because of it, just as the *iwf* of a man is weary through walking for a long time."³³

Although this gloss is somewhat circumlocutory, "muscles" as the meaning of *iwf* in these passages, has great appeal.

In CT Sp.39 the deceased declares,

"It is indeed I who shall exist in this land of the Living Ones (*ˁnhw*), my *ib* shall create my bodily parts (*ˁwt*); my *iwf* obeys me, it raises (*tsi*) me up for I am the Old One."³⁴

The *iwf* which would be able to physically raise or lift the deceased's body into an upright position must surely be his muscles.

4.3.5 *iwf* and the skin

The gloss in Edwin Smith 31, mentioned above, begins:

GLOSS: "As for, 'a dislocation (*wnh*) in the vertebral column (*ts*) of his neck (*nhbt*)'

EXPLANATION: he is speaking about a separation of one vertebra (*ts*) of his neck from another, the *iwf* which is over it (fem., therefore refers to *nhbt*) is uninjured (*wd3*);"³⁵

nhbt specifically denotes the posterior part of the neck and the *iwf* upon the *nhbt* in this gloss can only be the skin and/or muscles of the back of the neck overlying the dislocated vertebra.

Ebers 436 deals with a crocodile bite and reads,
"If you examine the bite of a crocodile and you find that
its *iwf* has been thrown aside and its two sides are
apart, then you should bandage raw meat (*iwf w3d*) onto it
on the first day as (is done) for any wound of a man."³⁶
This bite is evidently a sizeable gash and the *iwf* which has
been ripped asunder must at least include the skin and the
subcutaneous fat, and may well include deeper structures
such as the muscles.

Another serious open wound is the subject of Pap. Edwin
Smith 41;

".... the two lips of that wound are red while that man,
he is hot underneath it (or, because of it);
his *iwf* will not receive/accept a bandage, that wound
will not take up a margin of skin (*inm*);"³⁷

This lesion is an infected, swollen, non-healing sore and
the text locates it upon the *q3bt*. *q3bt* denotes the central
region of the front of the chest, specifically, the breast-
bone or sternum. Gloss D accompanying the case elaborates
the reference to *iwf* as follows;

GLOSS: "As for, 'his *iwf* will not receive a bandage'

EXPLANATION: it means that his *iwf* will not take up the
remedy because of the inflammation which is in his
iwf."³⁸

A peculiarity of the sternum is that there is very little
soft tissue between the bone and the skin; there is a
paucity of muscle and only a thin layer of subcutaneous
fat.³⁹ Normally, a medicinal poultice would have been
bandaged over the sore but the gloss informs the physician
that the lesion will not take up the medicine because its
iwf is inflamed. *iwf* must mean the swollen skin and
subcutaneous tissues at the edge of the wound and the raw,
exposed tissue at its centre.

Outside the medical papyri, there is abundant evidence that *iwf* includes the skin. Some funerary spells allude to earth being in contact with the *iwf* of the deceased. PYR Sp.1916 is a typical example:

"O King, gather together (*inq*) your bones,
assemble your bodily parts (*wt*), whiten your teeth,
take up (*šsp*) your *ib* of your body (*dt*),
throw off this earth which is against your *iwf*...."⁴⁰

Other spells refer to clothing being in contact with the *iwf*, for example, CT Sp.608:

"Ho N! You are clad in the Eye of Horus which belongs to
your body (*dt*). Ho! I have given it to you,
it having appeared and having been seen on your *iwf*
and having been joined to your *iwf*
in this its name of 'Red Linen'."⁴¹

There are several spells which refer to medicines or to aromatic substances, such as incense and oils, being applied to (*rdi*), wiped onto (*sk*), rubbed into (*sin*) or smeared onto (*gs*) the *iwf*. CT Sp.404 instructs,

"He shall chew this barley and emmer and he shall rub
(*sin*) his *iwf* (*q^x III*) with it, and his body (*h^c*) will be
(healthy) like that of these gods"⁴²

CT Sp.530 reads,

".... you are made strong by means of incense (*sntr*),
the fragrance (*idt*) of God is against your *iwf*"⁴³

Mourners for the deceased are stated to strike their *iwf*, for example, in PYR Sp.1974;

".... the Souls of Pe clash sticks for you,
they smite (their) *iwf* for you,
they clap their hands for you,
they tug their sidelocks for you,
they beat their thighs for you"⁴⁴

The mourners must be smiting their skin. Not uncommonly, texts associate sweat (*fdt*) with the *iwf* and, because sweat

is a product of the skin alone, here too *iwf* must include the skin.⁴⁵

The following clause from CT Sp.336 clinches the argument: "He speaks concerning the *iwf* of the foreskin (*iwf n t3wt*)" ⁴⁶ The foreskin of the penis, as its name implies, is comprised of skin and almost nothing else and so its "flesh" (*iwf*) must surely be this skin.

4.4 *iwf* and meat

That *iwf* denotes the meat obtained from a butchered animal is certain. A butchery scene depicted on a tomb wall is accompanied by a caption instructing the butcher to "sharpen your knife in order to cut off the *iwf*."⁴⁷

In the treatment sections of the case studies in the medical papyri, *iwf* and *iwf w3d* are encountered quite commonly, especially as the initial treatment for an open wound that has resulted from an accident, a weapon strike or an animal bite. For example, Edwin Smith 18 (7.10) reads,

"Then you should bandage it with *iwf w3d* the first day and you should treat it afterwards [with] grease and honey every day until he is well."⁴⁸

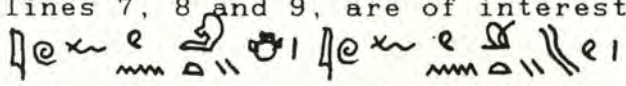
Beyond question, *iwf* here is the meat of an animal. Fresh raw meat (*iwf w3d*) packed into an open wound releases substances which promote haemostasis (the cessation of bleeding) and thus, it is an entirely appropriate initial treatment for such injuries.⁴⁹

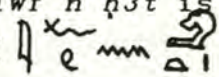
It has been demonstrated above that *iwf* is applicable to the internal organs as well as to the muscles of a human being and this is also true of animals. When the *iwf* of an animal is the subject of a text it is impossible to tell whether it is referring to the muscle meat or to the offal, the viscera. Our word "meat" does not distinguish between

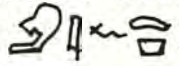
these two broad categories of animal flesh either; "meat" can denominate muscle meat or offal, or both at once. In conclusion, whenever *iwf* is cited as a therapeutic agent, as a foodstuff or in a ritual context, one can be confident that the flesh of an animal is meant and that "meat" will be an entirely appropriate translation. Preferably, *iwf w3d* should be translated as "raw meat" rather than "fresh meat", *iwf psi* as "cooked meat" rather than "boiled meat" and *iwf sndm* as "spiced meat" rather than "sweetened meat".⁵⁰

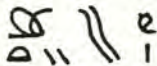

4.4.1 *iwf* and cuts of meat

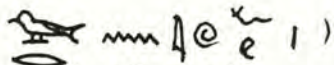
The names of some specific cuts of meat are compounded using *iwf* and it will be useful to take a new look at some of these expressions.

Ostrakon Gardiner 155 is an inventory of the cuts of meat obtained from an ox and three entries on the verso, lines 7, 8 and 9, are of interest. Line 7 reads,
 (*iwf n h3ty iwf n phwy*).⁵¹
 This entry follows the cuts taken from the neck and appears to be enumerating "the meat/muscle of the heart (and) the meat of the hindpart." Juxtaposition of heart and hindpart within one entry is somewhat puzzling and points towards one or other of the anatomical terms being a mistake. Because *h3t* (forepart of an animal) and *phwy* (hindpart) are mentioned together extremely commonly in the texts, and because the phrase *iwf n h3t* is well attested elsewhere, it seems certain that *h3ty* has been written in error for *h3t* in this line. Ordinarily, one would translate *iwf n h3t* simply as, "meat of the forepart (the front end of the animal)" but such an entry seems far too general and incongruous here in the middle of a catalogue of named cuts of meat.

There is good evidence that *iwf n h3t* is in fact a very specific cut of meat. *iwf n h3t* () appears as a

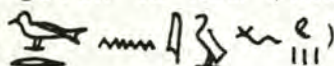
joint of meat in many tables of offerings.⁵² Another catalogue of cuts of meat in PYR Spp.78-84 includes *h3t i(w)f* () and almost certainly, this is exactly the same cut as *iwf n h3t*. Several authors identify *iwf h3t* / *iwf n h3t* as "breast meat" or "brisket"⁵³ but another term, *shn*, may be the correct name for this cut of meat (see Chapter 15). In his elucidation of butchery practices and terms, Montet asserts that the *iwf n h3t* is a choice cut of meat from alongside the thoracic spine.⁵⁴ This latter identification is very plausible.

 in Line 7 is a variant spelling of *phwy* "hindpart", "rear end". Logically, *iwf n phwy* should also be a specific cut of meat rather than the very general "meat of the hindpart". Such a joint does indeed appear in the offering lists.⁵⁵ If *iwf n h3t* denotes the paravertebral muscle meat of the thorax then *iwf n phwy* may denote the fillet of meat from alongside the lumbosacral spine in the rear half of the animal. The determinative  with *iwf n phwy* is unusual but it could well represent a long strip of muscle meat. Another possibility is that *iwf n phwy* is the meat of the pelvic region, specifically, the "rump steak".

Line 8 on the verso is *wr n iwf 1* () which clearly, is the name for a particular cut of meat, only one of which is obtainable from each animal. The joint *wr n iwf* is also found in offering lists.⁵⁶ Funerary texts also mention it, for example, PYR Sp.566 reads,

"O *Wr-k3=f*, butler of Horus, Master of the Hall of Re, Elder of the Palace of Ptah, give the King a sufficiency that he may eat whatever you give, *wr n iwf=f*."⁵⁷

BD Ch.72 reads,

".... and there shall be given to him (the deceased) bread and beer and *wr n iwf* () which is upon the altar of Osiris."

Faulkner translates *wr n iwf=f* in the first text as "a

sufficiency of his meat" but *wr n iwf* in the second text as "a portion of meat". Allen translates the latter as "a chunk of meat".⁵⁸ It has to be admitted that "sufficiency", "portion" and "chunk" are rather exceptional meanings for *wr*. Although these translations of *wr n iwf* make perfect sense in their contexts, they may be erroneous. It seems likely that the *wr n iwf* in these texts denominates exactly the same cut of meat as on Ostrakon Gardiner 155 (ln.8) and in the offering lists. The fact that *wr n iwf* is singled out as a desirable offering to the deceased and to Osiris implies that this cut had a special ritual significance in the cult of the dead. It may have been a highly prized cut. In the funerary texts, it is not merely a sufficiency or a portion of meat which is the due of the deceased but the specific *wr*-cut of meat.

Line 9 of the ostrakon is damaged but probably once read *hr n iwf* 1.⁵⁹ Thus, there appears to have been at least four cuts of meat from a butchered animal that possessed names compounded with *iwf*; *iwf n h3t*, *iwf n phwy*, *wr n iwf* and perhaps also *hr n iwf*. Although it is impossible to be certain, these cuts are likely to be muscle meat rather than internal organs since the latter would have been listed by their proper names.

4.5 Summary

There are several Egyptian words which specifically denote the body in its entirety (for example *dt*, *h^c* and *h3t*); *iwf* is not one of them. Nevertheless, the texts cited above show that, very occasionally, *iwf* possesses this nuance. In these texts it seems to be functioning as a euphemism for the whole body, just as our word "flesh" can do (see Introduction to this chapter).

3is and *bskw* are two words which specifically denote the internal organs, the viscera. It has been demonstrated that the liver, spleen, lungs, intestines, kidneys, heart and vagina come under the *aegis* of *iwf* but that does not prove that *iwf* is another specific term for "viscera". Clearly, every internal organ qualifies as *iwf* but the totality of the viscera is considerably less than the totality of the *iwf*.

The reason why *iwf* is employed so often to designate the vagina is not entirely clear. It is generally accepted that *k3t* is the correct anatomical term for the vagina and it seems unlikely that *iwf* is another specific term for this organ. If *iwf* possesses its simple generic meaning and is translated as "flesh", we obtain some peculiar translations for the cases cited above. They would be recommending that a medicine be injected into a woman's flesh, that a piece of fabric or a clove of garlic be inserted into her flesh and that medicinal vapours be made to enter her flesh. Such statements are ambiguous at best and completely misleading at worst. In gynaecological contexts, if *iwf* is not a specific term meaning "vagina" and does not have its generic meaning of "flesh", then it is probably functioning as a euphemism. That is, *iwf=s* could be saying something very general such as "her insides", "her soft parts" (see below), "her organ", or similar, and yet be meaning something very particular, her vagina.

As far as I have been able to ascertain, the ancient Egyptians did not have a separate general term for the muscles. The closest term is *iwf* but, as we have seen, *iwf* also includes the internal organs. Nevertheless, the muscles seem to be the most focal and essential nuance of *iwf*; the three or more specific cuts of meat which have their names formulated from *iwf* seem very likely to be cuts of muscle meat rather than organ or visceral meat.

That *iwf* is not a specific term for the skin is certain; *inm* is the term used by the ancient authors when they wish to specify the skin alone. That *iwf* can include the skin is equally certain; the texts cited above prove this convincingly. In the medical papyri, there are scores of prescription-remedies for ointments or other preparations to be used on the unbroken skin but not a single one associates the word *iwf* with these skin conditions. Thus, despite the relatively frequent employment of *iwf* to designate the skin, this nuance is surely not its most dominant one.

In brief, *iwf* encompasses all the internal organs, the muscles and the skin but is not a specific term for any of these. It also serves as a euphemism for the whole body and for the vagina. Although I have been unable to find a text which proves that *iwf* also encompasses the subcutaneous and internal fat of the body, it seems very likely that it would. *iwf* is clearly a very general term. However, an entire category of bodily structures is glaringly absent from this inventory of *iwf* structures. It is, of course, the bones and their absence confirms that *iwf* cannot be another specific term for the entire body.

4.6 Conclusion

A large number of texts juxtapose the *iwf* with the bones (*qsw*). For example, a lengthy anatomical list in Pap.BM 10321 (Paditwerisheru) begins and ends with two very general, yet at the same time very comprehensive, statements,

"I (Montu-Re-Horakhty) shall keep him healthy (in) his *iwf*
and his bones (*qsw*),
I shall keep healthy his head (*tp*),
....(etc.).... ,

I shall keep healthy his right leg and his left leg,
 I shall keep healthy his whole body (h^c),
 all his bodily parts ($^c(w)t$) from his head to his feet"⁰⁰

The terms *iwf* and *qsw* form a complementary pair, as do cwt and h^c (see Chapter 1). PYR Sp.548 contains the statement, "As for the corpse ($h3t$) of this King, it is rejuvenated" but a variant rendering of the spell in the Pepi Pyramid reads, "As for the *iwf* and bones (*iwf qsw*) of this King, it is rejuvenated." Obviously, *iwf qsw* can stand as a synonym for the entire body; no part of the body is omitted when this pair of terms is cited together. An eminently satisfactory translation for *iwf qsw* here is, of course, "flesh and bones".

The sole conceptual basis linking these two terms is the consistency of the structures which they denote. *iwf* denotes all the soft, pliable and friable tissues of the body, that is "the flesh", and *qsw* denotes all the hard, rigid and durable tissues, that is "the bones". This insight permits us to expand our choice of translations for *iwf* beyond "meat" and "flesh", which have their limitations and ambiguities, to include such renderings as "soft tissues", "soft parts". This inherent quality of *iwf* is succinctly illustrated in BD Ch.154 where the destruction of a corpse by the processes of putrefaction and decomposition is described;

"Such is he who is decayed; all the bones are decayed, the body (h^c) is dismembered (*sm3*), the bones are softened, the *iwf* is made into an evil liquid. He smells, he rots, he becomes a mass of maggots, all maggoty."⁰¹

It has already been noted that none of the many prescription-remedies which treat the skin allude to *iwf*. Another pertinent observation is that, of the medical cases which do, and which possess instructions concerning therapy, most prescribe an oral medicine, that is, an internal

treatment.⁸² These facts reinforce the impression that the muscles and the internal organs, which are the internal soft tissues of the body, are the major nuances of *iwf* and that the skin is only a minor one. It also suggests that *iwf* carries a secondary, but nonetheless important, connotation of denoting "internal tissues". Thus, "insides", "inner parts" and even "innards", become possible alternative translations for *iwf*.

In conclusion, the translation of *iwf* demands a certain flexibility. "Meat" or "flesh" is perfectly acceptable when referring to the *iwf* of animals. It is unfortunate that "meat" cannot also be used when referring to humans because "meat", denoting as it does both the muscles and the organs by means of only one word, comes closest in spirit to the meaning of *iwf* as understood and employed by the ancient Egyptians. When the *iwf* in question does belong to a human, "flesh" serves perfectly well in many non-medical contexts. In the medical texts however, a translation as general and non-specific as this is almost totally useless. For example, as was pointed out earlier, "flesh" is a very misleading translation for *iwf* in obstetric and gynaecological cases and its use should be avoided in those contexts.




It is difficult to find a way around this dilemma. One solution might be to precisely identify, if possible, the component of the *iwf* under consideration and to confidently employ that identification as the translation for *iwf*. For example, the *iwf* which has been exhausted after walking for a long time (Berlin 154) is translated as "muscles", every *iwf* which is in the torso of a man (Pap.Chester Beatty VII) is translated as his "internal organs". Another solution might be to affix this precise identification to the word "flesh". For example, a medication is not injected into the "flesh" of a woman but into her "flesh (vagina)". Another

option would be to suffix the precise identification, where known, to the word *iwf*. Thus, it is the *iwf*-muscles of the deceased which raise him up (CT Sp.39) and it is the *iwf*-skin of the deceased which is to be rubbed with masticated barley and emmer (CT Sp.404).

When the identity of the *iwf* in a text, especially in a medical text, is in doubt then "soft tissues" or "insides" should be given serious consideration because these translations for *iwf* often reveal the true meaning of the text much more so than does "flesh".

CHAPTER 5

Findings :



k3p   ,  (in humans): "hand" or "foot"
(in animals): "paw" or "foot"

k3pwy n rdwy         "feet"

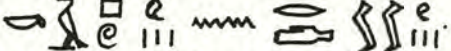

5.1 Introduction : semantic considerations

k3p, or *kp*, is a rare word. The phrase *k3pw n rdw* (or rather, *k3pwy n rdwy*, see below), which terminates the anatomical list in Pap.Turin Magical, has been confidently and consistently translated as "soles of the feet".¹ There are problems with this translation. The first is that another word *tbt* is alleged to be the specific term for the sole of the foot. A second difficulty is that *k3p* is used to denote the hands of enemies slain in battle; these were severed from the corpses and presented *en masse* to the King.² Clearly, *k3p* here must denote the whole hand (and not merely the palm of the hand).

5.2 Lexicographical considerations

k3p can be written purely ideographically, phonogramatically or as a combination of the two. The ideogram employed is  which depicts the whole paw of an animal, possibly of a lion. It is not certain if this is the fore paw or the hind paw, but it is probably the former. Another writing of *k3p*, when it is referring to the severed hand of an enemy, is  and the final sign here is, without doubt, ideographic and depicts the very object named by the word, that is the whole hand.

5.3 *k3p* and the anatomical lists

k3p appears in only one anatomical list and is not represented in any inventory of cuts of meat obtainable from an animal. The anatomical sequence in Pap.Turin Magical ends as follows:, *mnt wnmy* (right thigh), *mnt smhy* (left thigh), *p3dwy* (kneecaps), {*nwhw*}<*sdhwy*> (calves/tibiae), . These hieroglyphs should probably be transliterated *k3pwy n rdwy* and interpreted as signifying that one *k3p* belongs to each *rd*. The usual translation of this phrase, "soles of the feet", is based upon the presumption that *rd* means "foot". In fact, as its ideogram (and determinative)  implies, *rd* actually denotes the whole of the lower leg, including the foot.

If *k3pwy n rdwy* denominated only the soles of the feet, there would be an awkward gap in the Pap.Turin Magical sequence (....., thighs, kneecaps, calves, soles of the feet); the feet themselves are missing! Another factor is that the sole of the foot is much more a bodily surface than a clearly circumscribed bodily part or region, like the other entities in the sequence. It seems more plausible that a deity is being identified with an entire part than with a mere surface. *k3pwy n rdwy* is associated with Geb, Father of the Gods, but this association provides no further clues other than the fact that the bodily part in question is likely to be in contact with the ground which is equally true of the sole as of the whole foot.

5.4 Conclusion

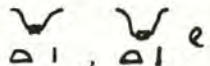
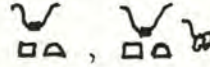
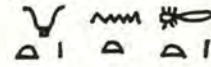

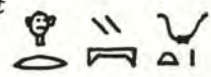
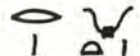
$k3p$ is a term which is applicable both to the upper limb and to the lower limb. Since $k3p$ definitely denotes the whole hand, severed at the wrist, it is logical that,

when employed in reference to the lower limb, it should denote the whole foot below the ankle joint. It has been noted that the precise extent of *rd* is greater than the foot alone so there can be no objection to *k3p n rd* denoting an anatomical entity as large as the whole foot. This is almost certainly the true meaning of this phrase and such an identification suits and completes the anatomical sequence in Pap.Turin Magical perfectly - viz. . . . , thighs, kneecaps, calves, feet.

It is widely believed that *tbt* denominates the sole of the foot but in Chapter 8 it is shown that *tbt* really denotes the whole foot and that the precise designation for the sole of the foot is *ht nt tbt*. *tbt* in the leg is equivalent to *drt* in the arm; that is, they are the foot and hand respectively. Because *k3p* is evidently able to refer to the hand or to the foot, it cannot be the specific anatomical term for either of these bodily parts. *k3p* is a generic term, not a specific one. Unfortunately, the English language lacks an exact equivalent. We have the generic terms "limb" for the arms and legs and "digit" for the fingers and toes but we do not possess a generic term for the hands and feet. Thus, when *k3p* is used in reference to human beings, the translator must choose between "hand" and "foot" as the translation. When it is used of animals, "paw" or "foot" will be ideal translations for *k3p* in every context.

PART B : HEAD AND LIMBS

CHAPTER 6

<p><i>wpt</i> </p> <p></p>	<p><u>Findings :</u></p> <ol style="list-style-type: none"> 1. "crown" (of the head) i.e. entire parietal region of the cranium 2. "parting" (of the hair) i.e. median suture separating the 2 parietal bones of the cranium
<p><i>wpt nt ht</i></p> <p></p>	<p>"linea alba" "parting of the torso" i.e. central sulcus (furrow) running down front of torso</p>
<p><i>wpt mnty</i></p> <p></p>	<p>"perineum" "parting of the thighs" i.e. space between thighs from genitalia to the anus</p>
<p><i>hry-wpt</i></p> <p></p>	<p>"vertex" "top of the head"</p>
<p><i>r3-wpt</i></p> <p></p>	<p>- in error for <i>hr wpt</i></p>


6.1 Introduction : semantic considerations


wpt is usually translated as "vertex" or "crown" (of the head). Although the English word "vertex" can mean the whole crown of the head, it most commonly refers to the *vertex summus*, that is the summit, zenith or most elevated point on top of the head. It is generally believed that the *wpt* is indeed this highest point¹ and that the word *wpt* contributes the connotation of "highest point" to other anatomical expressions formed from it such as *wpt nt ht* and *wpt mnty*.² However, it will be shown that *wpt* does not carry a specific connotation of "highest point" at all; its major connotation is "dividing line". This realisation results in entirely new interpretations for the anatomical phrases compounded from *wpt*. It will also be shown that the *wpt* is not merely a point on top of the head but possibly the single largest region of the whole head.


wpt is also translated as "brow"³ but this identification appears to be erroneous (see below).

Another translation for *wpt* is "set of horns".⁴ Significantly, the horns of most horned animals do not spring from the vertex of the head or from the brow. They do, however, spring from the anatomical region designated by the term *wpt* and the horns probably are indeed integral parts of the animal's *wpt* (an obvious exception is the horns of a rhinoceros which spring from the front of the face).

6.2 Lexicographical considerations

wpt is usually written , the principal hieroglyph depicting a joined pair of ox horns. The presence of the stroke | indicates that the sign is functioning as an ideogram in this word. Thus, *wpt* should denote the two horns, the sides of the skull from which they spring and the central region of the skull that unites the horns together into a single unit.

wpt can be accompanied by the flesh determinative  implying that it denotes a specific anatomical structure rather than just a single point on the surface of the body (as implicit in the translations "vertex", "summit", "zenith" and the like).

Occasionally, *wpt* is written with the hair sign  (Gardiner D 3) suggesting that the *wpt* is characterised by the presence of hair. This is consistent with a location for the *wpt* on top of the head but tends to mitigate against a meaning of "brow" for *wpt*. It is true that many different animals have hair on their brow but human beings do not and because *wpt* possesses this determinative even when referring to humans (e.g. PYR Sp.396), the translation "brow" becomes suspect.

wpt is a feminine noun which is etymologically related to the verb *wpi*, the primary meaning of which is "to divide/separate/set apart" one thing from another such as two fighting animals or contending gods (Horus and Seth). Hence *wpi* can also mean "to judge" (between contestants in court) and the words *wpy* and *wpt* can denote a decision and a judgement respectively.

There is a very important complementary concept to the one of "setting apart". It is that of being the object or agent at the boundary of two things which have been set apart and constituting a continuing tangible link between them. Hence, *wpwty* is the term for a messenger who travels between two separate persons or kingdoms, *wpt-rnpt* is New Year's Day which stands between the old year and the new year and the deity *Wp-w3wt* (Wepwawet), the so-called "Opener of Ways", is the psychopomp who guides the deceased between the world of the living and the world of the dead.


It seems likely that both of these affiliated concepts influenced the choice of *wpt* to denote the particular part of the anatomy that it does. Firstly, because the central joint (i.e. the sagittal suture) between the right and left parietal bones sets apart the right and left halves of the cranium (and of the whole body). Secondly, because the central region of the top of the skull constitutes a bridge which links together the two horns that spring separately from each lateral aspect of the skull.

The fact that a concept of "highest point" is conspicuously lacking amongst the numerous terms etymologically related to *wpi* calls into question the notion that this concept is an inherent and obligatory feature of the bodily part named *wpt* and of other anatomical structures designated by expressions compounded from *wpt*.

6.3 *wpt* in the anatomical lists

wpt does not occur in any of the catalogues of the relics of Osiris or inventories of the cuts of meat from a butchered animal. It is quite common, however, in the lists of bodily parts and their associated deities. The *wpt* is linked with Re (in three different lists), Khepri, Thoth and Anubis. A notable feature of the first three deities is that they are often depicted wearing a celestial orb upon precisely the region of the head designated by the term *wpt*; Re and Khepri (a form of Re) wear the sun-disc and Thoth wears the moon-disc. The association of Anubis with *wpt* in the BD Ch.151 list is probably explicable in terms of the virtual identity of Anubis with the other major jackal deity Wepwawet (*Wp-w3wt*).

The fact that the *wpt* is commonly attested in the lists implies that it is a definite anatomical structure. It is more plausible that the lists are identifying the abovementioned major deities with a discrete bodily part than with a mere anatomical point, as the vertex is.

One of the lists in Pap.Berlin 3027 (Mutter u.Kind) allows us to define the approximate parameters of the *wpt* rather nicely. It begins: *wpt* (), *mkh3* (back of head), *dhnt* (forehead), *sm3(w)y* (temples), *inhwy* (eyebrows),⁵ *mkh3* denotes the back of the head and roughly corresponds to the occipital bone of the cranium.⁶ *dhnt*, literally "peak", roughly corresponds to the frontal bone of the cranium. It particularly denotes that region of the upper forehead which contacts the earth when someone bows the head to the ground. The presence of *dhnt* in three out of six lists in which *wpt* appears tends to mitigate against *wpt* denoting the brow or encompassing it. *sm3* denotes the side of the head, in particular, the region of the temple; it probably

corresponds to the temporal bone of the skull. Keeping this sequence of *wpt*, *mkh3*, *dhnt* and *sm3wy* in mind, when we view a human skull from the side and from above a rather startling and unexpected picture of the *wpt* emerges - see Figs.1 & 2.

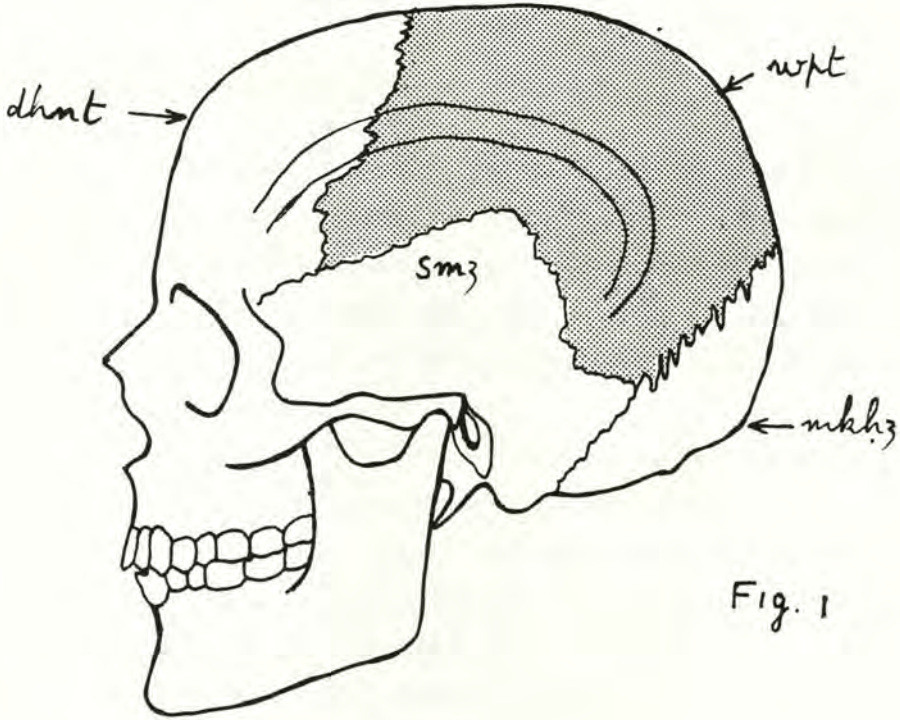


Fig. 1

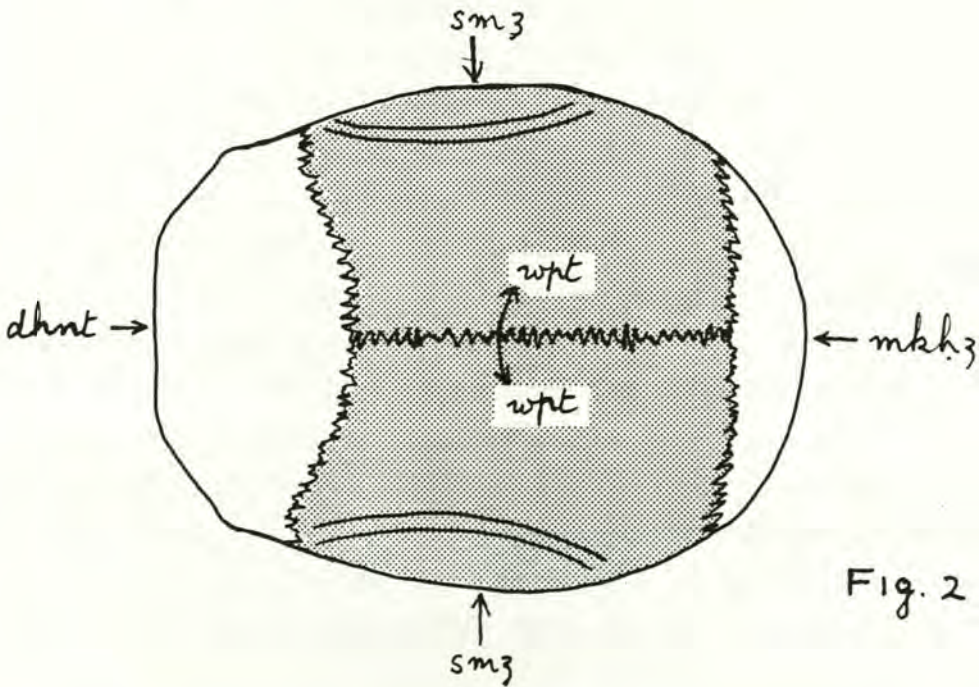


Fig. 2

According to its textual environment in this and in other anatomical sequences, the *wpt* may be the entire central region of the skull consisting of the right and left parietal bones. It will, of course, include the scalp above these bones and may even include the brain beneath.

6.4 Other textual evidence concerning *wpt*

Pap. Edwin Smith 7 in the medical texts deals with a very serious head injury in which there is a gaping wound overlying what is probably a depressed fracture of the cranium; in other words, the bony vault of the skull is broken and a fragment of bone has sunken inwards. Two of the accompanying glosses read:

GLOSS G: "As for, 'the odour of the casket/chest of his head is like the faeces of goats/sheep'

EXPLANATION: it means that the odour of his *wpt* is like the excrement of goats/sheep (*ir st hn n tp=f mi bkn 'wt wnn st wpt=f pw mi wsst nt 'wt*)."


GLOSS H: "As for, 'the casket/chest of his head'

EXPLANATION: it is the middle/inside part of his *wpt* near his brain, its resemblance is to a casket (*ir hn n tp=f hry-ib pw n wpt=f r-h3w 3is=f stwt=f pw n hn*)."

In a recent article, Chapman translates Gloss H as,

"As for, 'the box of his head,' it is that which is in the middle of his brow (*wpt*) near his brain. It means that it resembles a box."

On the basis of this translation, Chapman challenges the traditional identification of the *hn n tp* as the cranium and states that it is the cavity of the frontal sinus which is located just above the eyes.* His conclusion is based upon the assumption that *wpt* here denotes the brow or forehead but *wpt* does not have this meaning; it refers to the top of the head not the front of the head. I believe that the traditional translation for *hn n tp* is correct. *hn n tp*

() , literally "the box/chest/casket of the head", almost certainly denotes the cavity of the cranium, otherwise known as the vault or dome of the skull. Exactly equivalent expressions for this anatomical entity are found in the English and German languages, viz. "brain-case" and "Gehirnkasten".

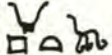
This casket, the brain-case, is described in terms of, and thereby seemingly equated with, the inmost part of the *wpt* next to the brain. Clearly, the *wpt* is not just the vertex point on top of the head but must have real depth; it must include the thickness of the skull and reach at least as far as the surface of the brain. Since the glosses are equating the *wpt* with the whole vault of the cranium, it seems likely that, in addition to possessing depth, the *wpt* is also large in area or extent. These glosses in Pap. Edwin Smith 7 support the hypothesis that *wpt* corresponds to the large parietal region of the cranium.


Several funerary spells allude to serpents upon the *wpt* of a deity or the King. For example, CT Sp.817:

"I am the living uraeus-serpent (*i^crt*),
Foremost One of the Bark of the Body,
upon the *wpt* of its lord."⁹

Since uraeus-serpents rise up from the top of the brow, it might be argued that texts such as this support the translation "forehead" or "brow" for *wpt*. However, as Dawson points out in refuting this translation, although the head and hood of the serpent do rear up from the top of the brow, the main parts of the snake that are actually in contact with the person's head are its body and tail and these meander backwards along the sagittal line of the cranium between the two parietal bones.¹⁰

PYR Sp.396 is relevant to this discussion:



"His gods are upon him,
his uraeus-serpents (*i^crwt*) are upon his *wpt* () ,

the King's guiding-serpents (*sšmw*t) are upon his brow
 (*h3t* )."¹¹




The text pertains to a human being. Since *wpt* is written with the hair determinative and since the forehead of a human is hairless, it is rather unlikely that *wpt* here denotes the brow. The text is probably distinguishing the *wpt* from the *h3t* rather than indicating that *wpt* and *h3t* are synonyms for the same bodily part, the forehead.

Dawson's speculations concerning the *wpt* are within a note on a passage from Pap. Chester Beatty VII which reads:

"That heron which sat, two straight filaments were drawn from its *wpt* and made into seven knots."¹²

Dawson identifies the filaments as the two crest plumes (the technical name is nuchal plumes) of the heron/phoenix.¹³ These plumes do not spring from the brow or from the centre of the scalp, but from either side of the bird's head (the *m3*   regions) which correspond to the sites of origin of the horns in animals. The text confirms that the *wpt* is more than a single vertex point and that it is broader than the immediately para-sagittal region of the head.

6.5 The meaning of *wpt nt ht* in Ebers 864

The phrase *wpt nt ht* (  ) occurs in only one Egyptian text, Ebers 864, the relevant sections of which read as follows:

TITLE: "Instructions concerning a swelling (*°3t*) of the coverings (*hbsw*) on the *wpt* of his *ht*

CLINICAL DESCRIPTION: when you assess a swelling of the coverings on the *wpt* of his *ht* above his navel (*hr wpt nt ht=f m hry n hp3=f*), you place your finger upon it and you probe/palpate (*d°r*) his *ht*, then you knock upon your fingers. If you examine his [...] what comes forth, that which comes about through his coughing"¹⁴

The swelling is located above the navel on the *wpt nt ht*.

wpt nt ht has been alleged to denote a specific anatomical entity, the upper abdomen or "epigastrium" which extends from the bottom of the breast-bone (sternum) down to the navel.¹⁵ In their dictionary entries under *wpt*, the authors of *GdM* and of the *Wb* also conclude that *wpt nt ht* denominates an anatomical region above the navel.¹⁶ Although the "epigastrium" or "epigastric region" is meant, this terminology is not actually employed.

As the authors of *GdM* point out, the swelling in Ebers 864 is almost certainly a hernia.¹⁷ Three types of hernia can occur in this region of the front of the abdomen; an epigastric hernia, a true umbilical hernia and a para-umbilical hernia. The first two types are quite rare and usually clinically insignificant whereas a para-umbilical hernia is much more common and dramatic and hence seems most likely to be the subject of this surgical "instructions" case. It is remarkable how accurate and specific the text is here in characterising a para-umbilical hernia because the hernia does indeed comprise the coverings of the abdominal wall and does indeed arise just above the navel in the mid-line. It contains abdominal contents, such as fatty omentum and loops of intestine, which have extruded out of the abdominal cavity into the hernia and which can cause it to attain a considerable size. In pictorial scenes in tombs, it is not uncommon to see a person such as a field worker with a conspicuous para-umbilical hernia.

Having established the exact identity of the swelling in Ebers 864 and its location immediately above the navel, it remains to define the *wpt nt ht*. As mentioned above, most authors believe that the phrase is a specific anatomical term for the epigastrium in the upper half of the abdomen. However, this conclusion is based upon two assumptions, both of which may be wrong; (a) that *wpt* in *wpt*

nt ht means "vertex" or "high point" and (b) that *ht* in *wpt nt ht* means "abdomen" and nothing more than that.



If *ht* denoted the abdomen, then the vertex of the *ht* should be just below the breast-bone (sternum), but the hernia in Ebers 864 is in the centre of the belly just above the navel. For *wpt nt ht* to denote the site of this hernia, *wpt* would have to mean "upper half", and not "high point" - such a meaning for *wpt* is otherwise unattested. In Chapter 9, it is shown that *ht* actually denotes the entire torso and not just the belly alone. Accordingly, if *wpt* means "vertex" or "high point", then the *wpt nt ht* ought to be in the vicinity of the lower neck and shoulders; such a location for the hernia is even further from the mark. Clearly, if the swelling really is a para-umbilical hernia, *wpt* in the phrase *wpt nt ht* cannot mean "vertex" or "high point".

In his note on the passage from Pap. Chester Beatty VII, Dawson briefly mentions the phrase *wpt nt ht* from Ebers 864 and, inexplicably, asserts that it is "in parallelism with (*hry n ht=f*)".¹⁸ But the latter phrase belongs in the next case, Ebers 865, dealing with a different hernia in a different part of the body, and is probably not connected with the phrase *wpt nt ht* in Ebers 864 at all.

Dawson points out that *wpt* designates the "division", the "parting" of the hair, the median line of the head. Although he did not make the connection, Dawson's observations about the *wpt* provides the key to uncovering the true identity of the *wpt nt ht*. Just as the *wpt* of the head divides it into right and left halves and, at the same time, joins those two halves together, so the *wpt nt ht* is the sagittal line which divides and joins the right and left halves of the torso. That is, it is the central line (technically known as the *linea alba*) that is encountered when proceeding from one side of the body to the other.

This line or "parting" extends down the length of the front of the chest and the abdomen and directly upon it, of course, lies the navel and also a para-umbilical hernia.

6.6 The meaning of *wpt mnty*

The term *wpt mnty* () occurs twice in CT Sp.398 in which different parts of a ship (the *sm3dyt* var. *md3wt* and the *snbwy* var. *md3bw*, all of which remain unidentified) are equated with the *wpt mnty* of the deities Great One (*Wr*) and Babi.¹⁰ *wpt mnty* has been variously stated to denote the inguinal creases between the front of the thighs and the abdomen and the gluteal creases between the backs of the thighs and the buttocks.²⁰ Both interpretations apparently take for granted that *wpt* means "vertex" or "highest point" and that *mnty* denotes the thigh and nothing more than that. In fact, as the determinative  that often accompanies *mnty* implies, and as the following texts confirm, *mnty* also encompasses the buttocks. CT Sp.475: "I will not sit, O great one, on my *mnty* by the water". CT Sp.540: ".... while my scribes are on their *mnty* with my palette(s) in their armpit(s)."²¹ The subjects of these spells are obviously in the sitting or squatting position hence, in these texts and others like them, "haunches" (which includes the buttocks) is probably a better rendering of *mnty* than "thighs".

If *mnty* includes the buttocks and *wpt* means "highest point", then the *wpt mnty* should be at the top of the buttocks and not at the top of the thighs as are the gluteal creases which Weeks identifies with the *wpt mnty*. The writing of this phrase is interesting, *wpt mnty* is literally "the (single) *wpt* of the two thighs/haunches". If *wpt mnty* denoted the two gluteal or the two inguinal creases, one might expect *wpt* also to be a dual; the phrase probably does not denote either of these sets of anatomical creases.

An expression pertaining to birth is found in PYR Sp.1:

"Words spoken by Nut, the greatly beneficent,

'The King is my eldest son who split open my torso'

(*dd mdw in Nwt 3ht wrt s3 pw smsw NN wpi ht(=i)*)."²²

Another expression in the funerary texts states that the new-born "comes forth from between the thighs/haunches (*mnty*) of the Ennead."²³ These statements about separating/dividing/splitting apart (*wpi*) the torso and coming forth between the thighs (*mnty*) are describing exactly the same event, that of birth. In view of this, it seems entirely plausible that the *wpt mnty* is the locus where this event takes place, that is the perineum. The emergence of an infant at the perineum literally does split apart the mother's torso into right and left halves and does physically separate her two thighs.

Identification of the *wpt mnty* as the perineum - the space between the two thighs from the genitalia to the anus - is compatible with the singular-dual phraseology of *wpt mnty* and entirely consistent with the conclusions reached earlier about *wpt* and *wpt nt ht* that they are particularly focussed upon the central/median/sagittal plane which divides the body into right and left halves. *wpt mnty* is probably merely a continuation of the *wpt nt ht*.

6.7 The meaning of *hry-wpt*

hry-wpt occurs in Pap.Leiden I 348. In his translations of Egyptian magical texts, Borghouts usually renders *wpt* as "vertex" except in the case of this compound term *hry-wpt* which he asserts to denominate the upper part of the brow.²⁴ Almost certainly, Borghouts has varied his interpretation of *wpt* here to avoid falling into an obvious tautological trap. Since "vertex", by definition, is already the high point or uppermost part of something, the

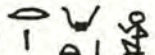
element *hry* in the term *hry-wpt* would appear to be redundant; the notion of an "upper vertex" or "upper uppermost point" is plainly nonsensical.

It has been demonstrated however, that *wpt* probably does not encompass the forehead at all which casts doubt upon Borghouts' compromise interpretation of *hry-wpt* as the upper brow. If, as seems likely, *wpt* designates the entire central and parietal regions of the skull and scalp, then the *hry-wpt*, literally "the upper part of the *wpt*", should be the high point of this region as one proceeds from front-to-back and/or from side-to-side across the head. In *hry-wpt* we may well have the true and precise anatomical term for the vertex or highest point of the head.

6.8 The illusory term *r3-wpt*

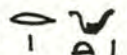
Lefebvre believes that there is yet another anatomical term compounded from *wpt*, namely *r3-wpt*, which he translates as "hairstyle" (coiffure, Frisur).²⁵ The *Wb* does not recognise this term. The only source reference that Lefebvre provides is a passage from BD Ch.17 which seems to be stating,



"I have disarrayed my hair down onto my face,
and disordered my *r3-wpt*

(*psh.n=i šny=i n hr=i thth r3-wpt=i*) ()."²⁶

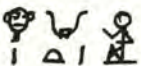
The version in the Papyrus of Ani reads,


"As for, 'you have disarrayed your hair,
and I have disordered (my) *r3-wpt*'

(*ir psh.n=k šny=k thth=i n r3-wpt(=i)*) ()."²⁷

It is easy to see how Lefebvre came to the conclusion that *r3-wpt* must denote a person's hair or hairstyle. However, the text of Ani here is clearly corrupt and it is likely that all versions of this passage which write *r3* before *wpt* are also corrupt. There exist examples of the spell in which it is not *r3* () which appears before *wpt* but *hr* ()

and, almost certainly, this version is the more correct one.²⁸ The passage now reads,

"I have disarrayed my hair down onto my face,
and disordered (the hair) on my *wpt* (*hr wpt=i* )."

If *r3-wpt* is a true term then, literally, it should mean "the mouth/opening of the crown (of the head)" or "the cavity/room of the crown (of the head)" but why such a phrase would have been chosen to designate the hair or hairstyle is incomprehensible. Also, the fact that the *wpt* element in the alleged term *r3-wpt* is never accompanied by the hair determinative  seriously undermines the notion that it denotes the hair. In view of these considerations, but, above all, because *r3-wpt* in BD Ch.17 is evidently in error for *hr wpt*, I believe that Lefebvre is mistaken and that a separate term *r3-wpt* does not actually exist.

6.9 Summary and conclusion

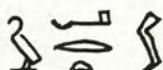
The lexicography of *wpt* and the evidence from the anatomical lists and the medical texts suggests that the *wpt* is a large discrete anatomical structure belonging to the head. The facts that the nuchal plumes of herons and the horns of most animals arise from it demonstrates that the *wpt* encompasses the great parietal bones of the skull. The borders of these two bones probably correspond to the boundaries of the *wpt*. Thus, the *wpt* is not just the highest point of the head, the "vertex", but the entire region at the top of the head. The correct term for the vertex is probably *hry-wpt*.

Because the "crown" of the head is usually understood to be greater than the single vertex point and because it approximates the entire region encompassed by *wpt*, "crown" (of the head) would seem to be a much better translation for *wpt* than "vertex". This translation has other virtues too;

a King's crown is stated to sit upon his *wpt* ²⁹ and, in modern parlance, an infant is said to have "crowned" when exactly this region of its head has emerged from its mother's vulva.

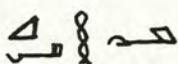
wpt also particularly refers to the medial dividing line on top of the head corresponding to the central "parting" of the hair. Kings and deities of Egypt are said to wear the uraeus-serpent upon the *wpt* and this median line between the parietal bones is undoubtedly meant. Such a line forms the upper extremity of an imaginary sagittal plane passing through the body from front to back and dividing it into right and left halves. The strong sagittal connotation adhering to *wpt* explains its use in the anatomical expressions *wpt nt ht* and *wpt mnty*. It seems unlikely that the former denotes the epigastrium or that the latter refers to the gluteal or inguinal creases. These phrases denote different zones along the sagittal plane of the body. *wpt nt ht* is probably the central ridge and sulcus on the front of the torso, that is the *linea alba*, and *wpt mnty* may be the central region at the lowest extremity of the torso between the two thighs, that is the perineum.

CHAPTER 7

w^crt 

Findings :

1. "leg" (whole leg from the hip joint downwards)
2. "hip" "hip joint" "hip region"

q^ch 






1. "arm" (whole arm from the shoulder joint downwards)
2. "shoulder tip" "shoulder joint" "deltoid region"

7.1 Introduction : semantic considerations

w^crt is a problematical term which has been variously identified as the hinder part (i.e. half of pelvis + whole leg), the whole leg, the leg without the foot (i.e. thigh + knee + lower leg), the thigh, the front of the thigh (i.e. the lap), the upper inner thigh (i.e. superior medial aspect of the thigh), the lower leg and the foot.¹ It is implausible that all these identifications are correct. In this chapter, it will be shown that the structure that is most crucial in the definition of the w^crt may be the hip joint, a possibility that does not seem to have been considered by scholars to date.

q^ch is also discussed briefly since it appears to be the counterpart of w^crt in the upper limb. In the past, q^ch has been believed to denote the elbow as well as the shoulder but it is now generally recognised that the former identification is incorrect and that q^ch specifically denominates the shoulder tip (deltoid region) and probably includes the shoulder joint itself.²

7.2 Lexicographical considerations

w^crt is a feminine singular noun which occurs very commonly as the dual, *w^crt_y*. It is nearly always determined with the leg sign  and undoubtedly the anatomical focus of *w^crt* lies somewhere within the leg. Significantly, the word is sometimes determined with the "hind-quarters" or "haunch" sign,  var.  (Gardiner F 22).³ This suggests that the *w^crt* may be located in the upper leg somewhere near the pelvis, buttocks and hips. For two writings of *w^crt*, Lefebvre records its determinative as the thigh sign  (Gardiner F 44). However, in the first example, the determinative does not quite have the appearance of this sign (as Lefebvre admits) and the second example may not be the word *w^crt* at all.⁴ The flesh determinative  also appears with *w^crt* but only in a minority of writings.

Etymologically, *w^crt* is related to the verb *w^cr* "to flee" and the noun *w^crt* "flight" which reinforces its association with the leg but not with any one part of the leg in particular.

Thus, on purely lexicographical grounds, the *w^crt* may be the whole leg but it also seems to have a focus somewhere in the upper leg near the hip joint and pelvis.

7.3 *w^crt* and the anatomical lists

w^crt occurs in only three lists in the following positions:

CT Sp.761: , forearms (*c^wy*), fingers and fingernails (*db^cw^cnwt*), {back}<buttocks> (*{psd}<hpd>*), *w^crt(y)*, thighs (*mnty*), lower legs (*rdwy*).

CT Sp.945: , testicles (*inswy*), ? perineum (*g3s*), perianal region (*c^rt*), *w^crt_y*, buttocks (*hpdwy*), thighs

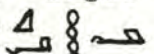
(*mnty*), [....], [....]
 BD·Ch.172:, {lungs} <testicles> ({*sm3*}<*sm3ty*>),
 {*hr* face} <?>, buttocks (*hpdwy*), *werty*.

BD Ch.172 says of the *werty*, "Your *werty* are strong in walking" which, of course, links them with the legs. In the two Coffin Text lists, different segments of the leg are cited as well as the *werty* and so *wert* is probably not denoting the entire leg in these lists and, since *mnty* "thighs" is cited separately from *werty*, it is unlikely that *wert* denotes the thigh.

It is interesting that the *werty* are immediately juxtaposed with the buttocks (*hpdwy*) in all three lists and this connection is echoed in the association of the *werty* with the twin baboon deities *Bnty* in CT Sp.945; these baboons are normally represented squatting on their haunches/buttocks as they greet the new-born sun. In CT Sp.761, the citation of *werty* between the buttocks and the thighs is consistent with the notion that the *wert* may be focussed in the hip region or the hip joint itself.

7.4 *wert* in non-medical texts

wert is quite often associated with the word *qeh*, and the relationship between them is apparently one of parallelism.

There is a non-anatomical term *qeh* which means "angle", "bend" or "corner". That the anatomical term *qeh* () denotes the angle of the shoulder (the deltoid region, the shoulder tip) is quite easily proved.

BD Ch.165 instructs a magician:

"Also (draw) an image whose {face}<body> is human,
 with his arms (*ewy*) hanging down,
 with the face (*hr*) of a ram above his right *qeh*

and another above his left *q^ch*."⁵

The vignette accompanying this instruction depicts an anthropomorphic deity with two rams' heads, one pointing forwards and the other backwards, the face of each being situated exactly above the angle of the shoulder.⁶ Because mention has already been made of the arms (*cwy*) hanging down, *q^ch* probably does not denote the arm here. *q^ch* must denote the shoulder itself; it definitely cannot be denoting the elbow. *q^ch* appears commonly in the anatomical lists and, because it invariably precedes all terms which designate different parts of the arm, it is unlikely to be referring either to the whole arm or to the elbow in these lists.

CT Sp.397 reads:

"'The bodily parts have been restored for me.'

'What are those two bodily parts (*c^ty*)?'

'They are the *q^ch* and the *w^crt*.'"⁷

Here, the *q^ch* and the *w^crt* are likely to be the entire limbs. BD Ch.99 contains a variant of this spell:

"'I have taken care of the two bodily parts.'

'What are those two bodily parts (*c^ty*), magician?'

'They are the *q^ch* and the *m3st*.'"⁸

m3st denotes the knee joint and it is interesting that *q^ch* is mentioned together with a joint; it hints at a specific articular nuance for *q^ch*. As *q^ch* and *m3st* "knee" are placed in apparent parallelism, it might be argued that BD Ch.99 is an example of *q^ch* denoting the elbow. However, for several reasons, *m3st* here is probably a mistake: (a) the earlier CT version has *w^crt*, (b) *q^ch* and *w^crt* are commonly linked together but, to my knowledge, this is the only example of *q^ch* and *m3st* being linked, (c) it is more plausible that the deceased would desire his entire limbs, rather than merely two of his joints, to be restored to his body.

CT Sp.164 reads:

"'What is it that the Great God has sorely suffered from?'

'It is his head, his *q^ch* and his *w^crt*.'

'I have come that I may spit on the head and the *q^ch*,
cool the scalp and ease the *w^crt* of the ailing Great
God.'"⁹

A variation upon this theme is found in BD Ch.102:

"I myself have come that I might save this God from those
who would cause him to suffer these ailments;

(ailments of) the thigh (*iw^c*), the *q^ch* and the *w^crt*.

I have come that I may spit on the thigh,

that I may attach (*ts*) the *q^ch* and

that I may fasten (*smn*) the *w^crt*."¹⁰

The allusion to attaching the *q^ch* and fastening the *w^crt* in the BD version almost certainly describes re-attachment of the limbs to the torso. It is feasible that *q^ch* and *w^crt* in these spells are referring to the shoulder and hip but it is more likely that they are referring to entire limbs, the arm from the shoulder joint downwards and the leg from the hip joint downwards respectively.

In the following texts too, *q^ch* and *w^crt* almost certainly refer to an entire limb and not just to a joint.

CT Sp.404:

"The name of this boat is '*w^crt* of Isis which Re cut off
with a knife when she brought the Night-bark to him'."¹¹

BD Ch.1:

".... so that I might be with Horus as the protector of
that left *q^ch* of Osiris which is in Letopolis."¹²

BD Ch.18:

GLOSS: "As for, 'Erecting the two *dd*-pillars'

EXPLANATION: they are the *q^chwy* (two arms) of Horus Foremost
of Letopolis. They were around Osiris like a strip of
cloth."¹³

w^crt sometimes appears in contexts pertaining to childbirth. For example, CT Sp.402 reads:

"I am Khepri who came into being of himself upon his mother's *w^crt* (*Hpri hpr ds=f hr w^crt mwt=f*)."¹⁴
Amenemhet, a High-Priest of Amun, writes:

".... since I came forth from the *w^crty* of my mother (*dr prt=i m w^crty mwt=i*)."¹⁵

On the grounds that other texts which employ the word *mnty* in similar phrases are describing exactly the same event - e.g. "coming forth from the thighs (*mnty*)" - Lefebvre concludes that *w^crty* in Amenemhet's inscription is directly substituting for *mnty* and so he translates *w^crty* as "thighs".¹⁶ But it is not inevitable that *w^crty* has this meaning; similar phraseology does not perforce indicate direct equivalence of terminology. "I came forth from the thighs of my mother" or, "I came forth from the legs of my mother" are rather unsatisfactory translations for this text. Rather than "thighs" or "legs", *w^crty* may be referring to the hip region. "I came forth from the hips of my mother" is still not an entirely satisfactory translation but is more meaningful than the others.¹⁷

Texts which allude to a child being carried on its mother's *w^crt* and being suckled have been interpreted as evidence that *w^crt* denotes the thigh and the lap (the front of the thigh). For example, CT Sp.244:

"Provide for me, you nurses (*mn^ct*) of the gods,
place your hands upon me, may you lift me up.
May they (each nurse) set me upon their *w^crt*,
with their breast (*mnd*) upon my mouth;
may they lift me up and set me in the pure places
among the brethren of the pure gods."¹⁸

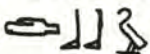
CT Sp.546 may also concern suckling the new-born:

"I am [....] the Milk-goddess,
I am upon the *w^crt* of the Great Lady (*Wrt* = Hathor)."¹⁹

The conclusion that *w^crt* is denoting the lap is based upon the assumption that the mother is in the sitting position. But if this assumption is correct, *w^crt* may simply be referring to the leg generally rather than to the thigh specifically. There is another possibility however; the mother may not be sitting down at all. It is extremely common for women, when either standing up or walking about, to perch their infant upon their hip and to suckle the child whilst in this position. Thus, *w^crt* could well be denoting the whole leg or the hip in these texts and not the thigh or the lap.

7.5 *w^crt* in the medical texts

Ebers 206 is a difficult text dealing with an accumulation in the chest (*šn^c n r3-ib*). The clinical description section contains the following statement:

".... he suffers in his *w^crt_y* and *dbbw* () but not in his thighs (*iw mn=f w^crt_y=fy dbbw nn mnt_y=fy*)"²⁰

Unfortunately, the meaning of *dbbw* is unknown, although it does seem to denominate a bodily part. Ebbell postulates that it is the hip but this has not been confirmed.²¹ Nevertheless, the context in Ebers 206 makes it certain that *w^crt* is not denoting the thigh; the *w^crt_y* could be the hips but are more likely to be the legs (the whole leg).

Two texts cite *w^crt_y* and *rdwy* together. Kahun 7 reads:
TITLE: "Instructions concerning a woman who suffers in her *rdwy* and her *w^crt_y* after walking

DECLARATION: then you say concerning it,

'It is *h3^cw*-illness of the uterus'

INSTRUCTIONS: then you do for it: her *rdwy* and her *w^crt_y* are to be smeared with mud so that she gets better."²²

Ramesseum III A 7 is damaged but it begins:

CLINICAL DESCRIPTION: "If you inspect a woman who suffers in

her *w^crt* and her *rd*

DECLARATION: then you say concerning it, ['....']"²³

It is difficult to draw any conclusions from the juxtaposition of these two terms. If *rd* has its precise meaning of "lower leg", then it might be argued that *w^crt* is denoting the upper leg or thigh. If *rd* is referring to the foot, as it can do, then the *w^crt* might be the whole leg without the foot. A third possibility, and one which I favour, is that *rd* is denoting the foot specifically and *w^crt* the leg generally.

Kahun 12 and 13 also mention the *w^crty* but are too damaged to provide any useful information.

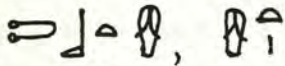


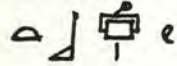
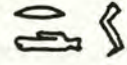
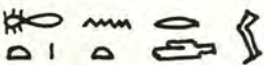
7.6 Conclusion

Despite the fact that *w^crty* came to designate the feet in the Coptic era (OYEPHTE)²⁴, it does not seem to possess this meaning in the pharaonic era. There are already two specific terms, *mnt* and *iw^c*, for the whole of the thigh and I have found no convincing evidence that *w^crt* also has this meaning. Neither does it appear to denote any smaller part of the thigh, for example the front of the thigh or lap. Apart from a few instances where it is determined with the haunch sign, *w^crt* is always written with the general leg determinative and it is clear that *w^crt* commonly designates the entire leg.

The occasional haunch determinatives with *w^crt*, its position in the anatomical sequences and its parallelism with *q^ch*, which denominates the shoulder tip or shoulder joint, point towards a particular connection of *w^crt* with the hip joint. The primary meaning of *w^crt* is likely to be the entire leg below the hip joint but, as a secondary nuance, it may also denote the hip joint itself or the anatomical region surrounding the joint. Its parallel term,

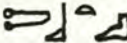
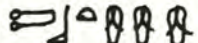
$q^{\circ}h$, denotes the entire arm below the shoulder joint as well as the shoulder tip/deltoid region containing the joint itself.

CHAPTER 8

<u>tbt</u>		<u>Findings :</u>
var. <u>tbw</u>		"foot"
<u>ht nt tbt</u>		"sole of the foot"
<u>tbs</u>		"heel" (calcaneum) "posterior talon" (of birds)
<u>rd</u>		"lower leg" (includes foot)*
<u>ht nt rd</u>		"sole of the foot"
<u>k3p n rd</u>		"foot" (see Chapter 5)

[* The anatomical field of *rd* is the entire lower leg (knee + calf + foot).]

8.1 Introduction : semantic considerations

tbt is nearly always translated as "sole of the foot",¹ When and by whom this translation was first advanced is uncertain but it appears as long ago as the 1860s when Brugsch published his *Hieroglyphisch-Demotisches Wörterbuch*. Only recently, the translation "foot" has begun to be employed for *tbt*, but quite inconsistently; e.g. Faulkner translates  in PYR Sp.2067 as "foot" but  in CT Sp.62 as "soles" (discussed below).

There is a curious gap in our knowledge of Egyptian anatomical terms. Although we know of specific terms for the forearm, hand and lower leg - *ꜥ*, *drt* and *rd*, respectively - the Egyptians are alleged not to have had a specific term for the foot. It is generally believed that

rd fills the void and possesses the meaning "foot" in addition to its primary meaning of "lower leg".²

However, although *rd* is sometimes used to refer to the foot, it may not be the precise anatomical term for this structure at all. There are good reasons for believing that *tbw* is the missing specific term for the whole foot and that the usual translation of *tbw* as "sole" is erroneous. The proper designation for the sole of the foot seems to be *ht nt tbw* and perhaps also *ht nt rd*.

8.2 Lexicographical considerations

In the Pyramid Texts, the word is written either as *tbw* (𓂏𓂏𓂏 PYR Sp.681) or as *tbw* (𓂏𓂏𓂏 PYR Sp.2067).³ The determinative here is significant, 𓂏 depicts the whole foot commencing just above the ankle joint in the same manner that the ideogram of the hand in 𓂏 *drt* "hand", commences a short distance above the wrist joint. This foot determinative is not used with *tbw* after the Old Kingdom.

As early as the Pyramid Texts, and thenceforward, *tbw* is determined with the sandal hieroglyph 𓂏 (e.g. PYR Sp.1368). This sign also came to serve as the logogram for *tbw*, for example in the writings 𓂏 and 𓂏𓂏. Herein lies a source of confusion about this term because, although there can be no doubt that these writings do name a particular bodily part, 𓂏 and 𓂏𓂏 are also writings of the word *tbwt* "sandal". Hence, it is not always possible to discern whether a person's sandals are being referred to, or their two *tbw*. As it so happens, this uncertainty does not often obscure the sense of a text since a wearer's sandal is bound to the bodily part denominated by *tbw* anyway.⁴

On many occasions when 𓂏𓂏 is translated as "sandal", it probably actually refers to the anatomical entity *tbw*.

For example, Faulkner translates a passage in CT Sp.62 as:
"I give you your feet (*rdwy*) that you may walk and that your sandals (*𐎠𐎫𐎵*) may hurry."⁵ A more plausible translation is, "I give you your legs that you may walk and that your feet may hurry".

Other words which are related to *tbt* and to *tbwt* "sandal", are *tbi* "to be shod" "to be provided with sandals" and *tbw* "sandal-maker".⁶ It is likely that the word *tbs* which denotes the heel (see below) is also etymologically related to *tbt*.

8.3 *tbt* in non-medical texts

The fact that *rdwy* and *tbty* both appear in some of the anatomical lists indicates that the *rd* and the *tbt* are not exactly the same anatomical entity.⁷ Lists which include the *tbty* usually place them after parts of the leg (*mnty*, *ssty*, *rdwy*) and before the toes (*s3hw*) which, of course, means that the lists accommodate the translation "soles of the feet" as much as they do "feet".⁸

tp (head) and the *tbty* are quite often stated to define the limits of the body. The sentence which introduces the anatomical list in the Pap.Vatican Magical reads, "No bodily part (*°t*) in him is without a god, beginning with his head (*tp*) (down) to his *tbty*."⁹ This statement has parallels elsewhere. The concluding statement for the list in Sp.8 on Socle Behague reads, "No bodily part (*°t*) of his is without a god; every one of them is the protection of his body, from his head (*tp*) to his *tbty*."¹⁰

°t refers to any bodily part but particularly to those which can be easily detached from the body either by simple excision or by disarticulation (see Chapter 2). Evidently, the head is considered to be the uppermost "bodily part" in

these anatomical sequences and therefore *tbt* should represent the lowermost "bodily part", of which there is a pair. The sole of the foot is the lowermost surface of the body not the lowermost part. If surfaces were intended, then the extreme limits of the body would be the sole of the foot and the top of the head, the *wpt* (usually translated "vertex", but see Chapter 6) or *hry-wpt*, not the whole head (*tp*). In view of such considerations, "foot" seems a preferable translation of *tbt* in the anatomical sequences.

Pap.Boulaq III contains a reference to the application of grease to the lower limbs of a corpse, from the feet upwards. Three major divisions of the legs are enumerated, the *tbt*, the *sdhwy* (shins/calves) and the *mnty* (thighs).¹¹ *tbt* must surely represent the feet in their entirety in this tripartite division of the legs, and not just the soles of the feet.

PYR Sp.1368 alludes to the preparation of the deceased for burial. Faulkner translates it:

"for his mouth is cleansed with *ntr*-natron and *hzmn*-natron,
his upper and lower nails are cleansed;

there has been done for him what was done for his father

Osiris on that day of re-uniting the bones,

of making good (*smnh*) the soles (𓆎𓆏𓆐𓆑),

and of extending (*d3i*) the feet (𓆎𓆏𓆐𓆑𓆒𓆓)."¹²

The last two lines do not make a lot of sense, but if *tbt* is not the sole but the whole foot, and *rd* is not the foot but the leg, the passage becomes rather more comprehensible.

viz. "there has been done for him what was done for his father Osiris on that day of re-uniting the bones, of restoring (setting in order) the feet, and of extending (straightening) the legs."

PYR Sp.2067 concerns the King's rebirth after death. It declares:

"You shall support the sky with your hand (*drt*),

You shall lay down the earth with your foot (*tbt* 𓂏𓂛),
 a libation shall be poured out at this King's gate."¹³
 Faulkner balks at translating *tbt* as "sole" in this spell,
 evidently conceding that "foot" is a better translation for
 this particular context. He is absolutely right and, in
 fact, the parallelism of ideas contained in this passage
 makes it almost certain that the Egyptians perceived the *tbt*
 of the lower limb to be exactly equivalent to the *drt* (hand)
 of the upper limb. Therefore, *tbt* should be the whole foot.

8.4 *tbt* in the medical texts

Ebers 854g and h are successive entries in a catalogue
 of vessels/conduits (*mtw*) of the body. Ebers 854g reads;

"There are six conduits which lead to the two arms (*ꜥwy*),
 three to the right arm, three to the left arm,
 leading to his fingers."

Ebers 854h reads;

"There are six conduits to the two legs (*rdwy*),
 three to the right leg, three to the left leg,
 in order to reach the *tbt*."¹⁴

Although it is stated that the conduits lead to (*n*) each arm
 and leg - indicating that, technically speaking, they are
 not yet in a limb - it seems certain that the texts mean
 that three conduits are contained within each limb. In the
 arm they lead to the fingers at the extremity of the arm and
 one might expect that the conduits in the leg reach the
 extremity of that limb also. But it is the *tbt* not the toes
 which is cited as the end point of the conduits in the leg.
 If the conduits extended only to the sole, as Ebers 854h
 appears to be asserting, then the toes beyond the sole are
 left unsupplied by conduits. The sole of the foot is of
 indeterminate depth and is more a surface than a separate
 bodily part. Ebers 854h makes much better sense when the

conduits in each leg reach the "foot" rather than the "sole of the foot".

London 42 is an incantation to be spoken when two knots of fabric are placed inside a woman's vagina in an attempt to staunch uterine bleeding. It invokes, "Hey! Hapy against the tbt, the land-of-Tait (*t3 T3yt*) has taken away what is within".¹⁵ "Land-of-Tait" is an idiom for a flat strip of woven linen; in this case such a strip was to be knotted and inserted as a tampon. "Hapy against the tbt" must mean the inundation/overflow of blood discharging from the woman's vagina and flowing down onto her foot. "Foot" as the translation of tbt in this spell suits the context better than "sole of the foot".

Pap.Edwin Smith 8 deals with a head injury which is serious enough to cause hemiplegia in the patient. It contains the statement, "...; he walks shuffling in/with his tbt (*ⲉⲓⲃⲟ*)". A gloss elaborates this statement. GLOSS: "As for, '(When) he walks he shuffles with his tbt' EXPLANATION: he is speaking about his walking while his tbt is inert (*nn̄y*) and it is not easy (*nd̄m*) for him to walk, it (the tbt) being weak (*gn̄n*) and overturned (*p3h̄d*); the tips of his toes are bent down to the underbelly of his tbt (*w̄cf n ht nt tbt=f*) and they walk stumbling (against) the ground.

He says concerning it, 'He is shuffling'.¹⁶ To state that the sole is "inert" (*nn̄y*) and "weak" (*gn̄n*) is completely meaningless; one does not normally associate activity/inactivity, or strength/weakness, with this part of the anatomy. If tbt means "sole", the title of the gloss is stating that the patient shuffles the sole of his foot across the ground. Further on however, what must be the tbt is stated to be "weak and overturned". This must mean that the "sole" is not in its normal position upon the ground after all. If the toes are "bent under" and "stumbling

(against) the ground" then the plantar surface (the sole) of the foot will be in a contracted/arched position. In this position very little of the sole will actually be able to rest upon the ground, let alone shuffle across it. In view of these considerations, Breasted's translation ".... (when) he walks he shuffles with his sole" becomes highly suspect.

Breasted experiences great difficulty when he tries to marry the supposed meanings of *ht* and *tbt* in an effort to achieve a meaningful translation of the phrase *n ht nt tbt=f*. He settles upon "to the ball of his sole" but has to admit that there is no other instance of *ht* having this meaning.¹⁷ The authors of *GdM* translate the phrase as, "to the underside of his sole".¹⁸ In so doing they are being truer to the spirit of the meaning of *ht* than is Breasted but they fall into the tautological trap that Breasted is at such pains to avoid. "Sole", by definition, already means "underside", namely the underside of the foot, so the concept of an underside of the underside of the foot is totally illogical. *ht* means "torso" (see Chapter 9) but is particularly associated with the underneath aspect of an animal or the frontal aspect of a human being. Its use here is entirely commensurate with this specific nuance and the true meaning of the clause "the tips of his toes are bent down to the *ht* of his *tbt*" is inescapable; the tips of the patient's toes are bent down towards the sole of his foot. *ht nt tbt*, "the underbelly of the foot", is likely to be the true term for the sole of the foot.

When *tbt* is translated as "foot", and *ht nt tbt* as "sole", every statement in this gloss from Pap.Edwin Smith acquires a sharpness and clarity of meaning which it did not hitherto possess.

GLOSS: "As for, '(When) he walks he shuffles with his foot'


EXPLANATION: he is speaking about his walking while his foot

is inert and it is not easy for him to walk, it (the foot) being weak and overturned; the tips of his toes are bent down to his sole and they walk stumbling (against) the ground.

He says concerning it, 'He is shuffling'."

One could not wish for a more concise description of the contracted, inverted and almost useless foot of a person afflicted with severe hemiplegia.




8.5 The meaning of *rd*, *tbs* and *ht nt rd*

rd denotes the leg from at least as high as the knee downwards, including the foot. Of course, whenever "lower leg" (*rd*) occurs in a text, the foot is automatically included since it is a part of the lower leg but that does not perforce mean that *rd* is the specific anatomical term for the foot. It is noteworthy that *rd* is consistently determined with the leg sign  and never with a sandal or foot sign.

However, it is true that for many contexts of *rd*, "foot" seems a more logical and often more appealing translation than "leg" or "lower leg". Compare, for example, "I will not tread (*hnd*) on them (*faeces*) with my legs (*rdwy*)" with, "I will not tread on them with my lower legs" and, "I will not tread on them with my feet".¹⁹ The second of these translations is the most accurate but the third version is the most meaningful to us. Another example is the following text:

"I will make your face become the back of your head,
and the front of your *rd* become your *tbs*

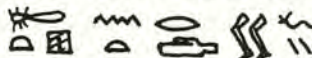
(*irr=i hr=k m mkh3=k h3tt rd=k m tbs=k*)."²⁰

tbs (  ) denotes the heel (particularly the calcaneal bone) in a human being and the posterior talon of the foot of a bird.²¹ The true meaning of the second line

is undoubtedly that the front of the foot will be transformed into the back of the foot, the heel.

Pap.Berlin 3027 (Mutter u.Kind) contains a spell for driving out mucus (*nšw*) from a child. The statement which terminates the anatomical list within this spell reads:

"Flow forth mucus, come out downwards, issue forth

against the  (*ht nt rdwy=fy*) [...]"²²

The phrase *ht nt rd*, literally "the underbelly of the lower leg", is rather difficult to interpret. Theoretically, it could refer to the front surface of the lower leg and foot (i.e. the top of the foot) or to the back surface of the calf but, in actual fact, it probably denominates the sole of the foot. *ht nt rd* is likely to be a synonym of *ht nt tbt*. If so, this phrase is another example of "foot" being a more meaningful English translation of *rd* than "leg" or "lower leg".

Despite all this, *rd* always possesses its specific meaning of "lower leg" and when translated as such, the original idiomatic flavour of the many expressions containing this term is preserved. However, a translator's primary objective is to communicate, as clearly as possible, the true sense of a text and so, sometimes, rigid adherence to precise translation has to be sacrificed so that comprehension can be enhanced. In other words, ancient idiom may have to be remodelled into modern expression. Thus, although "foot" is strictly inaccurate as a translation of *rd*, in contexts such as the above it can be the best one. It should always be borne in mind however, that *rd* does not specifically denominate the foot and, wherever possible, *rd* should be given its proper translation.

8.6 Conclusion



In the early days of Egyptology, it was decided that the meaning of *tbt* was "sole of the foot" and this attribution has persisted to the present day. Some texts make perfect sense when *tbt* is translated in this way; for example, "My enemies are under the soles of my feet". Other texts however, sound slightly peculiar, albeit still sensible. For example;

"I cause you to cross the Waterway of the Sky-windows,
to cross the lake and to traverse the sea <with> the sole
of the foot

as if you were performing on the land."²³

In fact, "sole of the foot" is probably a mistranslation of *tbt* but, because it usually makes sense, the error has escaped detection. It is only on the rare occasions when "sole of the foot" does not quite fit the context that the true meaning of *tbt* can be glimpsed. Such an occasion occurs in the abovementioned Pap. Edwin Smith 8.

There has been a host of uncertainties surrounding the traditional translation, such as (a) why the Egyptians were so focussed upon the sole in preference to the whole foot (b) why they apparently had no specific term for the foot whereas they did for the hand (c) why they apparently gave *rd* two meanings (d) why references to the sole of the foot are overwhelmingly greater in number than references to the palm of the hand. All these uncertainties dissipate if *tbt* is the long-lost specific term for the whole foot.

The early determinative  accompanying *tbt* now seems wholly appropriate, much more so than if it had determined the word for the sole. The later customary determinative and logogram for *tbt* is the sandal  and a sandal, of course, lies mainly against the sole but it also contacts the top, sides and back of the foot, and so it is by no

means inappropriate that this sign should be chosen to represent the whole foot.

Pap.Edwin Smith Case 8 has provided us with the precise anatomical term for the sole of the foot, namely ht nt tbt, and ht nt rd in Pap.Berlin 3027 is probably a synonym for this term. These may be the only two specific references to the sole of the foot in the whole of Egyptian literature. If so, the true situation regarding the sole is in marked contrast to the curious apparent pre-occupation of the ancient Egyptians with this part of the anatomy, as implied by the abundant occurrences of the word tbt and its consistent translation as "sole of the foot". This translation appears to be incorrect; the true meaning of tbt is almost certainly "foot".

PART C : TORSO

CHAPTER 9

ht



Findings :

"torso" "trunk"






(in humans): "front of torso"


(in animals): "underside of torso"

9.1 Introduction : semantic considerations

ht is very common in the medical papyri and in non-medical texts. Amongst Egyptologists, there is a general consensus that ht designates the abdomen or belly. Some authors believe that, in addition to "abdomen", ht has a more general meaning of "whole body" and also a more specific meaning of "uterus".¹ A difficulty with the latter translations is that there are other terms which allegedly denote these entities, namely h and dt for the whole body and idt (previously hmt) for the uterus. This fact, and the currency of three quite different specific translations for ht, necessitate a reassessment of this term. As will be demonstrated, none of these translations is strictly correct; ht probably has only one precise anatomical meaning, namely "torso".



9.2 Lexicographical considerations



ht is usually written  or, much less often, . Gardiner identifies  as an animal's belly showing teats and tail.² This sign serves as the phonogram h and is never employed as a determinative. The usual presence of the stroke determinative | with ht indicates that the anatomical part (the underbelly) pictured in the hieroglyph  is the actual object which ht denotes. In other words,  is functioning as an ideogram here and so ht should denominate the underbelly.

The usual absence of the flesh determinative with ht may be due to the ideogram  being deemed sufficient to indicate that ht is denoting an anatomical structure. Another possible explanation is that the word may designate a whole region of the body rather than a smaller discrete anatomical entity.

ht does not occur as a dual. In the medical papyri, a plural writing occurs only once, in Berlin 153;

TITLE: "Instructions for the pulling out of much/extensive whdw-illness from his {t} <ht>

INSTRUCTIONS: you should prepare for him a medicine for killing whdw-illness and medicines for the pulling out of of whdw-illness from hwt ( )."³

There is no pronoun suffixed to hwt and the last clause is probably the general title of a group of medicines named in accordance with the therapeutic effect that they exert; that is, "Medicines for the Pulling out of whdw-illness from (people's) Torsos". Thus, hwt here is a simple plural and the whole clause is a statement *in generalis*. Nothing in Berlin 153 indicates that   is functioning as a collective noun or that this plural writing signifies that a person could possess more than one ht.

In summary, the lexicography of ht suggests that it denotes a single region of the body, a region which is identical with, or at least includes, the underbelly or front of the torso.

9.3 ht in the anatomical lists and inventories

The ht is not cited as a separate item in any of the inventories of cuts of meat from an animal but it does appear in many of the lists of anatomical parts with their associated deities. Because ht always occurs in the middle

of a sequence, and never at the beginning or the end, it is very unlikely to mean "whole body" in these lists. Invariably, ht is cited after neck structures and before genital structures. It is usually cited after chest structures but this is not always the case. In Pap.BM 10321 (Paditwerisheru), for example, ht occurs in the following position: , shoulders (q^ch), sides of chest (drww), back/spine (i3t), ht, heart (h3ty), lungs (wf3), liver (mist), ⁴

The juxtaposition of ht and i3t here is not coincidental, nor is it unique. Several versions of the list in BD Ch.42 cite both terms together and link them with just one deity (Sakhmet) implying a very close link indeed between these bodily parts.⁵ i3t denotes the whole spinal column in the middle of the back. If the entire spine (i3t) is being grouped with the entire front of the torso, the link seems quite appropriate but if it is being grouped with the abdomen alone, then the association of these two terms seems slightly incongruous.

psd "back" is another term which is found juxtaposed with ht in the lists. In Pap.Leiden I 348 we read:

"Your back (psd) is the back/spine (i3t) of Geb,
your ht is Nut whom the gods raised up,"⁶

Geb, the god of the earth, is the brother of Nut, the sky-goddess. He is also associated with the back (psd) or the back/spine (i3t) in other lists.⁷ These two lines in Leiden I 348 are invoking an ancient and powerful mythical image, that of Geb lying on his back symbolising the earth and Nut arched over him as the sky. She has been physically separated from Geb, the created universe having come into existence between their bodies. Nut faces downwards and the front of her body is sometimes shown bespangled with stars.

Nut is the deity overwhelmingly associated with ht in the anatomical lists.⁸ In another myth, the Sun-god enters

Nut's mouth at sunset, travels through her body during the night, emerges from between her thighs at dawn and travels back across the anterior surface of her arched body during the day. In the anatomical list in CT Sp.945 the *ht* is equated with "The Journey of Re" (*šm R°*). Clearly, Re's journey is not confined to the abdomen of Nut but is through her entire torso during the night (from mouth to pelvic orifice) and across her entire torso during the day (back to the mouth again).

Pap.Chester Beatty VII contains the following entry; "You shall not take a stand in his liver (*mist*), in his lungs (*wf3*), in his heart (*ḥ3ty*), in his kidneys (?) (*ggt*), in his spleen (*nnšmt*), in his intestines (*mḥtw*), in his *sprt* (? ribs) (or) in any organ of his *ht* (*m iw f nb n ht=f*); Imseti, Hepy, Duamutef (and) Qebehsenuf, the gods who are in the *ht*, are against you."⁹

Included within the entry are the lungs and the heart (and perhaps also the ribs), all of which belong to the chest not to the abdomen. This entry is obviously a catalogue of the major bodily parts which make up the torso and the terminal phrase *m iw f nb n ht=f* is intended to summarise the entire entry. If the phrase meant "in any organ of his abdomen" it would be defective as a summary since it fails to encompass the organs of the chest which appear in the list. In fact, the summary is perfectly complete; the phrase means "in any organ of his torso".

Support for this conclusion comes from the final clause which describes the four Children of Horus as "the gods who are in the *ht*". It is well-known that one of these deities is identified with the lungs although it is not absolutely certain which one.¹⁰ Therefore, unless the ancient author is being imprecise here, *ht* must include the lungs and cannot denote the abdomen alone.¹¹

In brief, the anatomical lists supply the following information. The usual occurrence of ht in the middle of a list mitigates against it denoting the whole body. The close association of ht with i3t and also with psd may signify that these terms form complementary pairs. Since i3t and psd denote the back, ht may particularly refer to the front of a person; that is, ht and i3t together, or ht and psd together, may denominate the entire torso. When viewed in the context of popular myths, the close association of Nut with the ht strongly implies that ht is greater than the abdomen alone and probably at least as large as the whole torso. The direct link between the Children of Horus and the ht has a double significance. Firstly, because these deities represent the major internal organs, the ht must be greater than just the front surface of the torso. Secondly, because the lungs are identified with one of the Children of Horus, the ht probably includes the chest too.

9.4 Bodily parts associated with the ht

9.4.1 ht and the intestines (mhtw)

That the ht includes the intestines is demonstrated by the many oral remedies which are designed to "clean"/"clean out" (ph3, sph3) the ht, to "empty out" (wh3) the ht or to "regulate" (sm3c) the ht. For example, Ebers 25 reads;
 TITLE: "Another (remedy for) emptying out the ht and driving out h3t-illness from the ht of a man
 INGREDIENTS and DIRECTIONS FOR USE: fruit/seeds of the castor oil plant (prt dgm) are to be chewed and washed down with beer so that everything that is in his ht comes forth."¹²

Several remedies which are directed against intestinal worms specifically locate these worms in the ht. Berlin 5 is a prescription for a liquid medication and has the title, "Another (remedy) for killing hf3t-worm in the ht".¹³ Ebers 64 prescribes a medicated food to be eaten to eradicate this type of worm;

TITLE: "Another (remedy) for driving out hf3t-worm from the ht

INGREDIENTS: yellow sweet clover (cf3) 1 /

wormwood (s^cm) 1 / hs3 (? lees ? mash) 1 :

PREPARATION: are to be mixed all together

DIRECTIONS FOR USE: (it is) to be eaten. Thereupon he excretes (wš) all worms (ddfwt) that are in his ht."¹⁴

Ebers 349 employs an unusual ingredient in a remedy which treats an eye complaint, namely "dried faeces (hs) which are in/from the ht of a child". Since faeces (hs) are specifically located within the intestines, and yet faeces are also within the ht, the intestines must belong to the ht.¹⁵

As the authors of *GdM* rightly point out, the vast majority of remedies in the medical papyri for conditions affecting the ht prescribe internal treatments; oral liquids, foods, rectal enemas, suppositories.¹⁶ All these modes of treatment are appropriate for intra-abdominal complaints, especially for illnesses directly involving the gastro-intestinal tract. The medical texts also associate ht with phwy, the pelvis, and with phwyt, the pelvic intestine (rectum + sigmoid colon). These associations are discussed in Chapter 17 (17.5.1.1 and 17.4).

The very word which designates the intestinal tract, namely mhtw, is derived from the word ht (mhtw is a formation-in-*m* of ht). Beyond doubt, the intestinal tract belongs to the ht.

9.4.2 ht and the bladder (šptyt)

Ebers 262 reads;

TITLE: "Another (remedy) for enabling a child to pass a build-up (tsiw) of urine that is in his ht

INGREDIENTS and PREPARATION: an old document (?) (š^ct ist) is boiled in grease

DIRECTIONS FOR USE: (the ointment is) to be rubbed onto his ht in order to regulate his micturition."¹⁷

This case clearly locates the bladder within the ht since the build-up of urine in the ht must be occurring in the bladder. The medicament will be rubbed into the skin of the lower abdomen directly over the enlarged bladder.

Ebers 864 is an interesting case concerning a swelling on the surface of the ht which is very likely to be a para-umbilical hernia. It reads, in part;

DECLARATION: "then you shall say concerning it, 'It is a swelling of the coverings of his ht, an ailment which I will treat. It is t3w-heat upon the bladder (šptyt) in front in (hnt/hnty m) his ht which produces it, the falling toward the earth and the returning likewise'

INSTRUCTIONS: then you should heat it to close up his ht.

You shall treat it like a s3-hmm operator treats."¹⁸

This text is asserting that the symptom of t3w-heat upon the bladder is causally related to the swelling's existence, to its protrusion (the "falling toward the earth") and to its retraction again (the "returning"). Unfortunately, the exact nature of the symptom of t3w-heat is not known and even if it were, it is not easy to comprehend why a link is being made between the bladder and an umbilical hernia.¹⁹

Despite these difficulties, the phrase šptyt hnt (? hnty m) ht=f in this case indicates that the bladder too is situated within the ht.

9.4.3 *ht* and the uterus/womb (*idt*)

When *ht* appears in contexts such as the following it is easy to see why it has also been translated as "womb" (uterus). In the story of the birth of the royal children in Pap. Westcar, Re says to the deities of childbirth; "Please go, deliver Ruddedet of the three children who are in her *ht*".²⁰ Ebers 800 in the medical papyri is entitled, "Another (remedy) for causing the expelling of a child from the *ht* of a woman" and Ebers 798, which is designed to hasten childbirth has the title, "Another (remedy) for causing all that is in the *ht* of a woman to come out".²¹ Clearly, if *ht* in these texts is not the uterus itself then it must at least contain the uterus.

It is quite usual for Egyptian texts to describe pregnancy in terms of an infant "in the *ht*" and childbirth as a child "coming forth (*pri*) from the *ht*" or "opening/splitting (*wpi*) the *ht*" of its mother. The latter phrase is used particularly in relation to first-born children.²² But does *ht* really specifically denote the uterus in these phrases? *idt* (*hmt*) is known to be the precise anatomical term for the uterus/womb and, if "womb" is intended in such phrases, why is *idt* not employed?

Smith 19.14-18 is a magical incantation against the harmful influence of a swallowed fly. It reads,

"The mouth of this man who is under my fingers and so forth, is the mouth of the *h3bw* (? toothless) calf when it comes forth from the *ht* of its mother. This insect which has entered into this his (the patient's) *ht*, having entered it shall come forth alive. It shall creep toward the earth among the effluxes and shall not injure his *ht* but shall come forth from him with his effluxes which are assigned to Aker (the earth)."²³

Breasted employs two different translations for *ht* in this incantation; in the first sentence he translates it as "womb" but in the second and third sentences as "belly". But does *ht* really have two meanings in this spell? It is probably only the common knowledge that a baby comes forth specifically from the uterus of its mother which prompts Breasted to adopt "womb" as an additional translation for *ht*. In fact, it is equally true to say that an infant at birth comes forth from the vulva, vagina, belly, torso or body of its mother. In Smith 19.14-18 "belly" or "torso" would be wholly accurate and appropriate translations for all three occurrences of *ht*.

The choice of "womb" as the translation for *ht* here, and in all similar obstetric contexts, seems to be purely arbitrary and based solely upon the translator's own favoured mode of expression. While it is true that during the birth process a baby comes forth from its mother's uterus, birth has not actually occurred until it has progressed further and has come forth (*pri*) completely from her body, specifically, from her belly or her torso. Similarly, a first child at its birth is much more likely to be perceived as splitting open (*wpi*) the torso or the body of its mother, since this is a visible process, than splitting open her womb, since this early part of the birth process is not normally observable. "Womb" as a translation of *ht* in obstetric contexts can make sense but is technically incorrect.

9.4.4 *ht* and the chest (*r3-ib*, *šnbt*);

ht and the respiratory tract (*sm3*)

Ebers 321 is located in the midst of a long series of cough remedies and its title is, "Another quick-acting drink (*hrw-c*) for driving out cough (*sryt*) from the *ht*."²⁴ Other remedies allude to mucus/phlegm (*stt*) in the *ht*; Ebers 297

(= Berlin 136) and Ebers 300, for example, belong to a small group of remedies that deal primarily with mucus and catarrhal complaints. Ebers 300 is entitled, "Another (remedy) for driving out mucus/phlegm from the ht of a man or a woman" and Berlin 136 = Ebers 297 is, "A remedy for driving out mucus/phlegm from the ht, from every bodily part (wt nbt)".²⁵

Ebers 296 is another member of this small group in Pap.Ebers and its parallel text, Ebers 102, is distantly located within a large bracket of remedies for treating wh3w-illness and whdw-illness in the ht. Ebers 296 reads:
TITLE: "Another (remedy for causing mucus/phlegm (stt) to come out from the groins (nphw))

CLINICAL DESCRIPTION: if you inspect one having mucus/phlegm with piercing pains (?) (nqwt) while his ht is hard (nht) on account of it and he suffers in his r3-ib; his mucus/phlegm is in his ht and it cannot find a way out, in that there is no way by which it can come forth from him, then it putrefies (hw3) in his ht, and (if) it cannot come out it becomes h(s)bt-worms. It does not become hsbt-worms until it becomes dead; thereupon he passes (wss) it and he gets better (ndm) straight away. If he does not pass it as hsbt-worms

INSTRUCTIONS: then you should prepare for him a medicine for passing (wss) so that he gets better straight away."²⁶

This case is difficult to interpret because of uncertainty concerning the nature of the symptom nqwt, the exact meaning of the idiom "his ht is stiff/hard (nht)" and the identity of hsbt-worms. However, because r3-ib designates the chest (see Chapter 11), at least two of the four major symptoms, specifically the mucus/phlegm in the ht and the suffering in the r3-ib, appear to be chest symptoms. This creates suspicion that the other two symptoms, the piercing pains (?) (nqwt) and the hardness (?) (nht) of the ht, may pertain to the chest too.

Several cases in the bracket of thirty pertaining to the *r3-ib* in Pap.Ebers refer to the *ht*. Ebers 188 concerns an inflammation either in the liver or near the liver. Its major symptoms are: an accumulation (*šn^c*) belonging to the *r3-ib*, loss of appetite, constriction/restriction (*hns*) of the *ht* and discomfort upon walking. The attendant physician is instructed,

CLINICAL DESCRIPTION: "... then you should inspect him lying down (on his back). If you discover (concerning) his *ht* that the accumulation in his *r3-ib* is hot

DECLARATION: then you should say concerning it, 'It is a condition of the liver (*mist*)'"²⁷

Anatomically speaking, the liver lies wholly within the abdominal cavity but it is also situated almost entirely underneath the rib-cage of the thorax. An inflamed liver or a sub-phrenic abscess will present symptomatically in the right lower thoracic region, hence the association of the chest/thorax (*r3-ib*) with a liver condition. The last sentence in the Clinical Description is stating that the hot accumulation in the *r3-ib* is discovered during the process of inspecting the *ht*. This does not make sense if *ht* denotes the abdomen alone but is comprehensible if the thorax, the *r3-ib*, is also a part of the *ht*.

Another *r3-ib* case, Ebers 201, which evidently describes a localised infection in the chest begins;

CLINICAL DESCRIPTION: "If you examine an accumulation (*šn^c*) belonging to his *r3-ib*; you find that it is *dhr* (? bitter) to a very great degree

DECLARATION: then you should say concerning it,

'It is an accumulation; a *hyt*-demon which you should break up, it is like a *nsyt*-demon that has lodged itself in the *ht*'"²⁸

The text implies that there is a link between the *hyt*-demon lesion (i.e. the *šn^c*-accumulation) in the *r3-ib* and the

nsyt-demon lesion in the ht. Unless the link is no more than a superficial resemblance between two lesions arising in different parts of the body, this case may be associating the chest with the ht.

Immediately preceding the r3-ib cases in Pap.Ebers is a small group of five oral remedies employed in treating the šnbt. Ebers 185 = Ebers 35 is, "Another (remedy) for treating chests (šnbwt), driving out all ailments from the ht, treating the sm3".²⁹ šnbt denotes the chest and sm3 the respiratory tract (trachea + lungs). The illness being treated here is clearly a chest condition and the text infers that it is characterised by intermittent fevers. It would be much more consistent with the tenor and focus of this remedy if ht, which appears in the title, denotes not just the abdomen but includes the chest as well.

Ebers 21, "Another (remedy) for treating the sm3", and Ebers 35, "Another (remedy) for driving out all ailments from the ht, treating the sm3", occur embedded in a long series of treatments for complaints affecting the ht.³⁰ It is curious that these remedies for treating the sm3 in the chest should be found in this location, especially Ebers 21 which cites only the sm3 and makes no mention of the ht. Their presence amongst the ht remedies suggests that ht encompasses the sm3.

Ebers 855a is an explanatory gloss which reads,
GLOSS: "As for, 'The air which enters through the nose'
EXPLANATION: it enters the heart/chest (ḥ3ty) and the sm3.

It is they which give/supply (air) to the entire ht."³¹
A statement that the ḥ3ty and the sm3 supply air to the entire abdomen is not very meaningful. This gloss would be much more logical and truly informative if it was stating that these organs of the chest distribute air to the entire torso (ht tm), or to the whole body.

9.4.5 ht and the heart (ib and h3ty)

ib sometimes designates the physical heart but most often it denotes the psyche/spirit/will of an individual. The ib has an existence and personality which is quasi-independent of the body which it inhabits. It dwells within the central chest (mediastinum) and particularly in the physical heart itself (h3ty) (see Chapter 12). There is much evidence that both the ib and the h3ty are situated within the ht.

Two important glosses in Pap.Ebers read as follows.
Ebers 8551²;

GLOSS: "As for, 'The ib kneels because of whdw-illness'

EXPLANATION: it means that the ib is small in the interior of his ht; whdw-illness has fallen upon his heart/chest (h3ty), then it (the ib) is weak and then it kneels."²

Ebers 855w;

GLOSS: "As for, 'His ib is dark (wh) and he tastes (dp) his heart/chest (h3ty)'

EXPLANATION: it means that his ib is lacking (g3w); darkness (kkw) is in his ht because of anger (dnwd), it produces the circumstance of its (the ib's) disappearance."³

This gloss is rather more obscure but nevertheless, both glosses locate the ib within the ht. If a person's ib is in his heart within the chest and yet it is also "in the interior of his ht" then the ht must include the heart. Thus, although a person's psyche (ib) resides within the ht, this does not mean that it is located within the abdomen.

h3ty and ht are linked together in two parallel series of four cases in Papyri Ebers and Hearst, Ebers 221-224 = Hearst 79-82. These four remedies, and also Ebers 238, are all oral preparations "for driving out 3c-illness from the ht, from the h3ty".³⁴ Regrettably, it is not possible to

determine the nature of the relationship between the two anatomical terms from this title. The phrasing could purport "driving out ʿ3° from the torso, (specifically) from the heart/chest" but equally it could be "driving out ʿ3° from the belly, (and) from the heart/chest". Knowing exactly which symptom or illness is being treated here would be very helpful but, despite intensive research by several scholars, the true identity of ʿ3° remains elusive.

An idiomatic phrase which describes the emotion of fear is cited twice in The Story of Sinuhe; it is, "my heart (*ḥ3ty*) was not in my *ht*."³⁵ This statement implies that, under normal circumstances, Sinuhe's heart (*ḥ3ty*) would have been in his *ht*.

In the funerary texts, a common theme is the wish that the deceased may gain or retain possession of his psyche/heart (*ib*), his genius/double (*k3*) and his magic power (*ḥk3*). All of these attributes are stated to be located within the *ht*. BD Ch.151 states:

"I (Qebehsenuef) bring your psyche/heart (*ib*) to you,
I set it upon its seat in your *ht* for you"³⁶

BD Ch.30 B:

"You (the deceased's *ib*) are my *k3* which was in my *ht*,
the unifier/protector (*ḥnm*) who made my bodily parts
(ʿwt) healthy."³⁷

CT Sp.304:

"My psyche/heart (*ib*) is in my *ht*, my corpse (*ḥ3t*)
is in the earth and I will not weep for it,
my soul (*b3*) is with me and will not go far from me,
my magic (*ḥk3*) is in my *ht* and it will not be stolen."³⁸

Thus, the seat of the *ib*, and hence of the *k3* with which the *ib* is identifiable, lies within the *ht*. Since the precise seat of the *ib* is the physical heart, the *ib*, *k3* and the physical heart (*ḥ3ty*) all lie within the *ht*.

Another recurrent theme is the establishment of the fear (*snd*), dread (*nrv*) and awe (*šfšft*) of someone within the *ht* of someone else. For example, CT Sp.444:

"Fear (*snd*) of me is in the *ht* of (each of) the two *mrwt*, and I am the Lord of Eternity."³⁹

In CT Sp.469, the deceased eats the magic (*hk3*) of the gods and is then able to declare:

"I have brought dread (*nrv*) of me into my *ht*"⁴⁰
If *ht* meant "belly" then the belly would be the specific locus of fear and dread in the body. If it denoted the whole body, then the texts would be saying no more than that fear or dread takes over the whole body.

There is good evidence however, that these sensations were believed to lodge specifically in the heart. CT Sp.817 reads:

"I am mistress of the flame of the great *ˁ3t*,
and the Sunfolk come bowing down to me;
fear (*snd*) of me is in their psyche/heart (*ib*),
awe (*šfšft*) of me is in their heart (*h3ty*)"⁴¹

CT Sp.26:

"I have set your power among the spirits,
because so great is your strength,
in order that fear (*snd*) of you may be ever in their *ht*,
I have set awe (*šfšft*) of you in their heart (*h3ty*),
and the Sunfolk are in joy because of NN"⁴²

To summarise, fear (*snd*) dwells in the *ib* and awe (*šfšft*) in the *h3ty*, hence fear and awe, and probably also dread (*nrv*), are localised to the heart. These sensations are also specified to lie within the *ht*, as are the *ib* and the *h3ty* themselves. All the evidence marshalled in this section leads inevitably to one conclusion, *ht* must encompass the heart (*ib* and *h3ty*). A person's *k3*, *hk3*, *ib* and *h3ty*, and the emotions *snd*, *nrv* and *šfšft*, do not reside specifically in the "belly".⁴³ The dubious veracity of such

a notion has prompted scholars to opt for a broader meaning for ht, namely "body", in most of the texts cited above. This translation however, means that the texts are merely situating the various modalities generally within the body. It is much more likely that these aspects and emotions are being precisely located; not within the belly but within the torso or trunk.

9.5 Summary and conclusion




It has been shown that the ht includes or contains the intestines, the bladder and the uterus. All these structures lie within the abdomen/belly and there seems little doubt that ht encompasses the whole abdomen and all its internal organs. But is the belly the ht *per se* or is it merely one part of a larger ht?


The inclusion of the lungs (wf3) and the heart (h3ty) amongst the organs of the ht in the lists in Pap.Chester Beatty VII and Pap.Vatican Magical hints that the ht includes organs belonging to the chest. This is reinforced by the location of the Children of Horus, one of whom represents the lungs (wf3), within the ht. The medical texts reveal that chest symptoms, such as coughing and mucus/phlegm, and chest structures, such as the r3-ib (thorax), Snbt (chest), sm3 (respiratory tract), ib (psyche/heart), and the h3ty (heart), are also located within the ht or otherwise closely associated with it. Funerary and literary texts provide further confirmation that the ib and the h3ty belong to the ht.

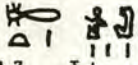
Thus, in addition to the abdomen, the chest and all its organs seem to be integral components of the ht. This means one of two things, either that ht really denotes a much larger anatomical entity than the belly, and hence the translation "belly" (abdomen) is wrong, or that the one word

ht is used to denote two quite different anatomical entities, the abdomen and a larger entity.

"Body" is an obvious choice for this larger entity and is a common alternative translation for ht but there are some serious problems with this choice. One difficulty is that the head, arms and legs are not associated with the ht in any text; if ht denotes the whole body then these are curious omissions from the inventory of the bodily parts which can be linked with this term. Another objection to the translation "body" is the fact that ht occurs right in the middle of many anatomical lists. It has been demonstrated that ht in these lists includes the lungs and therefore cannot mean "abdomen" and yet the fact that ht is never cited at the beginning or at the end of a sequence makes it almost certain that it does not mean "the whole body" either. Therefore, if the ht is larger than the abdomen, is less than the whole body, includes the chest but not the head, arms or legs, ht must denote the "trunk" or "torso".

Just as our word "trunk" is equally applicable to the thick central portion of a human being and of a tree, so the Egyptian word for the human torso ht can also denote the trunk of a tree and the stem of a plant.⁴⁴ Twine or matting made from the inner bark (or possibly from the heartwood) of the trunk of a tree is known as bast and the Egyptian word for such material is hty, written  ,  or  .⁴⁵

An important feature of the ht is that it is the container for most of the internal organs of the body. By analogy, the part of a ship which contains the multifarious cargoes and equipment, that is the hold, is also denoted by the word ht  .⁴⁶ Although the internal organs of the body are all individual and discrete, they are nevertheless perceived by the Egyptians to function cooperatively. This perception accounts for the employment of a closely related

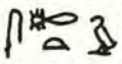
term ht  to denote a corporation or company of gods or men.⁴⁷ It also helps to explain why ht is employed to denote a whole generation of people, an age-set.⁴⁸

A very commonly encountered phrase is $s3\ n\ ht=f$ (var. $s3=f\ n\ ht=f$) which is usually translated as "the son of his body" or "his bodily son" and interpreted to mean "his natural son" or "his very own son" (as distinct from his step-son, his adopted son, his foster son, etc.). While the ultimate interpretation of this idiom is undoubtedly correct, its translation cannot be accepted at face value, and $s3\ n\ ht=f$ does not really constitute evidence that ht denotes the whole body. A child is definitely not born from the body (or the belly) of its father. Its origin from the father's semen at conception might possibly explain the phrase but this event seems somewhat indirect to satisfactorily account for the idiom "the son of his body". The solution to this conundrum lies elsewhere.

Another word, dt, is practically synonymous with ht. Although both terms are translated as "body", it has become apparent that neither term actually denotes the whole body (at least not in its normal shape).⁴⁹ The phrase $s3\ n\ dt=f$ (var. $s3=f\ n\ dt=f$) "the son of his dt" is also quite common and almost certainly has the same meaning as $s3\ n\ ht=f$. However, $s3\ n\ dt=f$ is not a literal statement but a purely idiomatic phrase which simply means "his own son", "his own begotten son" or "his very own son".⁵⁰ Because $s3\ n\ ht=f$ is probably exactly the same idiom, it should not be translated and interpreted literally as "the son of his body" but should be rendered simply as "his very own son".

Attention has been drawn to the fact that ht also carries strong frontal and underside connotations. ht denotes the entire torso and all its contents but it also specifically connotes the front of the torso in a human being and the underside of the torso in a four-legged

animal. An interesting amalgam occurs in the case of Nut, the sky-goddess who has a human form but who assumes the posture of a four-legged animal when she is arched above the earth to form the vault of the sky. The stars were believed to be affixed to the ht of Nut which does not mean that they covered the entire surface of her torso but only the underside, or front, of it.

ht is quite often found in apposition to i3t, psd or s3 which are terms for the back and, in such contexts, ht probably simply denotes the front (or underside) of the body rather than the whole of the torso. The frontal/underside connotation also applies in the anatomical terms ht nt tbt and ht nt rd. A literal interpretation of the former phrase is "trunk of the foot", implying that it designates the foot proper (without the toes), and the latter phrase is "trunk of the lower leg", implying that it denotes the calf of the leg. In fact, both terms are likely to be denoting the underside of the foot, the sole (see Chapter 8). Similarly, when Sinuhe relates; "it (the decree) was read aloud to me after I had placed myself upon my ht" and, "I being stretched out upon my ht, I did not know myself before him (the King)", the use of ht makes it certain that Sinuhe was lying prostrate on his front - if he had been lying on his back a different word, probably psd, would have been used.⁵¹ A verb which probably means "to be prostrate" and which is clearly derived from ht, is found in CT Sp.405; "This spirit shall be prostrate (shtw ) upon his ht among them".⁵²

Regarding the traditional translations for ht, namely "body", "womb" and "belly"...., the only modern usage of the word "body" where its meaning approximates the true meaning of ht is in sentences such as, "He drew his legs up against his body". If ht is encountered in a context similar to this in the sources, there should be no need to translate it

as "body"; "torso" would be a perfectly acceptable English rendering of *ht*. Since *ht* never really denotes the whole body, there are solid grounds for abandoning this translation for *ht*.

It has been shown that the translation "womb" is also inaccurate. Since there can be no objection to saying that a child is "in the belly" of its mother or that it "comes forth from the belly" of its mother, "womb" as a translation for *ht*, besides being erroneous and misleading, is seen to be totally superfluous. It should never be employed.

There remains only "belly" to consider. The Egyptians do not seem to have conceptually divided the torso into two distinct and separate parts, the chest and abdomen, as readily or as rigidly as is done today. Chest complaints are often located within the larger *ht* even though there are other terms which specifically denote the chest (*r3-ib* and *šnbt*). Intra-abdominal illnesses were common in Egypt and remedies for their treatment feature prominently in the medical papyri. More often than not, these complaints are stated to occur within the *ht* and, also, whenever *ht* is used, it most often refers to something in the abdomen. Because of these facts it has been concluded that *ht* is the specific anatomical term for the abdomen. However, the strong association of *ht* with the belly is only an artefact of common usage. The Egyptians do not seem to have had a term which specifically and exclusively denotes the abdomen *per se*.

Although the precise and exclusive meaning of *ht* is "the torso", the principal focus of its employment may be the belly. Thus, "belly", although technically inaccurate, often seems totally appropriate for the context. For example, PYR Sp.192 "What you have eaten is an Eye (i.e. food offerings) and your *ht* is rounded out with it",

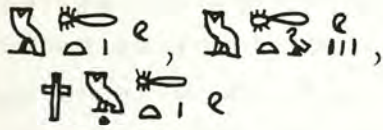
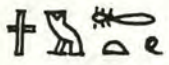
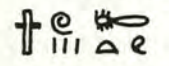
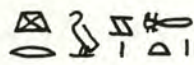
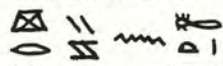
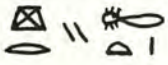
and CT Sp.20 "There will be bread for your ht, water for your throat (hh) and sweet air for your nostrils (šrt)."⁵³

The Egyptians were wholly consistent in their use and understanding of ht. Thus, an infant, intestinal worms and coughing, which might have been described as being in the womb, belly and chest respectively, are frequently located within the larger, and to the Egyptians relatively more important, bodily entity, the "trunk" or "torso". Unfortunately, our modern language patterns make the precise translation of ht awkward to use. We tend to eschew terms as general as "torso" and to favour greater specificity when referring to parts or functions of the body. In many contexts, using the words "torso" or "trunk" creates expressions which, because they are unfamiliar and jarring to the modern ear, actively hinder comprehension of the text rather than promoting it.

It is difficult to resolve this problem. Obviously, in contexts where it is perfectly acceptable to use "torso" or "trunk" these translations are to be preferred over an imprecise alternative. For other contexts however, a possible solution might be to annex to the correct translation "torso" another word which, although incorrect, reflects modern patterns of expression. For example, we may interpret intestinal worms and hunger to be located in the torso/belly, and coughing and the psyche (ib) to be located in the torso/chest. Although these forms are unattractive and cumbersome, the alternative is to use "torso" on every occasion and so risk miscomprehension, or otherwise to retain the multifarious and inaccurate current translations for ht and so perpetuate even greater miscomprehensions, especially of the medical texts.

CHAPTER 10. Anatomical terms derived from ht

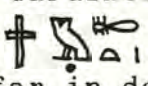
Findings :

<u>mhtw</u>		"intestine" (intestinal tract) "intestines" "bowel" "bowels"
<u>mht</u> <u>šm</u>		"small intestine"
<u>mht</u> <u>c3</u>		"large intestine" "colon"
<u>imy-ht</u>		"internal organ" "viscus"
pl. <u>imyw-ht</u>		"innards" "viscera"
<u>hrw-ht</u>		"genital region" "base of torso"
var. <u>hrw-n-ht</u>		
<u>hry-ht</u>		"front of abdomen"
<u>hry-n-ht</u>		- probably in error for <u>hrw-n-ht</u>
<u>wpt nt ht</u>		"linea alba" "parting of torso" (see Chapter 6)
<u>ht nt tbt</u>		"sole of the foot" (see Chapter 8)
<u>ht nt rd</u>		"sole of the foot" (see Chapter 8)

10.1 Introduction : semantic considerations

The realisation that the precise meaning of ht is not "belly/abdomen" but "torso/trunk", and that it particularly denotes the frontal aspect of the torso, sheds new light upon the several anatomical terms which are formulated from ht.

mhtw is translated as "intestines" and this attribution is certainly correct (see below). There is disagreement however, concerning the terms imy-ht and imyw-ht. The authors of *Wb* believe that they are different from mhtw and

list *mhtw* and *imy-ht* / *imyw-ht* separately. In a thorough examination of these terms, Gardiner concludes that they have exactly the same meaning and that most compounds transcribed as *imy-ht* or *imyw-ht* are, in reality, variant writings of *mhtw* and should be interpreted as such. He calls into question the separate listings of the terms in the *Wb*.¹ Although Gardiner is right on some counts, such as his assertion that  is a variant writing of *mhtw*, he may have gone too far in denying the existence of a separate term *imyw-ht*. *imyw-ht* does appear to be a true anatomical term with a different meaning from *mhtw*.

Four phrases in the medical papyri, viz. *hrw-ht*, *hrw-n-ht*, *hry-ht* and *hry-n-ht*, are interpreted by the authors of *GdM* to be variant writings of a single term *hry-(n)-ht* which they translate as "Unterleib".² The authors of the *Wb* do not seem to distinguish between these phrases/terms either since they do not have a separate listing for *hrw-ht* / *hrw-n-ht*. However, it appears likely that the different phrases do refer to different parts of the body and not just to one bodily part.

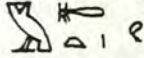
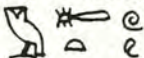

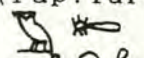
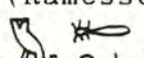
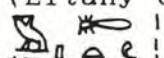
Barns states that *hrw-ht* / *hrw-n-ht* may be identical to *kns* which is variously translated as "pubic region", "suprapubic region", "perineal region" or "genital region".³ The evidence presented below will show that he is probably correct; *hrw-ht* probably does designate the genital region rather than the lower abdomen.

With regard to *hry-ht*, the translation "Unterleib", chosen by the authors of *GdM*, can mean the whole abdomen but it usually means the lower abdomen, particularly the "private parts region" or "nether regions" of the body. Lefebvre states that *hry-ht* denotes the hypogastrium which is a region limited by the navel above and by the pubic bone below.⁴ *Wb* interprets it to be the "unterer Teil des Leibes" (lower part of the body) by which the lower abdomen



is probably meant but this phrase could also mean the whole abdomen.⁵ Thus, most authors appear to favour "lower abdomen" as the meaning of *hry-ht*. An exception is Faulkner who translates it as "abdomen", meaning the whole abdomen.⁶ It will be demonstrated that Faulkner is probably correct; *hry-ht* does appear to denote the whole abdomen (or rather, the front of the whole abdomen) and not just the lower abdomen.



10.2 *mhtw*

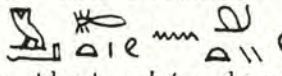
There is an astonishing variety of writings for *mhtw*. The following writings appear in the anatomical lists and are certain variant spellings of this one term.

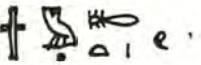
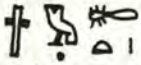



		
(Pap. Turin Magical)	(Ramesseum Onomasticon)	(Litany of Sun)
		
(BD Ch. 181)	(Pap. Ch. Beatty VII)	(Mutter u. Kind)

It is very often written without a terminal *w* or plural strokes and it is tempting to transliterate such writings simply as *mht*. However, *mht* gives the impression of being a feminine singular noun whereas, in reality, the word is masculine in gender⁷ and, as the possessive article *n3y=f* accompanying *mht(w)* in Pap. BM 10321 (Paditwerisheru) indicates, the word is not singular but collective.⁸ For these reasons, the transliteration *mhtw* seems desirable for all writings, whether plural strokes and/or a terminal *w* are present or not.

mhtw is usually determined with the flesh sign  (Gardiner F 51) but, on occasions, it is written with the rope determinative  (Gardiner V 1) which is consistent with its identification with the intestinal tract since this tract resembles a rope inside the torso. CT Sp. 479 is a spell which enables the deceased to escape from clap-nets and fish-traps in the netherworld and contains the

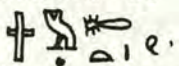
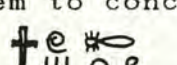
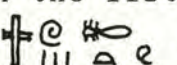

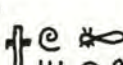
statement; "Its (the net's) drag-rope is the intestinal tract ((*m*)*htw*, det. ) of Isis."° PYR Sp.1122 reads; "His intestinal tract (*mhtw*, det. ) has been washed by Anubis"¹⁰

mhtw is a formation-in-*m* from *ht*¹¹ and so should have an approximate meaning of "the part belonging to the torso". Although such a description is true of all internal organs, the gastro-intestinal tract is by far the largest organ inside the torso and it is certain that *mhtw* denotes at least the larger part of this tract. In the anatomical list in the Litany of the Sun, *mhtw* is immediately preceded by the stomach (*mndr*)¹² implying that *mhtw* may not encompass the most proximal parts of the gastro-intestinal tract, namely the oesophagus and stomach. On the other hand, the entry *mhtw n phwy* () on Ostrakon Gardiner 156 (ln.10) suggests that *mhtw* does encompass the terminal sections of the tract in the pelvis (*phwy*), namely the sigmoid colon and rectum.¹³ Between the stomach and the pelvic intestine, the intestinal tract consists of the small intestine (duodenum + jejunum + ileum) and the large intestine (ascending + transverse + descending colon). These two major divisions of the tract appear to be distinguished by the terms *mht šm* (perhaps "journeying/meandering intestine") and *mht ʿ3* (perhaps "great/straight intestine") respectively.¹⁴

Finally, a quite different writing of *mhtw*, , appears in the Golenischeff Onomasticon, the Ramesseum Onomasticon and Pap.BM 10321 (Paditwerisheru).¹⁵ The inclusion of  among the cuts of meat enumerated in the two onomastica and its context in each of the three lists provide strong evidence in support of Gardiner's claim that it is a variant writing of *mhtw*. As he points out,  replaces an initial  or  - this practice probably begins in the late New Kingdom. Gardiner rightly rejects

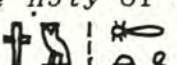
the transcription *imy-h_t* which is found in the *Wb*, and the translation "what is in the body".¹⁶

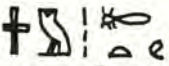
10.3 *imy-h_t* / *imyw-h_t*

As mentioned earlier, Gardiner asserts that most compound expressions transcribed as *imy-h_t* or *imyw-h_t* are really only variant writings of *mhtw* and that they too are denoting the intestines. A potent contributor to this belief is the remarkable similarity in appearance between  *e*, which definitely is *mhtw* and does designate the intestines, and the writings of these other compounds. Many authors seem to concur with Gardiner. Daumas, for example, translates  in the list on the Dendera Socolé as "entrailles" (intestines/bowels).¹⁷ It occupies the following position in the list; "... , *drww* (side of chest), *ht* (front of torso),  *e* , *kns* (genital region), *hnn* (phallus)," Significantly, the major organs normally found in association with the intestines (*mhtw*), viz. the liver, spleen and lungs, are absent from this list. Also, the deity who is associated with  *e* is not the minor deity Qebhsenuf, which one might expect if this term denoted the intestines, but the supreme deity *Nb-(r)-Dr*, "the Lord of All". In view of these facts, and because  follows immediately after *ht*, it is likely that the term is not *mhtw* but *imyw-h_t* and that it does not refer merely to the intestines but denotes all the organs of the *ht*.

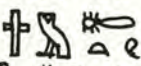
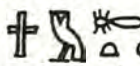
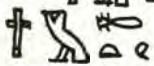
Sp.3 on the Metternich Stela contains an anatomical list, another version of which exists on the statue of Djedhor. The entry for the *h₃ty* (heart or central chest) is:

M: "O cat, your *h₃ty* is the *h₃ty* of Thoth, Lord of Maat, he has given you air to let your windpipe (*h₃tyt*) breathe, (he has) supplied air to its inside."


D: "O cat, your *h₃ty* is the *h₃ty* of Thoth, Lord of Maat, he has given air to the  of this cat."¹⁸

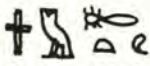
Sander-Hansen translates  here as "Eingeweide" (entrails) and Borghouts translates it as "intestines" evidently regarding it as a writing of *mhtw* or at least as having exactly the same meaning as *mhtw*.¹⁰ However, it is difficult to see why the benefit of a normally functioning chest and heart, specifically the distribution of the life-giving properties of air, should be uniquely directed towards the intestines. This text makes much better sense if Thoth is providing air to the throat and chest and this is then distributed to the *imyw-ht*, "the contents of the *ht*", that is, to all the viscera of the torso.

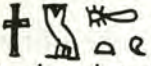

The final entry in this list is:

M: "O cat, your  are the  of Mehetweret. May the venom  be overthrown and driven out from all your bodily parts, namely the bodily parts of the gods in the sky, namely the bodily parts of the gods on earth; they will overthrow all the venom in you."

D: "O cat, your buttocks (*hpd*) are the buttocks of what is in Mehetweret."²⁰


In both versions of the list, the bodily parts exactly parallel each other except in this final entry where two quite different bodily parts are associated with Mehetweret. It seems more likely that one of the two bodily parts cited is an aberration (probably "buttocks" in the Djedhor text) than that the Egyptians perceived some degree of identity between *hpd* and .

Gardiner believes  in this text to be another true variant of *mhtw*, the intestines.²¹ Borghouts evidently concurs and translates it as "intestines" for the first two occurrences but is reluctant to do so for the third, preferring the translation "<in> your belly" (*imy ht(=t)*) which is clearly more apposite in the context than is "intestines".²²

But, if  is *imy ht* and means "in the belly", or rather "which is in the torso", in one of its three occurrences, then it is feasible that it has a very closely related meaning in the other two - "the ones which are in the torso" (*imyw-ht*) perhaps. Also, if  does denote the intestines then there is something very odd about the placement of this bodily part in the last position. Logically, the list ought to finish with the preceding item, the feet, as do most other lists. A similar pattern is observable in this list as has been noted for the Dendera Socle list (above), namely that the liver, spleen and lungs are conspicuous by their absence and the alleged "intestines" are not affiliated with Qebehsenuf but with a more important deity, Mehetweret.

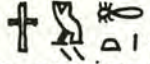

Almost certainly, the terminal entry of the Metternich Stela/Djedhor list is not dealing with the intestines but is a different statement altogether which completes and also summarises the whole inventory. A plausible new rendering of the statement is;


"O cat, your innards (*imyw-ht*) are the innards (*imyw-ht*) of Mehetweret. May the venom which is in the torso (*imy ht*) be overthrown and driven out from all your bodily parts, namely the bodily parts of the gods in the sky, namely the bodily parts of the gods on earth; they will overthrow all the venom in you."


In this version,  in its first two occurrences is a participle used as a noun and is the specific compound term *imyw-ht* whereas at its third occurrence it is a simple participial phrase and not a compound anatomical term.

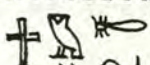
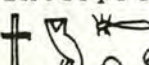
In many other texts as well, only the context permits a distinction to be made and not the writing. For example, a passage in Pap.Vatican Magical reads:

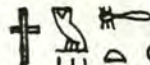
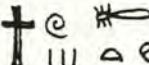
"You (venom) shall not take a stand in his liver, in his spleen, <in his> lungs, (or) in any organ which is in

his torso (*m iw f nb* ); Imseti, Hepy, Duamutef and Qebhsenuf <are against you>, the great gods who are in his torso (*n3w ntrw 3yw* )."23

The inclusion of Qebhsenuf amongst the deities indicates that *mhtw* "intestines" ought properly to have been cited along with the other three organs; the ancient scribe has simply omitted to write it. The context here demands that, for both occurrences,  cannot be an anatomical term (*mhtw*, *imy-ht* or *imyw-ht*). On each occasion, it is a straightforward participial phrase which may be transliterated *imy ht* or *imyw(w) ht*.

In conclusion, while Gardiner is undoubtedly correct in stating that  is a variant writing of *mhtw* and that it denotes the intestines, his claim that other similar writings are also variants of *mhtw* is susceptible to challenge on several grounds. Great caution needs to be exercised in interpreting the following compound terms;

 ,  = *imy-ht* or *imyw-ht*

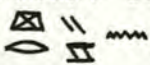
 ,  = *imyw-ht*

As participial nouns, *imy-ht* and *imyw-ht* should mean "one which is in the torso" and "the ones which are in the torso", respectively. *imy-ht* probably denotes any internal organ and *imyw-ht* all the viscera of the torso. Neither *imy-ht* nor *imyw-ht* specifically denotes the intestines.

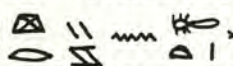
10.4 *hry-n-ht* and *hrw-ht* / *hrw-n-ht*

Ebers 865 describes an inguinal hernia in the groin;
TITLE: "Instructions concerning a swelling (*3t*) of the


hry-n-ht=f ()

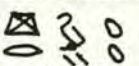
CLINICAL DESCRIPTION: if you assess this (swelling) upon the
hrw-n-ht=f (), the fluid of his torso (*ht*) coming forth and descending

DECLARATION: then you should say concerning it,

'A painful/sick condition ..(3hw hrw t3w/nfw).. in the
hrw-n-ht=f (), an ailment which I will
treat. It is t3w-heat on the bladder which causes it'

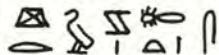
INSTRUCTIONS: then you shall tackle (thn) it with a hmm-
instrument (probably of bronze); it (the instrument)
shall not descend to his msint (possibly the spermatic
cord). You shall treat it as a s3-hmm operator treats."²⁴

This is the only known occurrence of the phrase hry-n-ht=f.
In view of the fact that everywhere else in this case hrw-n-
ht=f is written, it is plausible that the sign  which
would convert hry-n-ht=f to hrw-n-ht=f has inadvertently
been omitted. hry-n-ht seems unlikely to be a separate
anatomical term denoting a specific structure or clearly
defined region. If the writing is indeed correct, then hry
n ht=f is probably merely descriptive; that is, it is
locating the hernia very generally upon "the lower part of
(the front of) his torso".

The precise location of the hernia is upon the hrw-n-
ht=f "the base/underside of his torso" and what is meant by
this expression is revealed by another well-known anatomical
term  hrwy. hrwy "the two underside ones" denotes
the testicles. In males, an inguinal hernia is most
commonly of the indirect type which tracks down the inguinal
canal towards, and often into, the scrotal sack where the
testicles lie. It seems certain that hrw-n-ht "the base of
the ht" in Ebers 865 does not refer to the lower abdomen but
describes the lowest part of the front of the torso, that
is, the genital region (possibly also the inguinal regions)
below and beyond the abdomen.

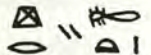
This is confirmed in Pap. Ramesseum IV A 2-4 which,
although the text is damaged, associates the related phrase
hrw-ht with the pubic region (kns) of a woman.

CLINICAL DESCRIPTION: "[.... a woman] suffering in her pubic

region (*kns*) (and) suffering with her sexual intercourse
 and things do not stop [...] her *hrw-ht* ();
 if you discover it [...]"²⁵

This is the only instance of *hrw-ht* in the medical papyri
 and it is almost certainly a variant writing of the specific
 anatomical term *hrw-n-ht*.

10.5 *hry-ht*

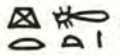
hry-ht  is better represented in the texts than
hry-n-ht, *hrw-ht* and *hrw-n-ht* although it is by no means
 common. *hry-ht* seems to be a true anatomical term but there
 is a divergence of opinion amongst scholars as to the exact
 identity of the anatomical structure or region that it
 denotes.

Since *hry-*, the first element in the compound, means
 "that which is under" or "the lower part", the way in which
 the whole term is interpreted will depend upon what meaning
 is given to the second element, *-ht*. If *ht* means "belly",
 the *hry-ht* should be restricted to the lower half of the
 abdomen below the navel but, if *ht* means "torso", then it
 should be the whole abdomen.

Pap.Ebers contains a group of seven remedies for
 "driving out *t3w-heat* from the *hry-ht*".²⁶ This small group
 lies between two major brackets of remedies, viz. remedies
 for illnesses affecting the *ht* (Ebers 4-174) and for
 illnesses primarily located in the chest (Ebers 183-241).²⁷
t3w-heat is a commonly cited symptom in the medical papyri
 and occurs in a wide variety of bodily locations, such as
 the rectum (*phwy*t), bladder, uterus, central chest (*h3ty*)
 and eyes but, regrettably, its identity remains unknown.²⁸
 Thus, the presence of this symptom is of no help in
 identifying the *hry-ht*. In all seven *hry-ht* remedies, the
 medication prescribed is external; the first four treat by

means of medicated poultices to be bandaged onto the *hry-ht* and the last three by oily or viscous preparations to be applied against it (*rdi r hry-ht*).


Ebers 800, "Another (remedy) for causing the expelling of a child from the torso (*ht*) of a woman", prescribes a poultice "to be bandaged onto the *hry-ht*".²⁹ Undoubtedly, the treatment is designed either to induce contractions in the full-term uterus or to strengthen them if labour has already commenced. It is unlikely that *hry-ht* can refer to the genital region since a poultice bandaged over this region would obstruct expulsion of a child rather than facilitate it. A full-term pregnancy extends well above the navel into the upper half of the abdomen and, when attempting to induce or promote labour, it would be more logical to place a poultice over the entire gravid uterus than to cover only its lower half. This case favours "torso" as the meaning of *ht* and "whole abdomen" as the bodily region denoted by *hry-ht*.

Berlin 55 is, "A remedy for breaking out (*sd*) *hm3w*-illness" - *hm3w*-illness may be a type of growth or swelling.³⁰ The remedy advises an external preparation to be bandaged onto the *hm3w*-illness. The following remedy, Berlin 56, has the title "Another (remedy) for breaking out (*sd*) *hm3w*-illness from the *hry-ht* ()" and it advises the drinking of a medicinal beverage concocted from notched sycamore figs, carob and sweet beer.³¹

It is remarkable that, with the exception of Berlin 56, all remedies that allude to the *hry-ht* prescribe an external medicament to be bandaged or otherwise applied onto the surface of the patient. Berlin 56 treats the unknown symptom or illness *hm3w* which, as the previous remedy Berlin 55 shows, could indeed be a surface phenomenon since in Berlin 55 it is treated with a poultice. Evidence obtained from the medical papyri suggests that the *hry-ht* is larger

than the lower abdomen and that it is external rather than internal.

Outside the medical papyri, three short passages from the Pyramid Texts allude to hry-ht;

PYR Sp.347: "Lo, Teti positions himself as that Star (*sb3 pw*) which is on the hry-ht of the sky ()"

PYR Sp.357: "The sister of Pepi is Sothis, the offspring of this Pepi is the Morning Star (*dw3 ntr*), this Pepi (is the star) which is on the hry-ht of the sky with Re"

PYR Sp.1384: "[Lo, my father the King arises] as the Sole Star (*sb3 w^cty*) [which is on the hry-ht of the sky] like Hor-akhty" ³²

The stars *sb3 pw*, *dw3 ntr*, and *sb3 w^cty* are actually all the one star, namely the Morning Star, and the sky (*pt*) on which this star is fixed is the front of the torso (*ht*) of the sky-goddess Nut. Each spell locates the Morning Star quite precisely upon the hry-ht of the sky. It is unlikely that this is simply stating that the star is on "the underside of the sky" since the correct word for "underside" is *hrw* and because the word *ht* already possesses very strong inherent frontal and underside connotations (see Chapter 9) which renders the hry- element redundant.

The Morning Star is cited as a deity in more than one anatomical list. It is "Sole Star" (*sb3 w^cty*) in two lists within Pap.Berlin 3027 (Mutter u.Kind) and it is "that Sole Star in front of the sacred bark of Re" (*sb3 pw w^cty m-h3t wi3 n R^c*) in a list in Pap.Chester Beatty VIII.³³ In the lists, the Morning Star is invariably linked with the navel (*hp3*). Since the Pyramid Texts specifically and consistently locate this deity upon the hry-ht, it seems reasonable to deduce that the navel is there too, probably right in the centre of it. With a moderate degree of confidence, hry-ht can be identified with the abdomen.

An important proviso is necessary, however. For the following reasons, it is unlikely that *hry-ht* denotes the abdomen *per se* (the entire abdomen with its contents):

(a) the navel and the Morning Star are located upon the surface of the abdomen, (b) nearly all medical treatments of the *hry-ht* are external applications rather than internal treatments and (c) the word *hry-ht* is only sparsely attested in the medical papyri which seems incompatible with the emphasis that the Egyptians are known to have placed upon the treatment of intra-abdominal symptoms and complaints. *hry-ht* may not encompass the contents of the abdomen; it probably denotes only the anterior surface of the abdomen.

10.6 Summary and conclusion

mhtw is the anatomical term which specifically denotes the intestinal tract. This tract can be perceived as being a very long single organ made up of several different specialised sections and the ancient Egyptian practice of writing it as a singular (*mht*) and as a collective (*mhtw*) reflects the anatomical structure of the tract. Fortunately, in English, we follow the same practice; hence, "intestine", "bowel", "gut" and "intestinal tract" are equally acceptable as translations for *mhtw* as "intestines", "bowels" and "guts".

Despite Gardiner's declarations to the contrary, it is evident that *imy-ht* and *imyw-ht* are discrete terms and not mere variant writings of *mhtw*, and also that they do denote different entities from *mhtw*. *imy-ht* "the one which is in the torso" is a generic term for any organ in the torso; its best translation is "internal organ" or "viscus". The plural form *imyw-ht* can be translated as "internal organs", "innards" or "viscera".

It has been shown that hrw-ht / hrw-n-ht is a different term from hry-ht and that it does not designate the lower abdomen as is commonly believed. Barns' statement that the hrw-ht / hrw-n-ht is equivalent to the kns is likely to be correct. hrw-ht / hrw-n-ht, literally "the base of the torso", is best translated as "genital region".

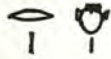
Concerning hry-ht, the notion that the -ht element refers to the belly has prompted hry-ht to be read as "the lower part of the belly" and interpreted to mean the lower abdomen. If this were true, then the total absence, to my knowledge, of a logical complementary anatomical term, hry-ht denoting the upper abdomen, seems very curious. The evidence presented in this chapter suggests that hry-ht does not designate the lower abdomen and that Faulkner's rendering, "abdomen", is closest to its true meaning. This makes a lot of sense because a literal translation of hry-ht really should be "the lower part of the torso" which is, of course, the whole abdomen. However, hry-ht probably does not encompass the abdominal contents and so it should not be translated as "abdomen" (i.e. whole abdomen) but as "front of abdomen" (anterior abdomen).

PART D : CHEST

CHAPTER 11

r3-ib

var. *r3 n ib*





Findings :

"thorax" "chest"



11.1 Introduction : semantic considerations

r3-ib is quite common in the medical papyri but rare in non-medical texts. It has traditionally been translated as "stomach"¹ and continues to be so.² Ebbell's contention that *r3-ib* denotes only the upper portion of the stomach, the "cardia", has been firmly rejected by scholars in favour of it denoting the entire organ.³ However, there are problems with this translation for *r3-ib*. In one gynaecological case in particular (Edwin Smith 20.13), the translation "stomach" sits very uneasily in the context and this has led to claims that *r3-ib* also means "abdomen" and even "uterus" (see 11.4.4 below). Another difficulty is that, in recent times, the term *mndr* has been identified with the stomach (see Chapter 16). A long-standing problem has been the inability to convincingly explain why the Egyptians adopted this particular name for the stomach. These difficulties will be resolved during the course of this chapter as the true meaning of *r3-ib* is exposed; it will be shown that *r3-ib* does not mean "stomach" at all but is really another term for the chest.

11.2 Lexicographical and etymological considerations

r3-ib is written  . The flesh determinative *q* is occasionally appended but its usual absence suggests that the *r3-ib* is a general region of the body rather than a

discrete anatomical structure. There is no dual form of the word and, to my knowledge, no plural writing exists.

The morphology of  , with its two separate stroke determinatives | , implies that *r3-ib* is a compound noun formed from two simple nouns in a direct genitival relationship. This is confirmed by the fact that it can also be written as an indirect genitive, *r3 n ib*.⁴

r3-ib / *r3 n ib* is usually interpreted as "the mouth (or opening) of the heart" but to characterise the stomach by this phrase is not comprehensible within the parameters of what is known about the anatomy and the physiology of these two organs. When this interpretation ("the mouth/opening of the heart") is examined closely, certain assumptions are found to be inherent in it. One is that *r3* is being employed metaphorically to refer to an opening or orifice, and not literally to denote the mouth *per se*, and another is that *ib* is not being employed metaphorically but refers to the physical heart. These assumptions, both of which are probably false, have led to some bizarre conclusions about Egyptian anatomical and physiological knowledge. Lefebvre for example, states that the Egyptians believed in the existence of an organic link (presumably both anatomical and physiological) between the stomach and the heart.⁵ The authors of *GdM* concur with this and additionally, they attribute to the Egyptians a belief that the heart performed digestive functions.⁶ Anatomically, the heart and the stomach are very close together but there is definitely no direct communication or "opening" between them and in no way whatsoever do the contents of one organ pass into the other. Physiologically, the heart and the stomach have very different roles and function almost entirely independently of one another.

The decision that the *-ib* component refers to the physical heart has severely hindered comprehension of the

word *r3-ib*. It is not appropriate here to embark upon a detailed analysis of the terms *ib* and *h3ty* (for this, see Chapter 12) but a brief outline will be useful. *ib* most commonly denotes the will/mind/emotions of a person, that is, the psyche and personality. Only on rare occasions does *ib* denote the heart as the physical organ. Conversely, *h3ty* almost always has this concrete meaning. The question arises, if it is intended to cite the physical heart within a compound term designating the stomach, why is the word *h3ty* not used? Why is "stomach" written *r3-ib* and not *r3-h3ty*? There can be little doubt that *r3-ib* denotes an anatomical entity but that does not perforce mean that one or both of the elements of this compound noun also denotes anatomical entities. Just as *r3-* in *r3-ib* does not refer to the mouth *per se*, *-ib* in *r3-ib* may not denote the heart *per se* but the psyche of a person.

If this deduction is correct, does the term *r3-ib* reflect an Egyptian belief that the stomach is closely associated with the psyche? Is the stomach perceived as the entrance-way or portal to the psyche? Do they believe the stomach to be the seat of the psyche within the body? It has to be admitted that these projected interpretations of the meaning of *r3-ib* are no more plausible or comprehensible than the abovementioned description of the stomach as the "mouth (or opening) of the heart". The solution to our dilemma lies in an alternative translation for the first element, *r3-*.

The authors of *GdM* are almost certainly correct to conclude that *r3-* in *r3-ib* means much more than merely an "opening" and that it really denominates an entire room.⁷ They apply this conclusion in support of *r3-ib* denoting the whole stomach but it may have wider application and implications than they suspected. A mouth (*r3*) comprises not only its opening (the lips) but, much more importantly,

the entire oral cavity. If the *-ib* in *r3-ib* referred to the physical heart, then *r3-ib* might be translated as "the cave (or room) of the heart". If, as seems more likely, *-ib* refers to the psyche, then *r3-ib* could have the meaning of "the cave of the psyche". Of course, the sense of these phrases would be a cavity in which the heart or psyche was situated, not a cavity within the heart or psyche.

11.3 *r3-ib* in non-medical contexts

r3-ib appears in only one anatomical list, in Pap. Vatican Magical. If *r3-ib* was the stomach, particularly if the stomach was the locus of the all-important psyche (*ib*), one might have expected *r3-ib* to appear in more of these lists. Pap. Vatican Magical cites the relevant bodily parts and their affiliated deities in the following order:

.....,	
<i>ht3</i> (armpit)	- Geb
<i>drww</i> (sides of chest)	- Mystic Portal (Shu & Tefnut)
<i>r3 n ib</i>	- [....] Horakhty
<i>h3ty</i> (heart)	- Atum
<i>mist</i> (liver)	}
<i>nnšm</i> (spleen)	} - Children of
<i>wf3</i> (lungs)	} Horus
<i>iwf nb imy ht=f</i>	}
(any organ in his torso)	
..... *	

Unfortunately, the name of the guardian deity of the *r3 n ib* is damaged on the papyrus, only the second part of the name being preserved. A positive identification of the deity may have provided additional clues as to the identity and nature of the *r3 n ib*. The deity's name is compounded with Horakhty and, because *r3 n ib* is masculine in gender, the guardian deity is also likely to be male. Re-Horakhty is the obvious choice but the remaining traces of text do not

really permit an absolutely positive identification to be made.⁹

All that can be deduced from the sole occurrence of *r3-ib* / *r3 n ib* in an anatomical list is that its position in the sequence is not particularly supportive of its identification with the stomach. If *r3-ib* did denote the stomach, it would probably be immediately juxtaposed to those internal organs which are under the guardianship of the Children of Horus. Its placement between *drww* (the sides of the chest) and *h3ty* (the heart) reinforces the notion that *r3-ib* denotes a thoracic structure.

A short passage of text on the statue of *Nb-ntrw* from the time of Osorkon II is of particular interest. It reads,

"The *ib* is a god, his shrine is the *r3-ib*;

it/he rejoices when the body is in festivity

(*ntr pw ib k3r=f m r3-ib msh3=f h^c m h3b=sn*)."¹⁰

The meaning of the first line is unequivocal; the anatomical *r3-ib* has the nature of a shrine/dwelling/resting-place for the deified *ib*, that is, for the deified heart or psyche of a person. If *r3-ib* denoted the stomach and *ib* the physical heart, then this text would be emphatically declaring that the heart was located within the stomach. It is utterly implausible that the Egyptians held this belief. If, on the other hand, *r3-ib* denoted the stomach and *ib* the psyche, the text would be stating that one's psyche is located within the stomach. This notion seems rather strange and, if true, begs the question as to why the Egyptian word for the psyche was not written with the image of a stomach instead of a heart. The reason is, of course, that the psyche (*ib*) was not believed to dwell in the stomach at all but in the physical heart (*h3ty*). This text of *Nb-ntrw* casts serious doubt upon the identification of *r3-ib* as the stomach. The declaration that the *r3-ib* is the shrine of the *ib*, endorses

the proposed interpretation of *r3-ib* as "the cave of the psyche".

k3r "shrine" occurs in another anatomical context. An entry in an anatomical list in Pap.Chester Beatty VIII states, "Your lungs, they are the lungs of He-whose-shrine-is-great (*wft=k wft pw n 3-k3r=f*)."¹¹ It is not certain whether *3-k3r=f* is an habitual epithet of a major deity (possibly Herishef or Atum) or merely an invented name; a name contrived to conform with an obvious characteristic of the anatomical entity that the deity is protecting. Either way, the association of the lungs with *k3r* may indicate that they too were considered to be contained within a "shrine", just like the *ib* in the statue text of *Nb-ntrw*. If both sources are alluding to the same "shrine", then the obvious candidate for a chamber which encloses the lungs (*wf3*) as well as the heart/psyche (*ib*), is the thoracic cage, or perhaps the frame of the entire torso.

A verse in The Teaching of Khety, son of Duauf, otherwise known as The Satire of the Trades, is also very informative about the *r3-ib*. It reads,

"The weaver inside the workshop,

worse off is he than a woman squatting (in childbirth);
his knees are (bent up) against his *r3 n ib* (var. *r3-ib*),
and he cannot breathe air.

(*m3sty=fy r r3 n ib=f nn tpr.n=f t3w*)

If he wastes time in the day without weaving,

then he is beaten with fifty lashes;

he must give food to the doorkeepers

in order that he may be allowed to see daylight.

(var. to come out into daylight.)"¹²

In ancient Egypt, women gave birth in the squatting position, with buttocks resting on low "birth-bricks" and legs bent up. During uterine contractions, to assist expulsion of the infant, the woman would have pulled her

knees towards her shoulders and pushed downwards into her abdomen. Brunner cites a passage from Steele Turin 102 which confirms that breathlessness, alluded to in the fourth line of this verse, was a typical feature of childbirth in this position:

"I sit upon the brick like a pregnant woman
and I call for air but it does not come to me."¹³

Brunner is undoubtedly correct in proposing that the verse in the Teaching of Khety is drawing an analogy between the posture of a weaver at his weaving and the posture of a woman in labour. Both adopted a squatting position with their knees drawn up against the *r3-ib* and both were cramped for breath.

Brunner describes the mechanism by which the woman and the weaver are made short of breath as follows; "the child then pressed against the stomach and the other internal organs as, with the weaver, (did) the knees" (*das Kind drückte dann auf den Magen und die anderen inneren Organe, wie beim Weber die Kniee*).¹⁴ It is certainly true that a woman squatting in labour will be breathless by virtue of increased pressure on her internal organs (as well as through simple exertion, of course). Brunner is probably correct to ascribe the weaver's breathlessness to a similar phenomenon but incorrect to state that it is the weaver's knees which compress his stomach and internal organs. If the weaver is in a squatting position, the only part of the torso that his knees can press against is the upper part of the chest; the knees will be a long way from the stomach. If he sat on a low seat hunched forward with his thighs and knees pressing against his abdomen and chest, then that posture and pressure would also compromise his breathing. Unquestionably, if *m3sty* means "knees" then *r3 n ib / r3-ib* cannot denote the stomach (or the abdomen) and it must denote the chest (or the whole torso).¹⁵

* The Book of the Victory over Seth survives in two manuscripts; Pap.Louvre 3129 of the Ptolemaic Era and Pap.BM 10252 dated to the 30th Dynasty. It includes a chapter which records a distribution of the different bodily parts of the god Seth to various deities. The verse pertaining to the neck reads,

Pap. Louvre 3129

"Your neck (*wsrt*) is given to Nehebkau,
he is the "Determiner" who does not turn himself around,
he leads in the *nꜥy*-serpents to the place where you are
(and) they sting at your *r3-ib*."

Pap. BM 10252

"Your neck (*nḥbt*) is given to *Nḥy* (i.e. Nehebkau)
the God of Fate whose determinations are not delayed,
he leads in the *ḥfy*-serpents to the place where you are
(and) they bite at your *ḥ3ty*."¹⁶

An equivalence between *r3-ib* and *ḥ3ty* is implied by the last lines of these parallel texts. In the abovementioned Pap.Vatican Magical sequence, *r3-ib* is juxtaposed with *ḥ3ty* which also implies a close connection between *r3-ib* and the physical heart. The presence of both terms in the Vatican list however, indicates that the relationship cannot be one of direct equivalence. The Victory over Seth text is probably linking the *r3-ib* not so much with the heart itself but more with the heart region, that is with the chest.

Pap.Berlin 3027 contains a magic spell for conjuring suffering (*mn*) from the *r3-ib* of a child.¹⁷ Unfortunately, no information about the nature of the *r3-ib* itself can be derived from this short and obscure spell.

11.4 *r3-ib* in the medical texts

11.4.1 General considerations: the textual environment of the term *r3-ib*

The first half of Pap.Ebers (Ebers 3-325) is concerned with the treatment of internal illnesses. Remedies for complaints of a similar nature, or which occur in the same part of the body, are quite tightly grouped together. Ebers 4-182 is a large section which deals with abdominal complaints. This section is succeeded by groups dealing with:

183-187	complaints affecting the	<i>šnbt</i> (chest);
188-207	" "	the <i>r3-ib</i> (instructions-genre);
208-218	" "	the <i>r3-ib</i> (remedies-genre);
219-220	" "	the <i>ḥ3ty</i> (heart/central chest);
221-241	"3"-illness in	the <i>ht</i> & <i>ḥ3ty</i> (torso/belly and heart/central chest).

By placing illnesses of the *r3-ib* between those afflicting the chest (*šnbt*) and the heart (or central chest) (*ḥ3ty*), the Egyptians seem to be associating *r3-ib* more with the thoracic region than with the abdomen (in which the stomach is located). Like Ebers 4-182 which is devoted to abdominal complaints, Ebers 183-241 is probably an entire section devoted to chest complaints. This ordering of the groups furnishes only circumstantial evidence as to the identity of the *r3-ib* but is worthy of notice in passing.

Ebers 855 is a long series of 26 glosses. With a few minor exceptions (855x and parts of 855a and 855e), all the glosses seek to elucidate different symptoms experienced by the psyche (*ib*) or otherwise associated with the heart (*ḥ3ty*). Three glosses mention the *r3-ib*. Ebers 855f reads, GLOSS: "As for, 'ft (? disgust) of the *ib*'

EXPLANATION: it means that the heart (*ḥ3ty*) is feeble (*wgg*) because of *hh*-heat of the back passage (*phwyt*); you discover that it (the *ḥ3ty*) is large in that something is round (*shp*) in his *r3-ib* like the iris (in the eye)"¹⁸

This gloss presents many difficulties of translation and interpretation but does seem to be describing an enlarged

heart in terms of something round (or spheroidal) in the *r3-ib*. Ebers 855r is brief and sheds little light on the nature of the *r3-ib*.¹⁹ Ebers 855s, is unusual in that two glosses are combined into one. When they are reconstructed as separate glosses, the first reads,

GLOSS: "As for, 'the *r3(-ib)* is hot (*t3*) and stings (*hnws*)'

EXPLANATION: it means that *t3*-heat has spread over (*hns hr* lit. travelled over) his *h3ty*."²⁰

Assuming for the moment that *h3ty* denotes the physical heart, this gloss is stating that the *r3-ib* being hot and stinging is the result of heat (?) throughout the heart. The precise meaning of this statement is not clear.

Despite the difficulties in comprehension, none of the glosses from this group in Pap.Ebers vindicates the translation of *r3-ib* as stomach. They do, however, closely associate the *r3-ib* with the *ib* (the psyche) and with the *h3ty* (the heart or chest).

11.4.2 The *r3-ib* cases in Pap.Ebers

Lateralisation: a feature of the *r3-ib*


A bracket of no less than thirty cases in Pap.Ebers (Ebers 188-218) is devoted to illnesses affecting the *r3-ib* and, up until the present day, they have all been presumed to be stomach complaints. However, in several of the cases the symptoms are described as being located on one or other side of the body. For example, Ebers 203;

CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib*; then you place your hand (*drt*) upon him/it and if you discover that it (the illness) has lodged itself on his right side (*hr gs=f wnmy*)"²¹

And Ebers 210;

TITLE: "Another (remedy) for driving out an accumulation (*šn^c*) from the right side (*m gs wnmy*) when quenching."²²

Those cases which set out to locate a symptom or lesion more precisely, and to define its extent, often employ an interesting idiom. In Ebers 188 we read,

CLINICAL DESCRIPTION 2: "Now, after this (administering a remedy) has been done, if you discover (concerning) the two canals (*mrwy* ) in his torso/belly (*ht*) that the right side (*gs*) is warm and the left side cool," ²³

Since the case is describing an illness of the liver, the authors of *GdM* are probably correct in concluding that *mrwy* "two canals" is an idiomatic expression for the two halves of the torso or the belly.²⁴ More specifically, *mr* may denote the hollow channel which exists on either side of the spinal column in someone lying upon his/her back.²⁵ Thus, the "canal" on the right side of the body would contain the right lung, the liver, the gall-bladder, the ascending colon, the right kidney, and so on.

A passage in Ebers 205 suggests that the phrase "crossing (ferrying across) the canal" is a euphemism for a symptom or illness spreading from one side of the body to also involve the other;

CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib*; if you discover (concerning) him that it has crossed the canal (*d3i.n=f mr*) while he suffers in his two sides (*šw(t)y=fy*), his torso/belly (*ht*) is constricted (*hns*) against bread (i.e. he cannot eat much) and his mind (*ib*) is burdened (*dns*) with what has entered into him" ²⁶

"Crossing the canal" also occurs in Ebers 198;

CLINICAL DESCRIPTION: "If you examine his accumulation (*šnc*) in his *r3-ib*; if you discover that it has increased (*db3*) in that it has crossed the canal (*d3i.n=f mr*), his mind (*ib*) is *hws* (?) and his *r3-ib* is dry" ²⁷

Here again, crossing the canal seems to be associated with

the spreading of an illness, possibly to the other side of the body.²⁸ If *r3-ib* did mean "stomach", the statement "the stomach is dry" does not make much sense clinically. "The chest is dry" is more comprehensible.

In Ebers 209 the same verb *d3i* "to cross" (to ferry across) is used to describe the movement of a symptom-demon into one side of the body;

TITLE: "Another (remedy) for treating an accumulation (*šn^c*) in the right side (*gs*) when a *nsyt*-demon has crossed over (*d3i*) to him/it."²⁹

A similar phrase, which is undoubtedly a similar idiom, is found in another *r3-ib* case, Ebers 204;

CLINICAL DESCRIPTION: "If you examine a man having an accumulation (*šn^c*) in his left side (*gs*); it is beneath the side of his chest (*hr drww=f*) and it does not cross land (*n d3i.n=f t3*)"³⁰

This is a unique occurrence of *d3i* ... *t3* in the medical texts, and since *d3i* is most commonly used in the context of crossing water, it is possible that *t3* "land" is mistakenly written for *mr* "canal". *n d3i.n=f t3* is a circumstantial clause describing a situation that is concurrent with the preceding state of affairs. In other words, not only is the illness located beneath the left flank (*drww*) but it is confined there; "it does not cross the *t3*." If *t3* "land" is truly meant here, it may refer to the central (spinal/axial) regions of the body, that is to the region lying between the two canals (*mrwy*). Alternatively, *t3* here may designate the diaphragm which separates the chest from the abdomen. Another possibility is that *t3* designates the boundary or edge of the accumulation (*šn^c*).³¹ Irrespective of the reason for this idiom making its sole appearance, it seems to have the same purpose and meaning as "crossing the canal". Thus, in Ebers 204, the "accumulation" is entirely confined within one side of the body and, more specifically,

since *drww* refers to one half of the rib-cage and not to one side of the whole torso, the lesion is confined within one side of the chest.

This discussion has demonstrated that illnesses affecting the *r3-ib* are commonly lateralised phenomena, manifesting in one or in both of the *gswy*, the *šwty* or the *drwwy*. Indeed, one case strongly implies that the *r3-ib* itself has two sides or halves. Ebers 191 = 194 states, CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib*; he suffers in his upper arm (*g3b*), his breast (*mnd*) and the side/half (*gs*) of his *r3-ib* while it is said concerning him, 'It is *w3d*-illness'...."³²

The stomach is a centrally-located organ which only partially extends into the lateral regions of the abdomen. It makes very little sense to locate illnesses in the right or left side (or half) of the stomach. It makes even less sense to qualify illnesses of the stomach in terms of their spread or extent from one side of the body to the other.

11.4.3 The bracket of *r3-ib* cases in Pap.Ebers

It is not possible here to analyse all thirty cases in the bracket in Pap.Ebers; many of them remain obscure, if not totally impenetrable. However, it will be valuable to briefly discuss a few cases which shed more light upon the true identity of the *r3-ib*.

Ebers 200 reads,

CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib*; if you discover it (the illness) upon his back (*psd*) like that which is borne by one who has a sting DECLARATION: then you should say concerning it, 'It is *whdw*-illness which has diverted/trespassed onto his back, an ailment (*mr*) which I will treat with a medicine for the back'."³³

Unequivocally, an illness affecting the *r3-ib* is located on the patient's back or has penetrated through to the back. The lesion resembles that consequent upon a severe sting, hence, it is probably raised, red, hot and painful; it is likely to be an abscess. This conclusion is supported by the fact that the recommended treatment is a medicated poultice to be bandaged over the top of the lesion. An abscess at this site will either have originated locally in the tissues of the back or have tracked through to the back from an internal focus of infection. It could originate from a body of pus within the thoracic cavity (an empyema), above the liver (a sub-phrenic abscess) or around the kidney (a peri-nephric abscess). The first of these sites would be the commonest and therefore the most likely candidate, which again tends to link the *r3-ib* with the thorax. It is highly improbable that a lesion on the back, as described and treated in Ebers 200, could have its origin in the stomach or, indeed, be associated with the stomach in any way whatsoever.

Ebers 188 is a very straightforward case-study;
TITLE: "Instructions for suffering (*mn*) of the *r3-ib*
CLINICAL DESCRIPTION: If you examine a man upon an accumulation (*šn^c*) belonging to his *r3-ib*; he is guarded against eating bread (i.e. his appetite is poor), his torso/belly (*ht*) is constricted/restricted (*hns*) and his mind (*ib*) it is disinclined for walking, like a man suffering with burning of the back passage (*phwy^t*), then you should inspect him lying down (on his back). If you discover (concerning) his torso/belly that the accumulation in his *r3-ib* is hot (*t3*)
DECLARATION: then you should say concerning it, 'It is a condition of the liver (*mist*)'

.....

CLINICAL DESCRIPTION 2: Now, after this has been done, if you discover (concerning) the two canals in his torso/

belly, the right side is warm and the left side cool

.....

CLINICAL DESCRIPTION 3: then you should look at him again.

If you discover (concerning) his torso/belly that it is (now) entirely cool

DECLARATION 3: then you should say, 'His liver is clean (i.e. healed), it is in *nd3d3*-condition, he has taken up the medicine'." ³⁴

In summary, the patient has loss of appetite, it is painful for him to walk and he has a hot accumulation or mass in his *r3-ib*. The ancient scribe informs us that it is a liver complaint and that the right side of the torso is warm. This case is likely to be describing an infection or abscess of the liver, or perhaps a sub-phrenic abscess situated between the liver and the diaphragm. It quite clearly associates the liver - which lies almost wholly beneath the lower part of the right side of the thoracic cage - with the *r3-ib*. Nothing in this case hints at involvement of the stomach.

The aforementioned Ebers 191 = 194 relates a group of symptoms which evidently presage a dire illness;

CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib*; he suffers in his upper arm (*g3b*), his breast (*mnd*) and the side (*gs*) of his *r3-ib* while it is said concerning him, 'It is *w3d*-illness'

DECLARATION: then you should say concerning it, 'It is an entering through the mouth (*ˁqt m r3*); it is death (a dead man) who has travelled to him'

INSTRUCTIONS: then you should make for him a stimulating herbal medicine

.....

INSTRUCTIONS 2: Then you should place your flexed hand upon him so that the upper arm (*g3b*) gets better and free from pain (*ih*)

DECLARATION 2: then you should say, 'This pain will descend

to the colon (*q3b m3^c*), to the back passage (*ph̄wyt*). I will not repeat (administration of) the medicine at all'." 35

Had the text stipulated that it was the left arm, breast and side of *r3-ib* in which the patient was suffering then one could affirm, with a considerable degree of confidence, that this case is describing a heart attack. The declaration that "death/a dead man" has entered or travelled to the patient certainly infers that the illness is life-threatening. However, its identity is still very much open to debate. This case hints at an anatomical association between the upper arm, the mamma/breast and a side of the *r3-ib*. If *r3-ib* designates the thorax, this nexus is quite comprehensible but if it denotes the stomach, the anatomical link is not easy to discern. Indeed, the whole case becomes very obscure because the declaration that a patient suffers "in the side/half of his stomach" is clinically meaningless.

Ebers 198, 199, 208, 211 and 213 are some of the cases that deal with an accumulation (*šn^c*) in the *r3-ib*. Ebers 199 reads,

CLINICAL DESCRIPTION: "If you examine a man suffering from an accumulation (*šn^c*) in his *r3-ib*; if you discover (concerning) him that it goes and comes (i.e. is fluctuant) beneath your fingers like oil within a wineskin" 36

From this description it seems likely that the lesion is a surface one. Because it is fluctuant on palpation like a fluid under tension, an abscess presenting at the surface of the body must again be favoured as the condition under consideration. All these cases recommend that a medicinal preparation be bandaged onto the site of the accumulation (*šn^c*). External treatments are more appropriate for surface lesions such as abscesses than for internal conditions such as stomach complaints.

Ebers 192 = 195 is a fine clinical description of an acute, combined upper and lower respiratory tract infection; CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib* while he expectorates (*q3s*) frequently; if you discover that it (the illness) is prominent against his forehead (*h3t*), his eyes are inflamed/bloodshot (*šsm*) and his nostril (*šrt*), it is streaming

DECLARATION: then you should say concerning it, 'It is *šhw3w* (? purulency) of his mucus (*stt*) and (it) cannot descend to his groins (*nphw*) in his mucus'

INSTRUCTIONS: then you should make for him

INGREDIENTS and PREPARATION: *šns*-cake of wheat (*swt*) / wormwood plant (*s^cm*) in great quantity :

a *dbh*-measure full of garlic (*hdw*) is to be added to it and it is to be *si3rt* (? steeped) in beer

DIRECTIONS FOR USE: fatty meat (*iwf dd3*) of an ox is to be eaten by the man and washed down with the beer *nt h3w iht* (? abundantly produced) so as to open his eyes and to send away his upper facial illnesses (*hntwt*) which come out with the mucus."³⁷

To summarise, the patient's nose is streaming, his eyes are inflamed and he has pain in his forehead (i.e. he has blocked or infected frontal sinuses). Most importantly however, he has a persistent productive cough which is directly linked with the statement that he is suffering in his *r3-ib*. The Declaration and Directions For Use sections of this case make it quite clear that excessive mucus is a prominent symptom of the patient's illness. This symptom is, of course, a typical feature of respiratory infections which lodge in the head and/or in the chest but it is not a feature of illnesses occurring in the abdomen or stomach.

There are other *r3-ib* cases in Pap.Ebers which focus upon the symptoms of cough and purulent mucus production and so link these symptoms with the *r3-ib*. For example, Ebers

190, 196 and 206; Ebers 190 reads,

CLINICAL DESCRIPTION: "If you examine a man having an accumulation (šn^c); he has a productive cough (lit. he produces liftings up of coughing), his h3yt-illness under the side of his chest (drww=f) is like drwt of faeces (?)

DECLARATION: [then you should say concerning it,] 'It is (pathological) elevations (stsw) on the sides of his chest (drwwy=f), there is constriction/restriction of his r3-ib'.³⁸

Ebers 196 reads,

CLINICAL DESCRIPTION: "If you examine a man, he suffers from it continually (i.e. from purulent mucus, as in Ebers 195 = 192) as if being consumed by whdw-illness while his ib it is exhausted in the manner of one who puffs when running

DECLARATION: then you should say, 'It is hnwt (? blockage) of the accumulation (tsw) which is not able to be brought up, while the ib is not bowed down on account of the bad condition; it has produced hsd-illness, there are purulent secretions (shw3 ryt) and striking of h3yt-illness'

INSTRUCTIONS: then you should make for him a medicine (sp) for breaking it up by means of a remedy (phrt).³⁹

The allusion to the ib being in a state like that of a runner who is puffed suggests that this complaint is causing breathlessness which is commensurate with a chest condition.

In conclusion, there are many case-studies in this bracket of thirty r3-ib cases in Pap.Ebers which deal with chest complaints and which, apparently, have nothing to do with the stomach at all. Clearly, the positioning of this important bracket between two groups of cases concerned with illnesses in the chest is not accidental.

11.4.4 Other occurrences of *r3-ib* in the medical papyri

Outside the abovementioned glosses and bracket of thirty cases, *r3-ib* is mentioned in only one other case in Pap.Ebers and in one case in each of Papyri Berlin and Edwin Smith. By virtue of the fact that it is duplicated in the papyrus, Ebers 102 = 296 effectively has two titles, each inherited from the respective preceding cases. They are: "Instructions concerning mucus/phlegm (*stt*) in the torso/belly" (Ebers 102) and "Another (remedy for causing mucus/phlegm (*stt*) to come out from the groins (*nphw*)" (Ebers 296). The case reads,

CLINICAL DESCRIPTION: "If you inspect one having mucus/phlegm with piercing pains (*nq^cwt*) while his torso/belly (*ht*) is stiff (*nht*) on account of it and he suffers in his *r3-ib*; his mucus is in his torso/belly and it cannot find a way out, in that there is no way by which it can come forth from him, then it putrefies (*hw3*) in his torso/belly, and (if) it cannot come out it becomes *h(s)bt*-worms. It does not become *hsbt*-worms until it becomes dead; thereupon he passes (*wšš*) it and he gets better (*ndm*) straight away. If he does not pass it as *hsbt*-worms

INSTRUCTIONS: then you should make for him a medicine (*sp*) for passing (*wšš*) so that he gets better straight away"⁴⁰

This case presents some problems of interpretation. For example, the meaning of the statement that when the retained mucus dies/putrefies it transforms into *hsbt*-worms which are then able to be eliminated from the body. Nevertheless, the main problems for the patient are that he has phlegm, piercing pains, stiffness (?) of his torso/belly and that he suffers in his *r3-ib*. Since the major symptom under consideration is mucus/phlegm it seems reasonable to conclude that this case too describes a chest condition.⁴¹



Berlin 154 is a case of *whdw*-illness in the torso which mentions *r3-ib* in the following context;

CLINICAL DESCRIPTION: "his torso/belly (*ht*) is heavy, his *r3-ib* is ailing (*mr*), his mind (*ib*) is hot and wandering (*hnsu*), his clothing feels oppressive to him and he cannot endure many clothes, he is thirsty at night, he tastes his *h3ty* (heart or chest) which is *igp* (? soaring cloudwards) in the manner of a man who has eaten unripe fruit of the sycamore fig tree (i.e. he is expectorating or vomiting bad tasting material); the muscles (*iwf*) are weary like a man whom the road has exhausted; if he squats down to evacuate, his rear end (*phwy=fy*) is heavy and he cannot manage properly with urine and faeces."⁴²

The identity of the illness here is very uncertain, particularly since the ancient scribe has given it the wrong title and has omitted the mode of administration for the treatment (it was probably a liquid remedy to be drunk). Although the colourful phrase "he tastes his *h3ty* (heart or chest)" tends to imply that material is being expectorated from the chest rather than vomited from the stomach, the final statement indicates that the patient also had problems in the abdomen. Perhaps the illness was manifest in both regions of the torso.

Finally, a case-study in Pap.Edwin Smith (20.13) reads, CLINICAL DESCRIPTION: "If you examine a woman suffering in her *r3-ib*, menstruation (*hsmn*) does not come to her; if you find something at the upper side of her navel DECLARATION: then you should say concerning her/it, 'It is an accumulation (*šnc*) of blood in her uterus (*idt*)'."⁴³ This case has baffled many scholars. It seems to be stating that the uterus is associated anatomically with the *r3-ib* in some way. Breasted concludes that *r3-ib*, as well as meaning "stomach", also has the more general meaning of "abdomen".⁴⁴ Lefebvre agrees with this conclusion but adds that *r3-ib*

might also denote the uterus itself.⁴⁵ The authors of *GdM* do not concur; they assert that the suffering in the "stomach" (*r3-ib*) only appears in this case as a minor and secondary symptom to the primary problem of accumulated blood in the uterus.⁴⁶ They do not specify what stomach symptoms a woman with an enlarged uterus might have. It is likely that the suffering in the *r3-ib* is indeed a secondary symptom, but it is not necessarily true that it is located in the stomach. But if not in the stomach, where is this "suffering" located, what is its nature, and how is the illness in the uterus causing it? The answers to these questions lie elsewhere in the case.

Breasted tentatively translates the word  as "vulva" and the line in which it appears as, "and thou findest trouble in the upper part of her vulva".⁴⁷ However, as the authors of *GdM* point out,  denotes not the vulva but the navel (*hp3*) and they translate the line as, "und du findest etwas an der Oberseite ihres Nabels" (and you find something at the upper side of her navel).⁴⁸ This puts an entirely different complexion upon the case. If a woman's uterus is enlarged to the degree that it is palpable above her navel then she is carrying in her abdomen a mass which is at least as large as, and heavier than, a 22-week pregnant uterus. This can have a restrictive effect on the stomach which in turn can cause reflux oesophagitis (heartburn) in the chest. Heartburn may be the "suffering in her *r3-ib*" alluded to in the text. Since both stomach and thorax can be affected secondarily by a massive engorgement of the uterus, it is not really necessary here to adopt an additional translation such as "abdomen" or "uterus" for *r3-ib*.

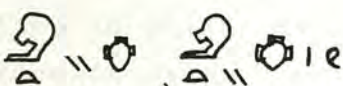
11.5 Summary and conclusion

The *r3-ib* is an anatomical region that is perceived to be a sort of shrine for the *ib*, the mind/psyche of a person. The *ib* specifically resides within the *h3ty*, the physical heart. Non-medical texts and the medical papyri alike provide strong evidence of an intimate link between the *r3-ib* and the *h3ty*. It is probable that both the *ib* and the *h3ty* are located within the *r3-ib* and that *r3-ib* means something like "the cave of the *ib*". Illnesses affecting the *r3-ib* are sometimes stated to be located in one or other side of the body (*gs*) or are linked with one or other side of the chest (*drww*, *šwt*). Many *r3-ib* cases are concerned with the treatment of respiratory illnesses and the bracket of *r3-ib* cases contained in Pap.Ebers is situated amidst other groups of cases that deal with chest complaints.

Thus, *r3-ib* almost certainly denotes the chest and in particular, the frame of the chest, the thorax. It is a remote possibility that it denotes the frame of the whole torso. None of the occurrences of *r3-ib* in medical or non-medical texts supports a translation for *r3-ib* of "stomach" and this long-standing identification seems to be erroneous. The abovementioned claims by scholars that the Egyptians believed in an organic link between the heart and the stomach, that they located the psyche and seat of the intellect in the stomach, and that they ascribed digestive functions to the heart, are probably all incorrect.

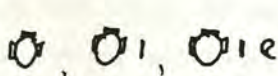
When "thorax", "chest" or even "frame of the torso" replace "stomach" as translations for *r3-ib* in the medical papyri, the *r3-ib* cases begin to emerge from the impenetrability which has hitherto characterised them. As descriptions of chest conditions rather than of abdominal complaints, these clinical studies are much more comprehensible.

CHAPTER 12

h3ty 

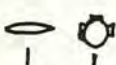
Findings :

1. "heart" (Primary meaning)
2. "central chest" "mediastinum"*
3. "mind"

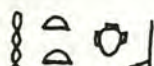
ib 

is best left untranslated. It denotes:


1. "mind" "person" "self"
(Primary meaning)
2. "heart"

r3-ib 

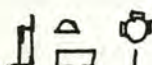
"chest" "thorax" (see Chapter 11)

ht(y)t-ib 

"heart + windpipe"

hry-ib 

"middle part" (of the body)
i.e. the torso, trunk

st-ib 


"heart" (lit. "seat of the *ib*")

[* The anatomical focus for both *h3ty* and *ib* is the physical heart and the anatomical field of both is the mediastinum, that is, the entire central compartment of the chest comprising heart and pericardium, aorta and vena cavae, pulmonary arteries and veins, trachea and main bronchi, oesophagus, etc.]

12.1 Introduction : semantic considerations

To the ancient Egyptians, the heart is the very centre of one's being. In the physical sense, it is considered to be at the centre of the body as well as the most important bodily part. The heart is also perceived to be the seat of one's emotions, desires and intellect and the source of one's personality traits, religious beliefs and social attitudes.¹ Two terms, *h3ty* and *ib*, are used to denote this

organ. Because of the great importance of the heart in Egyptian thought and culture generally, and in Egyptian medicine in particular, these terms have been the subject of rigorous investigation by scholars throughout this century. As a result, the entities denoted by *ḥ3ty* and *ib* and the relationship between them have been quite well elaborated. Despite this progress, there are important issues which have yet to be clarified, such as the true location of the *ib*. Also, there are particular texts referring to *ḥ3ty* and *ib* which remain largely incomprehensible.

Both words are written using the sign  which depicts an animal heart. Because *ḥ3ty* and *ib* both seem to designate the heart *per se* (the physical organ), both terms are usually translated as "heart". Both *ḥ3ty* and *ib* also designate a person's psyche/personality, and yet it is rare for either term to be translated as "mind", "psyche", "self", or similar. Thus, sources of confusion pertaining to *ḥ3ty* and *ib* include the following: (a) *ḥ3ty* apparently denotes not one but two discrete entities, the heart and the psyche; (b) *ib* denotes exactly the same two entities; (c) scholars rarely distinguish between *ḥ3ty* and *ib* in their translations and, (d) scholars do not distinguish between the different meanings for each term. In some contexts, *ḥ3ty* and *ib* seem to be interchangeable and yet in others the Egyptians clearly favour one term over the other. If *ḥ3ty* consistently denoted only one of the two entities "heart" and "mind", and *ib* denoted only the other, we might have very little difficulty with *ḥ3ty* and *ib* since their relationship could be interpreted as an indwelling one, for example, "the *ib* (mind) dwells within the *ḥ3ty* (heart)".

It has long been suspected that this is the true nature of the relationship between the *ḥ3ty* and the *ib* but there are some major obstacles which have prevented such an interpretation being accepted as definitive. The first of

these is that the *ib* is never directly stated to be lodged in the *h3ty*. Statements that the *h3ty* and the *ib* are located within the *ht* (usually translated as "belly"), that the *r3-ib* (usually translated as "stomach") is the shrine of the *ib*, as well as certain passages in the medical texts, have all contributed to the following divers conclusions: that the *ib* must be centred upon the epigastric region of the belly, that *ib* denotes the stomach, that *h3ty* denotes the stomach as well as the heart, that the *h3ty* and the *ib* play a role in digesting food and that the Egyptians believed the physical heart to be an important digestive organ.²

In the medical texts, several passages are very difficult to comprehend if *h3ty* and *ib* denote only the heart or the mind. Consider, for example, the gloss Ebers 855g:
 GLOSS: "As for, 'his *ib* spreads itself out'
 EXPLANATION: it means that the conduits/vessels of his *h3ty* contain faeces









(*ir ib=f ss=f wnn mtw pw n h3ty hr hs*)."³
 Some writers have concluded that *h3ty* must also denote another anatomical entity, one which is not totally different from the heart (as the stomach is) but simply larger in extent. This has enabled them to distinguish between *ib* and *h3ty* in their translations. Allen and Borghouts, for example, translate *ib* as "heart" and *h3ty* as "breast" (meaning the chest or the front part of the chest).⁴




However, is the *ib* really located within the epigastrium, does *h3ty* really also denote the stomach or the front of the chest and did the Egyptians really ascribe a digestive function to the heart? Problems attendant upon the interpretation of *h3ty* and *ib* are capable of resolution and the key to solving several of them lies with the words *ht*, *r3-ib* and *mk3t*. New insights into the precise meanings

of these terms have important implications for our understanding of *ḥ3ty* and *ib*. It is evident that *ḥ3ty* can encompass more than the heart alone and discernment of the extent of this larger entity permits some obscure passages in the medical texts to be seen in a new light.


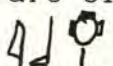


In the discussion which follows it will initially be assumed that both terms do designate both the heart and the psyche. This methodology has been adopted for ease of discussion and to minimise the length of this chapter. The volume of ancient Egyptian textual material that refers to *ib* and *ḥ3ty* is vast and unwieldy, and whole books and numerous articles have been devoted to the topic. Therefore, rather than assembling and reviewing all the available primary and secondary sources, it will be expedient to take for granted that many pieces of the puzzle are already in place.


12.2 Lexicographical considerations

In the Pyramid Texts, *ḥ3ty* is written  , the heart sign functioning as a determinative in this word. In Middle Kingdom Texts, the forms  and  appear and simple phonogrammatic spellings also begin to be used, but only infrequently; for example,  (CT Sp.225. el-Bersheh coffin B2L),  (Pap. Edwin Smith),  (Dendera Sacle). By Dyn.30 the archaic form  reappears; this revival probably occurring during the Late Period which is noted for its re-employment of archaisms. At the end of Dyn.30 an entirely new element is introduced and *ḥ3ty* begins to be written as  (e.g. Metternich Stela).

The basic element in the word *ḥ3ty* is  which depicts the forepart of a lion. An anatomical term *ḥ3t*, written  or  , denominates the forepart/front end of an animal and *ḥ3ty* is probably a masculine *nisbe* noun formed from this

feminine noun, *ḥ3t*. Therefore, *ḥ3ty* should have an approximate meaning of "the one (masc.) which belongs to the forepart/front end".

In the Pyramid Texts, *ib* is usually written as  alone, this sign appearing to function as an ideogram for the heart itself. The presence of the stroke | as an orthographic accompaniment to *ib* is rare in these texts (e.g. PYR Sp.311) but is usual in the writing of *ib* from the First Intermediate Period onwards. Gardiner states that when the stroke | follows an ideogram it indicates that the ideogram means the actual object which is depicted and that, in the Old Kingdom, such combinations of ideogram and stroke are often preceded by phonograms.⁵ Accordingly, the writing  in PYR Sp.311 ought to denominate the physical heart but the context suggests otherwise: "his (the King's) leg (*rd*) shall not be opposed (*d3i*), his heart (*ib*) shall not be opposed (*ḥsf*)."⁶ Almost certainly, *ib* here refers not to the King's physical heart but to his will or wishes. This text raises doubts as to whether  alone and  really are ideograms for the heart *per se*; it does not preclude them from being ideograms for another entity that was perceived to be associated with the heart.

ḥ3ty and *ib* only rarely possess the flesh sign  as an additional determinative; *ḥ3ty* has it more often than *ib*. An anatomical term which customarily carries this determinative usually denotes a discrete anatomical structure. The heart, of course, is such a structure; it is a very circumscribed internal organ which is readily separable from the rest of the body. The reason why *ḥ3ty* and *ib* usually lack the flesh sign may simply be that the "heart" sign, which is almost invariably present in the writing of these terms, is a clear enough indication that a discrete anatomical structure is being denominated. In other words, an extra flesh sign may have been deemed to be

superfluous and unnecessary. Another possible reason why *ib* in particular is so rarely accompanied by this sign may be because *ib* primarily denotes not the physical heart but a non-anatomical entity within the body, that is, the psyche (see below).

To summarise, on lexicographical grounds the *h3ty* ought to be located in the front half of an animal (top half of a human being), probably within the chest. Since *h3ty* and *ib* are both written with the heart sign, the entities they denote are likely to be intimately linked with the heart. When the flesh sign is also present, one can be reasonably confident that *h3ty* or *ib* is denoting the physical heart itself.

12.3 *h3ty* as the physical heart

Apart from *h3ty* and *ib*, there is no other Egyptian word for which a cogent argument could be advanced that it denotes the heart: one or both of these two terms must denominate the heart as the physical organ. The evidence in favour of *h3ty* is abundant and includes pictorial as well as textual evidence. In butchery scenes in Old Kingdom tombs, the heart of the slaughtered animal is usually named with the word *h3ty*.⁷ In the Book of Opening the Mouth, the heart of the ritually slaughtered bull-calf is pictorially represented in the vignettes and designated as *h3ty* in the accompanying texts, for instance,

"let the slaughterer cut off his foreleg (*hps*)
and draw forth (*šdi*) his heart (*h3ty*)."⁸

A similar text is found in PYR Sp.1286:

"Grasp them (the followers of Seth), remove their heads,
cut off their forelegs (*hpsw*), eviscerate (*bsk*) them,
draw forth (*šdi*) their hearts (*h3tyw*), drink their blood,
claim their hearts (*ibw*) in this your name of Anubis
Claimer of Hearts."⁹

Many funerary and magical texts allude to the cutting out, drawing forth, carrying off or destruction of the *ḥ3ty* and it is likely that, by employing this term, the ancient author's particular intention is to refer to the physical heart. For example, PYR Sp.409:

"He (the King) has broken the spinal vertebrae (*tsw bqsu*),
he has carried off the hearts (*ḥ3tyw*) of the gods."¹⁰
CT Sp.995:

"The shining One comes with his horn (*ḥnwt*) in his hand
so that he may draw forth the heart (*ḥ3ty*) of Re
whom he sees."¹¹

BD Ch.29 A:

"My *ib* is with me, it shall not be carried off,
for I am the Lord of Hearts (*nb ibw*)
who cuts out (*sm3*) hearts (*ḥ3tyw*)."¹²

Several texts infer that a connotation of freshness and close proximity to the living state adheres to the word *ḥ3ty*; for instance, *ḥ3ty*, not *ib*, is the favoured term for the heart when referring back to the time when the person was still alive. A text in the tomb of Paheri reads:

"Your *ib* is yours in very truth,
your former heart (*ḥ3ty*) belongs to you."¹³

BD Ch.30 A:

"My *ib* of my mother, my *ib* of my mother,
my heart (*ḥ3ty*) that I had on earth."¹⁴

BD Ch.182:

"May your *ib* be at its (proper) station,
may your heart (*ḥ3ty*) be as it was before"¹⁵

When a text alludes to vivifying and keeping alive the heart of a person after his/her death, again the preferred term for directly referring to the physical heart is *ḥ3ty*. For example, CT Sp.80:

"It is Geb who lives and lifts up my (Atum's) *ib*,
he revives (*s^cnh*) my heart (*ḥ3ty*)."¹⁶

BD Ch.182:

"I (Thoth) cause him (Re) to enter into the secret cavern in order to vivify (*s^cnh*) the heart (*h3ty*) of the Still-hearted One (*wrd-ib*), the Holy *b3* (*b3-dsr*) within the West (i.e. Osiris)."¹⁷

In conclusion, it seems certain that *h3ty* is used to denote the physical heart of an animal and of a human being. It denominates the heart when it is within the living body, the freshly excised heart of an animal at the time of its slaughter and the heart of the deceased left within the mummy to keep them alive in the hereafter. "Heart" is probably the most common and most important meaning of *h3ty*.

12.4 The larger anatomical meaning of *h3ty*

There is evidence that *h3ty* can also denote an entity larger than the heart alone, but exactly how big is this entity? If it is purely internal, is it restricted to the central compartment of the chest (the mediastinum) or does it also include the two lateral compartments of the chest containing the lungs? Is the *h3ty* the front part of the chest or breast, as some modern writers seem to believe, or could it even be the entire chest?

The *h3ty* is said to occupy a "seat" (*st*) in the body (as is the *ib*, see 12.10). For example, BD Ch.44:

"My neck (*wsrt*) is Re, my vision is cleared,
my heart is upon its seat (*iw h3ty=i hr st=f*),
my speech is known."¹⁸

Now, although *st* denominates a seat or throne, especially of divine beings such as a god, a deceased person or the King, it also means "a place" - a specific location. The phrases *hr st=f* and *m st=f*, literally "upon its seat" and "in its seat", effectively mean "in its proper place/position". Evidently, the *h3ty* occupies a very specific locus in the

body and some glosses in Pap.Ebers enable us to delineate the boundaries of this locus.

Ebers 855k contains the following statement: "his *h3ty* is upon its seat in the blood of the lungs (*h3ty=f hr st=f m snf nw sm3*)."¹⁰ Because the *h3ty* always includes the heart, the statement cannot mean that the seat of the *h3ty* is situated inside one or other of the lungs. *sm3* is usually translated as "lungs", meaning the two lungs, but in Chapter 13 it is shown that it actually denotes the whole respiratory tract as a single unit (*sm3* = trachea + 2 bronchi + 2 lungs).²⁰ The true meaning of this text is likely to be that the "seat" of the *h3ty* is in the middle of the chest surrounded by, or encased within, the structures of the respiratory tract.

Proof that the "seat of the *h3ty*" does not encompass the lungs themselves is found in the following glosses.²¹ Ebers 855p:

GLOSS: "As for, 'his *h3ty* is upon its seat'

EXPLANATION: it means that the edge of the *h3ty* is in his left half/side (of the body); it does not rise upwards or descend downwards for any reason, (but) holds steady in its seat

(*ir h3ty=f hr st=f wnn pw in °dt nt h3ty m gs=f i3by n pri.n=f r hrw n h3i.n=f r hrw m-° iht mn m st=f*)."

Ebers 855q:

GLOSS: "As for, 'his *h3ty*, it flutters greatly; the edge is below his left breast'

EXPLANATION: it means the making of a little descent downwards by his *h3ty*, then his illness is expanding

(*ir h3ty=f np3 °3 °dt hr mnd=f i3by irit nhy pw n h3it r hrw in h3ty=f sš.hr h3yt=f*)."

Ebers 855n:

GLOSS: "As for, 'dancing of the *h3ty*'

EXPLANATION: it means that it removes itself from his left

breast; then it rises up on its *mk3t* (and) it departs from its seat. It means that its edge is in the left side of his chest towards the junction with his shoulder

(*ir rwt nt h3ty*

*rww=f sw pw hr mnd=f i3by twn.hr=f hr mk3t=f rwi.hr=f m
st=f wnn °dt=f pw m šwt=f i3bt r dmd q°h=f).*"

These texts can be referring to only one thing, namely the position of the left edge of the heart within the chest as detected by palpating the apex beat. The apex beat is correctly stated to lie in the left side of the chest just below the breast. Ebers 855q describes downwards displacement and Ebers 855n upwards displacement (i.e. gross enlargement) of the heart. If the *h3ty* included the lungs then its edges would be at the far sides of the chest but because an "edge" (*°dt*) of the *h3ty* is readily detectable within the left "half" or "side" (*gs* and *šwt*) of the patient, the lateral limit of the *h3ty* must be the edge of the heart (and the mediastinum). Clearly, the "seat" of the *h3ty* in these glosses does not encompass the lungs. It is noteworthy that nearly every anatomical list and inventory which cites the *h3ty* also cites the lungs (*wf3* or *sm3*) as a separate entry. In all these texts too, *h3ty* cannot encompass the lungs.

In addition to possessing a seat, the *h3ty* (and also the *ib*, see 12.10) is stated to reside upon a *mk3t*. Ebers 855n says of the *h3ty*: "it removes itself from his left breast; then it rises up on its *mk3t* (and) it departs from its seat." A list on the Statue of Djedhor states:

"O cat, your *ib* is the *ib* of Khenty-khety, Lord of the

(L.E.) Athribite Nome, Chief of the Gods,

the one who keeps *ibw* and *h3tyw* upon their seats (*st*),

he has kept your *ib* upon its seat,

your *h3ty* upon its *mkt* (= *mk3t*)."²²

mkt/mk3t can simply mean "correct place" but, particularly

in anatomical and building contexts, it can also refer to specific structural elements. *mk3t* can denote a supporting substructure, that is a base, platform, pedestal or socle, or it can denote an upright support such as a pillar or column.²³ Thus, theoretically, the *mk3t* of the *h3ty* (or the *ib*) could be a horizontal platform under the heart (perhaps the diaphragm?) or it could be a vertical pillar supporting it (perhaps the sternum or spine?). In Chapter 14, it is demonstrated that, in human anatomical contexts, *mk3t* denotes vertical structures, specifically the thoracic spine but it can also refer to the sternum.

The interior of the chest is divided into three major compartments; the right and left lungs occupy the two lateral compartments and the heart in its pericardial envelope is the main occupant of the central compartment, which is called "the mediastinum". Within the mediastinum, the heart is physically separated from the thoracic spine by the great vessels and conduits of the chest - the aorta, vena cavae, pulmonary arteries, pulmonary veins, windpipe (trachea), main bronchi and the gullet (oesophagus) - all of which pass behind the heart. Logically, for the *h3ty* to be "upon its *mk3t*", that is to be supported by the pillar of the thoracic spine, the *h3ty* should comprise not only the heart but also all the structures that lie between the heart and the spine.

Concerning the current alternative translation for *h3ty* of "breast", it is not the mammae which is meant, but either the front part of the chest or the whole chest. The fact that there must be anatomical continuity between the *h3ty* and its *mk3t* (the thoracic spine) at the back of the chest, mitigates against an identification of the *h3ty* with the front part of the chest. Certainly, the anatomical lists do not support such an identification since several lists which

include *h3ty* also contain specific terms for the front of the chest, such as *šnbt* and *q3bt*.

Can *h3ty* denote the entire chest? Two variants of an entry in the anatomical list in the Book of Victory over Seth are pertinent to this inquiry:

- a. "Your neck (*wsrt* = posterior neck) is given to Nehebkau, he is The Determiner who does not turn himself around. He leads in the *n'y*-serpents to the place where you are (and) they bite at your *r3-ib*."
- b. "Your neck (*nḥbt* = post.neck) is given to *Nḥy* (Nehebkau), (he is) The God of Fate (*š3y*) whose determinations are not delayed.

He leads in the *hfy*-serpents to the place where you are (and) they bite at your *h3ty*."²⁴

As *r3-ib*, "the cave of the *ib*", denotes the entire thorax (see Chapter 11), these parallel texts infer that *h3ty* too might mean "the whole chest". However, the anatomical list in Pap.Vatican Magical cites *h3ty* immediately after *r3-ib* implying that, here at least, the terms are not synonymous. Ebers 855f is also instructive:

".... you discover it (the *h3ty*) is large (in that) something is round in his thorax (*r3-ib*) like the iris in the eye (*gmm=k sw wr shp iḥt m r3-ib=f mi sy m irt*)."²⁵

According to this text, the *h3ty* is located inside the *r3-ib* and therefore must be smaller than it. The purpose of citing *r3-ib* in parallel with *h3ty* in the Book of Victory over Seth is not entirely clear; it may simply be to communicate that the snakes are biting deep inside the person's chest rather than at its surface. It seems unlikely that *r3-ib* and *h3ty* are synonyms.

In all the lists and inventories of cuts of meat, *h3ty* is invariably found in the company of other anatomical terms which denominate specific parts of the chest - *šnbt* (front of the chest), *q3bt* (sternum) and *wf3/sm3* (lungs) have

already been mentioned but there are others too such as *psd* (back of the chest), *drww* (sides of the chest) and so forth. Almost certainly, *h3ty* does not denote the whole chest in these catalogues but an entity of more limited extent, probably the heart *per se*. Indeed, I have found no text which contains convincing evidence that *h3ty* might also mean "the whole chest".

To conclude, in addition to the heart, *h3ty* can denote the whole mediastinum but does not appear to encompass the lungs within the lateral compartments of the chest. The broader anatomical meaning for *h3ty* cannot be definitively characterised however, without paying due attention to the physiological roles played by the *h3ty*.

12.5 *h3ty* in the medical texts :

the physiological functions of the *h3ty*

In view of the usual identification of *h3ty* with the heart, it may seem self-evident to say that one of the major functions of the *h3ty* is to supply all the bodily parts with blood but the Egyptians had some interesting perceptions about the circulatory system which are worthy of closer scrutiny.

Ebers 854 is a series of statements about the physiology of the *h3ty* and, in particular, about the identity and functions of some of the *mtw* of the *h3ty*. *mtw* is usually translated "vessels" but this implies that they are blood vessels which is not always the case. *mtw* really refers to the entire spectrum of anatomical conduits and chambers, and so a more general translation such as "conduits" seems preferable to "vessels". Ebers 854 reads:
HEADING: "Here begins the secret of the *swnw*-physician;
knowledge of the actions (*šmt*) of the *h3ty* (and)
knowledge of the *h3ty* (itself).

Ebers 854a: There are conduits from it to every bodily part. As for these, upon which any *swnw*-physician, any *w^cb*-priest of Sakhmet, any *s3w*-magician places the hands (*wy*) and his fingers (*db^cw*) -- upon the head (*tp*), upon the back of the head (*mkh3*), upon the hands/wrists (*drt_y*), upon the heart (*st-ib* = heart, see 12.10), upon the arms (*wy*), upon the legs (*rdwy {nb}*) -- then he measures the *h3ty* because its conduits belong to each of his bodily parts, that is, it (the *h3ty*) speaks within the conduits of each bodily part."²⁶

The conduits that the physician is palpating here probably are blood vessels, specifically, the arteries. The *h3ty* "speaking" within the conduits may refer to the palpable pulsebeat in the arteries and the sites mentioned seem likely to be places in the body where arterial pulses can be felt.

The gloss Ebers 855e is on a similar theme:

GLOSS: "As for, 'faintness of the *ib*'

EXPLANATION: it means that the *h3ty* does not speak, or, that the conduits of the *h3ty* are dumb; their (the conduits') expressions which (normally) come about because of the air with which they fill, do not exist beneath your two hands (*ir ^cmd-ib tm mdt h3ty pw mtw r3-pw n h3ty inb3 n wnt šs3w=sn hr drty=ky hpr_r m-^c t3w mh im=sn*)."²⁷

The *mtw* of the *h3ty* are said to fill with "air" (*t3w*) and so, at first sight, the *mtw* in question might be thought to be air passages. In fact, Ebers 855e probably also describes palpation of the arterial pulses by the physician in which case the statements about the *h3ty* not speaking and its conduits being "dumb" will be idiomatic allusions to the impalpability of the arterial pulses. If *h3ty* truly denotes the heart and *mtw* the arteries, then *t3w* cannot literally mean "air" since neither the heart nor the arteries contain, transmit or "fill" with air. *t3w* "air", in this gloss, is effectively a metaphor for *snf* "blood" and this introduces

an interesting set of beliefs about the functions of the *h3ty*. It is extremely unlikely that the Egyptians believed that arteries (the palpable *mtw* of the *h3ty*) are filled with air but Ebers 855e raises the possibility that they appreciated the fact that blood vessels, in particular arteries, carry the life-giving properties of air.

Ebers 856 is another series of statements about the *mtw* of the *h3ty* and it is introduced by Ebers 856b:

"As for a man.... There are {12}<22> conduits in him belonging to his *h3ty*. It is they which supply (air) to all his bodily parts (*ir si iw mtw {12}<22> im=f n h3ty=f ntsn dd n °wt=f nbt*)."²⁸

The impression gained when one peruses the entire series is that the *mtw* of the *h3ty* under discussion are all blood vessels. This text has a parallel, Berlin 163b, which reveals that the unnamed substance in Ebers 856b which these blood vessels supply to the bodily parts is, once again, "air" (*t3w*).

t3w occurs in other statements in the Ebers 854 series. Ebers 854l: "There are four conduits to the liver. It is they which supply fluid and air to it (and they) which subsequently cause the occurrence of all types of illness in it by means of engorgement with blood

(*iw mtw 4 n mist ntsn dd n=s mw t3w nty m-ht dd hpr h3yt nbt r=s m ibh hr snf*)."²⁹

In fact, no anatomical conduit supplies air to the liver.

Ebers 854m: "There are four conduits to the lungs/respiratory tract (and) to the spleen. It is they which supply fluid and air to it (the respective organ) likewise

(*iw mtw 4 n sm3 n nnšm ntsn dd mw t3w n=f my*)."³⁰

The spleen does not receive air via any anatomical conduit.

Ebers 854f: "There are four conduits to his two ears together with two conduits {upon}<to> his right *q°h*, two

to his left $q^{\circ}h$.

The air/breath of life (or, of a living person) enters into the right ear, the air/breath of death (or, of a dead person) enters into the left ear (*iw mtw 4 n msdr=f 2 hn^c mt 2 {hr}<n> q^ch=f wnmy 2 n q^ch=f i3by^c q t3w n^cnh m msdr wnmy^c q t3w n mt m msdr i3by*)."³¹

The anatomical conduits leading to (or from) the ears are the external auditory canals, the eustachian tubes, the carotid arteries and the jugular veins. $q^{\circ}h$ denotes the arm generally or the shoulder specifically and the *mtw* to the ear in Ebers 854f are almost certainly the blood vessels because these do indeed arise from the major innominate vessels in the upper chest which also supply the arms. The four *mtw* may specifically be the carotid arteries - of which there are two on each side, the right and left internal and external carotid arteries - because these travel to the ears whereas the jugular veins come away from the ears. Here again, *t3w* "air" or "breath" is being transported to a bodily part via the blood vessels.

In all these physiological statements, *t3w* cannot literally mean "air" but must refer to the life-giving properties of air in the blood that is pumped by the $h3ty$ through the blood vessels to the rest of the body. Other texts imply that the $h3ty$ may also be directly involved in the initial process of inhalation of air into the body.

In its complete form, Berlin 163b reads:

"The nature of Mankind and any ailment which has come into being in him. His head possesses 22 conduits in it; they pull/draw air to his $h3ty$. It is they which supply air to all his bodily parts (*s^vmt rmt mr nbt hprw im=f iw tp=f hry mtw 22 im=f ithw=sn t3w r h3ty=f ntsn dd t3w n {^cwy=fy}<^cwt=f> nbt*)."³²

Ebers 855a reads:

GLOSS: "As for, 'the air which enters through the nose'

EXPLANATION: it enters into the *h3ty* and the lungs/respiratory tract. It is they which supply (air) to the entire torso (*ir t3w °q m fnd °q=f m h3ty hn° sm3 ntsn dd n ht tm*)."³³

Although Berlin 163b is somewhat corrupt, the general meaning of these two texts is clear; they are stating that anatomical passages in the head draw air into the body and transmit it to the *h3ty* in the chest which then distributes it, or rather its life-giving properties, to the rest of the body undoubtedly via the *mtw* of the *h3ty*. However, if *h3ty* denotes the heart, Berlin 163b and Ebers 855a seem to be stating that inhaled air enters the heart. When air enters the chest via the windpipe (trachea), it is anatomically impossible for it to enter the heart.

There are two possible ways of explaining this description in Berlin 163b and Ebers 855a. The first is that the *h3ty* is indeed the heart *per se* and the *t3w* which enters into it is not air but the life-giving properties of air. The second is that *h3ty* does not denote the heart but has its broader meaning of "mediastinum" in which case air could physically enter into the *h3ty*, via the trachea. The second option must be favoured because Ebers 855a stipulates that the air "enters into the *h3ty* and (*hn°*) the lungs". If it had stated that it "enters into the lungs and the *h3ty*", the first option might have been preferred.

An entry in an anatomical list on the Metternich Stela also implies that the *h3ty* includes the trachea and is directly involved in the inhalation of air:

"O cat, your *h3ty* is the *h3ty* of Thoth, Lord of Maat, he has given you air to let your windpipe (*htyt*) breathe, (he has) supplied air to its inside."³⁴

Since the heart itself does not receive inhaled air, the specific association between the *h3ty*, the provision of air,

and the windpipe (trachea) (*ḥtyt*) in this text suggests that *ḥ3ty* may have its broader meaning of "mediastinum" here too.

We may summarise Egyptian perceptions of the role played by the *ḥ3ty* in the functioning of the cardio-respiratory and cardio-vascular systems as follows. When air (*t3w*) is drawn into the mediastinum (*ḥ3ty*) and the lungs (*sm3*), its life-giving properties (*t3w*) pass into the blood. The blood then enters the heart (*ḥ3ty*) which pumps it through blood vessels (*mtw* of the *ḥ3ty*) to the rest of the body. The "expressions" (*šs3w*) of the conduits of the *ḥ3ty* are the palpable pulsations of the arteries which are filled with this *t3w*.

Some texts appear to concern the gullet (oesophagus) and its functions rather than the heart and its activities. Ebers 855c reads:

GLOSS: "As for, '*šs* (?) of the *ib* (*šs-ib*)'

EXPLANATION: the conduit whose name is "Receiver" causes it;

it is the one which supplies water/fluid to the *ḥ3ty*

(*ir šs-ib in mt šspw rn=f irr st ntf dd mw n ḥ3ty*)."³⁵

The heart does not have water delivered to it by any anatomical conduit; the only fluid which travels to the heart is blood in the blood vessels. If *mw* here does not mean "water" literally but fluid generally, then it could be referring to blood. In this circumstance, *ḥ3ty* would denote the heart and "Receiver" would be the name of one of the major veins returning blood to the heart. The fact that there is apparently only one conduit which supplies fluid to the *ḥ3ty* mitigates against this interpretation however, because not just one but at least four major veins transport blood to the heart.

If *mw* does indeed mean "water" then *ḥ3ty* must have its broader meaning and "Receiver" would be the gullet (oesophagus) which transports ingested water into the mediastinum (*ḥ3ty*). "Receiver" seems a rather appropriate

name for this anatomical tube since the oesophagus receives/accepts/takes up into the body everything that a person swallows.

Berlin 154 records the following symptom:

"he tastes (*dp*) his *h3ty* which is *igp* in the manner of a man who has eaten unripe sycamore figs."³⁶

The precise meaning of *igp* is uncertain. It can mean "to be overcast", "to pour down" or "to soar cloudward".³⁷ Unripe (unnotched) sycamore figs are probably either a powerful emetic or a cathartic; but since the text specifies that the patient is "tasting" (his *h3ty*), he is probably vomiting rather than suffering diarrhoea.³⁸ If this is so, what he is tasting is probably acid or bile which has "poured out" or "soared cloudward" from the stomach, through the mediastinum (*h3ty*) (via the oesophagus), thence out through the mouth as vomitus, leaving behind the characteristic bitter taste in the mouth. A person cannot literally "taste his heart"; *h3ty* probably does not denote the heart alone in Berlin 154 but also encompasses the oesophagus in which case *h3ty* will have its broader meaning of "mediastinum".

As well as being associated with the oesophagus, the *h3ty* evidently has an intimate connection with the other end of the gastro-intestinal tract. Ebers 855g reads:

GLOSS: "As for, 'his *ib*, it spreads itself out'

EXPLANATION: it means that the conduits of the *h3ty*

contain faeces (*ir ib=f sš=f wnn mtw pw n h3ty hr hs*)."³⁹ At first sight, this gloss is somewhat obscure. The last sentence cannot mean "the vessels of the heart contain faeces" because, anatomically speaking, it is practically impossible for the heart or the blood vessels to contain or to be contaminated with faecal material. Other possible interpretations include the following: (a) *h3ty* denotes the heart, its *mtw* are the blood vessels and *hs* does not denote faeces but faecal substances which enter the blood from the

bowel and thereby cause illnesses; (b) *h3ty* denotes the mediastinum, *mtw* refers to the gullet (oesophagus) and *hs* does not mean "faeces" but "intestinal contents" in which case Ebers 855g may be describing the reflux of gastric contents back up into the oesophagus. A major flaw with this interpretation is that the gloss alludes to "conduits" plural. The oesophagus is, of course, only a single conduit; (c) *h3ty* does not denote the heart but a larger entity, its *mtw* are the bowels and *hs* means "faeces". In this case, the gloss can be taken quite literally and is merely describing the general lack of well-being that accompanies overloading of the bowels with faeces. This interpretation is the most plausible one. Apparently, the distal parts of the colon are counted amongst the *mtw* of the *h3ty*.

In Ebers 856h too, it is excretory products in the pelvic region, which perforce means in the colon, which are blamed for the onset of illnesses.

"All (conduits) return to his *h3ty*, (they) branch (leading) to his nostril, all unite (leading) to his pelvic region. Ailments of the pelvic region arise because of them; it is excretory products which determine the onset (of illness); it is the conduits of the lower legs which start to die (*iw iwi r-3w n h3ty=f iw psš n šrt=f dmd r-3w n phwy=fy hpr mrw phwy m-c=sn in wsšt sšm iwit in mtw n rdwy š3c mt*)."⁴⁰

It is noteworthy that a condition in one type of conduit of the *h3ty*, the bowel, is held responsible for causing illness in other conduits of the *h3ty*, the blood vessels in the lower legs. This highlights the belief that all the conduits of the body are interconnected and are all part of one system.

Ebers 854o further illustrates this belief:

"There are four conduits which open to the rectum. It is

they which enable fluid and gas to be produced from it.
 The rectum also opens to every conduit to the right half
 and left half (of the body) in the arms and in the legs
 when (it is) engorged with faeces (*iw mtw 4 wb3 n phwy
 ntsn dd qm3 n=s mw t3w iw grt phwy wb3=s n mt nb n gs
 wnmy gs i3by m wy m rdwy iw ibh m hs*)."⁴¹

The conduits in the arms and legs can only be the blood
 vessels and the gloss is stating that these blood vessels
 are adversely affected when the rectum is engorged with
 faeces.

In Ebers 855f, the *h3ty* itself is rendered ill by a
 symptom experienced in its conduit, the rectum:

GLOSS: "As for, 'disgust of the *ib* (*ft-ib*)'

EXPLANATION: it means that the *h3ty* is feeble as a result of
hh-heat of the rectum; you discover it (the *h3ty*) is
 large, (in that) something is round in his thorax like
 the iris in the eye (*ir ft-ib wgg h3ty pw m-c hh n phwy
 gmm=k sw wr shp iht m r3-ib=f mi sy m irt*)."⁴²

In conclusion, in the medical papyri, the *h3ty*
 undoubtedly can be the heart *per se* and the *mtw* of the *h3ty*
 can be the blood vessels, but this is not true for every
 occurrence of these terms. Several texts seem to pertain
 more to events occurring in the windpipe (inhalation of
 air), the gullet (vomiting) and the rectum (engorgement with
 faeces) than to cardiovascular matters. Clearly, the *h3ty*
 is greater than the heart alone in these texts. It probably
 comprises the entire central compartment of the chest but,
 in one particular sense, it can be considered to be even
 larger than this. Many statements in the three anatomical/
 physiological series, Ebers 854-856, imply that the *h3ty* is
 virtually indivisible from its conduits. All the anatomical
 conduits in the body belong to the *h3ty*, ultimately derive
 from the *h3ty*, function by virtue of the *h3ty* and hence, to
 a large degree, can be perceived as integral parts of the

larger *h3ty*. This may explain why *mtw*, which includes the blood vessels, does not appear in any of the anatomical lists. The *mtw* of the body may be subsumed under *h3ty*.

The *h3ty* is the powerhouse of the body; it is the source of energy and the moving force behind every bodily function. It draws air into the body via its conduits, the trachea and bronchial tubes. It takes up the life-giving property of this air into the blood and actively pulses it to every part of the body via its conduits, the blood vessels. It receives fluid and food into the body via its conduit, the oesophagus, and it eliminates waste products via its conduits, the urinary tract and the rectum. Because the Egyptians perceive all the body's conduits to be different extensions of the one entity, the *h3ty*, they believe that disorder in one branch of the *h3ty* (such as constipation in the rectum) can lead to disorder in other branches (for example, the blood vessels of the arms and legs) or even to disorder of the *h3ty* itself and the entire system.

Only when account has been taken of the pivotal role of the *h3ty* in the physiological functioning of the entire body can the anatomical parameters of this fascinating bodily entity be precisely defined and fully understood. The larger *h3ty* is the mediastinum but its *mtw* reach out from the mediastinum, like tentacles, into every corner of the body.

12.6 *h3ty* as the psyche

In the Pyramid Texts, *ib* is preferentially used to refer to mental phenomena. There are only a few spells in which *h3ty* appears to be referring to modalities of the mind, such as emotions, rather than to the physical heart. In PYR Sp.648, *h3ty* means something like "affection":

"O Osiris the King, Horus has placed you in the hearts
(*h3tyw*) of the gods, he has caused you to take possession
of all that is yours."⁴³

In PYR Sp.1442, the deceased addresses Re, the sun-god:

".... I will row you, I will escort you,
I will love you with my torso/body (*ht*),
I will love you with my heart (*h3ty*)."⁴⁴

PYR Sp.763:

"O King, may your *b3* stand among the gods and the spirits,
for it is fear of you which is on their hearts (*h3tyw*)."⁴⁵

PYR Sp.1039:

"Hearts (*ibw*) were pervaded with fear,
hearts (*h3tyw*) were pervaded with terror,
when I was born in the Abyss before the sky existed,
...."⁴⁶

Besides fear and terror, another emotion that is commonly
located within the heart (*h3ty*) is *šfšft*, which is usually
translated "awe" or "respect" (e.g. CT Spp.26, 817).

In Middle Kingdom texts, there is a dramatic increase
in the use of *h3ty* to refer to different emotions. Passages
from the Story of Sinuhe exemplify this usage.

Sinuhe, learning of the death of the King, says (B 38 ff.):

"When (it) was reported to me, my *ib* panicked,
my heart (*h3ty*) it was not in my torso/body (*ht*),
it carried me upon the road of flight"

Sinuhe confronting the champion of Retenu (B 131 ff.):

"I having placed myself in his vicinity,
every heart (*h3ty*) was burning for me,
the married women were jabbering,
every *ib* pained for me"⁴⁷

Many Coffin Text spells allude to psychological
parameters of the *h3ty*. In CT Sp.75, Shu declares:

"Your hearts (*h3tyw*) have spoken to me, you gods,
without anything issuing from your mouths,"⁴⁸

CT Sp.112 is entitled, "Spell for not letting a man's *ib* sit down against him (in the netherworld)" and states:

"I present to you sand from *R3-Hmnnw*,
and this heart (*h3ty*) of mine has not forsaken me."

The title of the following spell, CT Sp.113, is:

"Preventing a man's heart (*h3ty*) from contending against him in the realm of the dead."⁴⁹

In CT Sp.715, the deceased addresses his judges as follows:

"Hail to you, Lords [of Eternity, founders of] Everlasting
Do not reject/turn against (*rq*) my *ib*,
do not accuse/reproach (*db^c*) my heart (*h3ty*)."⁵⁰

In CT Sp.946, the deceased says of his funerary priests:

"They will bring me [what I] desire
and what my heart (*h3ty*) requests;"⁵¹

Other texts which illustrate various psychological parameters of the *h3ty* include the following. An incantation against an illness in a child or a man reads:

"O, the ropes are gone from his face!
Do not permit this *ib*, this heart (*h3ty*) of mine,
to be fearful/apprehensive (*hw^c*)"⁵²

Paheri requests invocation-offerings from a tomb-visitor:

"A pleasant and enjoyable speech,
the heart (*h3ty*) does not tire from hearing it,
the air of the mouth, it is not consumed"⁵³

Amenmose eulogises Osiris:

"He gives it (satiety) in all lands, everyone is glad,
hearts (*ibw*) are content (*ndm*),
hearts (*h3tyw*) are joyful (*rs*),
every face is exultant"⁵⁴

Anhurrose declares to Osiris at the Judgement of the Dead:

"my *ib* holds the truth,
my heart (*h3ty*), there is no lie within it."⁵⁵



In a spell against venom, the magician incants:

"You shall not take a stand in his tooth;

his heart (*h3ty*), if it is well-disposed, it is Horus,
if it is troubled (*qsn*), it is Seth"⁵⁶

Thus, the *h3ty* can be the seat of contentment, pleasure, love, respect and truthfulness as well as fear, anxiety and discomfort. The *h3ty* can also hear the spoken word and respond in like manner; it is able to be accused or reproached and it can make requests. The *h3ty* is able to forsake its owner and to testify against him. Other texts could be cited to enlarge this inventory but suffice to say that many of the mental functions and states that are usually attributed to the *ib* can also be ascribed to the *h3ty*.

12.7 *ib* as the physical heart

In a few butchery scenes, the heart which is "drawn forth" (*šdi*) from the carcass is not designated by the word *h3ty* in the accompanying text but by the heart sign  alone.⁵⁷ If this is a writing of *ib* then these texts are examples of *ib* designating the physical heart. It is possible however, that in butchery contexts,  alone may be an abbreviated writing of *h3ty*.

Some of the many funerary spells which allude to cutting out the heart have variant versions in which it is not the *h3ty* which is cut out but the *ib*. CT Sp.229 reads:
".... the food which is at my mouth will not be taken away,
my heart (*ib* var. *h3ty*) will not be cut out (*sni*),
my *b3* will spend the night watching over my corpse, ..." ⁵⁸

A few other spells employing the word *ib* seem to be describing the physical removal of the heart. BD Ch.9:
"I have come that I may see my father Osiris
and that I may cut out (*hsq*) the heart (*ib*) of Seth
who has harmed my father Osiris." ⁵⁹

BD Ch.78:

"may I come forth to Busiris and go all over his mansion,
may I tell him the affairs of the son whom he loves,
while the heart (*ib*) of Seth is cut out (*isp*)."⁸⁰

BD Ch.71:

"O you 7 knots, horizontal arms (*rmnwy*) of the balance
on that night of setting the *wd3*-Eye in order,
who cut off heads, who sever necks (*nhbwt*),
who carry off hearts (*ibw*), who snatch hearts (*h3tyw*),
who make a slaughter in the Island of Fire:"⁸¹

Rarely, a text will refer to activities of the *ib* in terms which are more appropriate for describing the physical heart than the psyche. For example, PYR Sp.1615:

"O Geb, son of Shu, this is Osiris the King;
may your mother's heart (*ib*) quiver (*3gbgb*) over you
in your name of Geb,

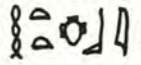
for you are the eldest son of Shu, his first-born."⁸²
Ebers 207 concerns an illness in the chest (*r3-ib*). The clinical description section reads:

"If you examine a man having an accumulation (*yn^c*);
his *ib* flutters (*c^w*), his face/surface (*hr*) is pale,
his *ib* thumps (*iw ib=f iri=f dbdb*).

If you examine him and you find his *ib* is hot (*t3*) and
his torso/belly distended (*stn*) ..."⁸³


Here, the *ib* appears to be a physical entity in the torso which is subjectively "fluttering" and "thumping" and is objectively "hot" (?).

An anatomical term compounded with *ib*, *htt-ib* or *ht(y)t-ib*, occurs in PYR Sp.426:

"O *Ss3w*, rain! that the serpent may become feeble
and that my *htt-ib* () may be clear/cleansed (*twr*),
..(*ih^ti ibnw*).. the lion is endangered (?) in the water
and this my *htt-ib* is lengthened."⁸⁴

Sethe states that the appearance here of the phonogram *b*

before the possessive pronoun *i* is quite typical for *ib*. Its presence proves that this really is the compound term *htt-ib* and not simply *htt* with a heart determinative.⁶⁵ Faulkner translates *htt-ib=i* as "the throat of my heart", which is not readily comprehensible, but in a footnote he identifies *htt-ib* with the windpipe (trachea).⁶⁶ However, it may denote more than this. If the trachea alone is intended in this spell, why is *htt-ib* written and not simply *htt/htyt*, without *ib*?

The trachea extends downwards from the throat and terminates at the central point of the chest behind the top of the heart, where it divides into the two main bronchi. *htt-ib* may denote a rather unusual anatomical entity, namely the trachea with the heart attached at the bottom of it. The notion that this may have been perceived to be a logical anatomical unit is supported by two other factors. The first is the common hieroglyph  (the phonogram *nfr*) which Gardiner says depicts "heart and windpipe".⁶⁷ The second is that in butchery and embalming practices, the lungs are excised separately thus isolating the trachea from the rest of the respiratory tract but leaving it attached to structures in the mediastinum, particularly the heart. In short, if *htt-ib* does denote the windpipe and the heart as an anatomical unit, then the term is an instance of *ib* referring to the physical heart.

To conclude, the evidence that *ib* is used to designate the physical heart certainly exists but, in comparison with the great volume of material supporting an identification of *h3ty* with the heart, the evidence for *ib* is very meagre.

12.8 *ib* as the psyche or "self"

It has long been appreciated that *ib* includes the totality of mental functions within the compass of its

meaning. In Freudian terms, the *ib* is all of the id (basic drives), ego (conscious mentation, will) and superego (conscience, social functioning) of a person. It is the source of one's personality and so is different in every individual. The preceding sections of this chapter contain many statements which illustrate different aspects of the *ib* as psyche. It is not really necessary to amplify this evidence with further examples here.

Only in relatively recent times has it become an accepted fact that all mental activity occurs within the brain and that body actions are mediated by the nervous system. The ancient Egyptians associated mental activity not with the brain but with the heart and so they located the *ib* not within the head but within the torso (see 12.10). The English language possesses an impressive legacy of idioms which demonstrate that we continue to attribute all manner of psychological parameters, especially emotions, to the heart. For example; "he is a heartless fellow", "she put her heart and soul into it", "Oh, have a heart!", "my heartfelt thanks", "a heart-to-heart discussion", "I'm heartened to hear it", "you may have whatever your heart desires", "I didn't have the heart to tell him", etc. etc.

A vast number of non-anatomical terms are compounded from the word *ib* and nearly all of them are idiomatic expressions for aspects of the human psyche or personality. For example; *imy-ib* "one who is in the *ib*" is a confidant or trusted person, *mn-ib* "enduring of *ib*" expresses persistence, *hnš^v-ib* "stinking of *ib*" describes uncontrolled anger. Although *ib* occasionally denotes a physical object, namely the heart, in the vast majority of instances it denotes a non-physical entity. The *ib* normally resides within the body but is semi-independent of it. It is the abstract entity which we might variously label one's "intellect", "personality" or "mind".

This entity was personified and so, in many respects, the *ib* is the person him/herself. At the Judgement of the Dead before Osiris, the *ib* of the deceased is weighed against the feather of Maat. It is important to realise that it is not the deceased's physical heart which is weighed and tested against the feather of truth but his psyche/spirit/character, his "person" or "self". In a text referring to his own judgement, Anhurmoose does not state that his *ib* was weighed, but that he was weighed before Osiris:

"Maat sits in front of you judging the hearts (*ibw*).

I have been weighed before you."⁶⁸

A phenomenon of some interest is that the *ib* was not only personified but was sometimes considered to be a deity. For example, a text on the statue of *Nb-ntrw* from the time of Osorkon II directly declares, "the *ib* is a god".⁶⁹ Another text states that "the *ib* of a man is his own god (*ntr ds=f*)".⁷⁰ In the anatomical list in the Litany of the Sun, the *ib* is identified with Horus and this is echoed in other texts such as BD Ch.29A: "I am Horus who is in *ibw*, he who is amidst what is in the torso (*hry-ib imy-ht*)"⁷¹

Horus is the subject of many magico-medical healing spells in which he plays the role of the injured or ill party. Because Horus is the divine archetype of persons still living on earth, a sick person identifies himself with this god and, just as Horus is cured in the spell, so the sick person over whom the spell is uttered will recover too. It is very likely that all the abovementioned phenomena are closely related; viz. that the *ib* is a person's "self" (*ib* = the person him/herself), that the *ib* is a god, that the *ib* is identified with Horus, that a living person is identified with Horus. The corollary of such a schema is that each individual is inhabited by a deity or semi-divine being.

namely his/her own personality or *ib*. The ancient Egyptians probably did hold this belief.

12.9 *ib* in the medical texts

Ebers 207, quoted above (12.7), is the only context in the medical texts for which a convincing case can be made that *ib* is referring to the physical heart. In all other instances, it is likely that *ib* does not denote an anatomical entity at all, but rather "the self" or "psyche". This conclusion is supported by the fact, to which Long draws attention, that it is only the *ḥ3ty*, never the *ib*, which is linked with the conduits/vessels (*mtw*) of the body and specified to be their source or destination.⁷²

Ebers 855i is a good example of a person's *ib* representing the person him/herself. It reads, in part:

GLOSS: "Another explication

(for *ndḥdḥ-ib* 'dispersion of the *ib*')

EXPLANATION: it means that the *ib* overflows from the *ḥ3ty*;

it ascends and descends and when it has reached his neck region, his *ib* vomits (*ky dd ḥ3ḥ3 ib pw m ḥ3ty pri ḥ3i pḥ.n=f ṣ3t=f ib=f hr wi3t*)."⁷³

In the last sentence, the *ib* is stated to ascend and descend as a prelude to vomiting. It is plausible that this refers to the symptom of retching which often occurs immediately prior to vomiting. The final statement "his *ib* vomits" almost certainly does not mean "his heart vomits" but simply "he vomits".

There are other examples of this meaning for *ib*. A bracket of remedies in Pap.Ebers (nos.284-293) is headed by the following statement which is the title of Ebers 284: "Here begin the remedies for causing the *ib* to receive bread (*ḥ3ty-° m pḥrt nt rdit ṣsp ib t*).". Similarly, Hearst 50 is, "A remedy for causing the *ib* to receive bread."⁷⁴ Long

cites these remedies as proof that the *ib*, which he labels "the phrenic heart" (*coeur phrenique*), is an anatomical entity and plays a role in the digestion of food. He locates the *ib* in the epigastrium. This is the central compartment of the upper abdomen, the major occupant of which is the stomach.⁷⁵ But the heart cannot receive or take up bread. *ib* does not mean "heart", or "stomach", or "epigastrium" or even "mediastinum" in these texts, in fact, it probably does not have an anatomical meaning at all. Here again, *ib* denotes "the person", "the self". These titles really mean, "remedies for causing a person to receive (i.e. to accept) food", or, "remedies for enabling a person to receive (i.e. to absorb) food". Ebers 284-293 and Hearst 50 are almost certainly prescriptions for liquid tonics designed either to stimulate the appetite or to promote the digestion of food.

In 12.8 attention was drawn to the vast number of terms in non-medical texts which are compounded with *ib*, nearly all of which denominate aspects of the psyche or personality. The medical texts also contain many of these compounds for which the *ib* component is usually translated as "heart". Examples include *3q-ib* "perishing of the heart", *b^chi-ib* "inundation of the heart", *ft-ib* "disgust of the heart", *m3st-ib* "kneeling of the heart", *mht-ib* "forgetfulness of the heart".⁷⁶ A significant problem which attends these translations is that, because the terms occur in a medical context, they are liable to be too literally interpreted as describing some state of the physical heart. As such, they are largely incomprehensible.

Terms compounded with *ib* function exactly the same in the medical texts as in non-medical texts. It is not a clinical state of the heart that they are describing, but a state of mind or being; these terms denote subjective symptoms experienced by the patient. Egyptian perceptions

of the role played by illness in the genesis of mental/emotional states in the sufferer and, conversely, the importance of these mental states in characterising an illness and in determining treatment, have yet to be fully appraised and appreciated.

In the present day, the patient's subjective symptoms are very important, but relatively less so because our modern examination and testing techniques greatly supplement the information supplied by the patient. To a greater degree, an Egyptian physician depended upon what the patient was experiencing in order to determine what the problem might be and, above all, to make a decision about treatment. Egyptian therapeutics is based almost entirely upon the naming and treatment of the patient's symptoms. Only very rarely do they diagnose/name an illness.

In conclusion, it would appear that *ib* almost never denotes the heart *per se* in the medical texts. *h3ty* is by far the preferred term for the physical heart. *ib* nearly always refers to aspects of the psyche, especially to subjectively experienced symptoms, or to the person him/herself.

12.10 The location of the *ib*

Many texts locate the *ib* within the *ht*. For example, CT Sp.304 reads:

".... my *ib* is in my *ht*, my corpse is in the earth,
and I will not weep for it."??

CT Sp.765 states:

".... they (the gods) will extend their hands to you,
and they will set your *ib* in your *ht* for you."??

For contexts such as these, *ht* is usually translated as "body" which gives the impression that the texts are merely generally stating that the *ib* resides in the body. Another

common translation for *ht* is "belly" which results in a very different interpretation, viz. that the *ib* is located within the abdomen. However, in Chapter 9 it is shown that *ht* does not specifically denote the whole body or the belly at all. Its precise meaning is "torso/trunk".

Like the *h3ty*, the *ib* is often stated to occupy a "seat" (*st*) in the body. The following texts allude to the reunion of the spirit/psyche (*ib*) with the physical body after death and burial. PYR Sp.1892a reads:

"I (Horus) have brought your *ib* into your *ht* for you,
I have set it in/on its seat for you

(*ini.n(=i) n=k ib=k m ht=k di.n(=i) n=k sw m st=f*)."⁷⁹
BD Ch.151: "I (Qebehsenuf) bring your *ib* to you,

I set it upon its seat in your *ht* for you

(*ini(=i) n=k ib=k di=i n=k sw hr st=f m ht=k*)."⁸⁰
The significance of these passages is that the *ib* is not merely in the torso (*ht*) generally but occupies a very specific locus within it.

Ebers 854a (= Pap.Edwin Smith 1), quoted earlier (12.5), includes a *st-ib* within its list of sites in the body where an arterial pulse may be felt, as follows: the head (*tp*), the back of the head (*mkh3*), the hands/wrists (*drty*), the *st-ib*, the legs (*rdwy*). *st-ib* "the seat of the *ib*" is probably a true anatomical term denoting the precise locus of the *ib*. The arterial pulse sites appear to be arranged in a head-to-foot anatomical sequence in which case citing the *st-ib* between the arms and the legs is consistent with other texts which locate the *ib* within the torso. In the torso, the pulse most readily felt with the fingers is the apex beat of the heart in the left half/side of the chest. *st-ib* is likely to be the physical heart.

A text on the statue of *Nb-ntrw* sites the *ib* within the *r3-ib*; "the *ib* is a god whose shrine (*k3r*) is the *r3-ib*."⁸¹
In light of the current belief that *r3-ib* denotes the

stomach, this particular text seems to be asserting that the *ib* is an intra-gastric entity. Such an interpretation carries certain implications however, viz. that the Egyptians perceived the psyche to reside within the stomach. Stracmans concludes that the *ib* is identical with the stomach.⁸² Long declares that the *ib* must lie within the epigastrium at the top of the abdomen.⁸³ A serious difficulty with these hypotheses is that, if the *ib* is in the stomach, is identical with the stomach itself, is in the region of the stomach (the epigastrium) or is even within the abdomen at all, why is the word *ib* almost invariably written with the heart sign and not, for instance, with the image of a stomach?

Chapter 11 demonstrates that *r3-ib* actually denotes the thorax or chest.⁸⁴ Ebers 855f reveals that the *h3ty* is located inside the *r3-ib*: "... you discover it (the *h3ty*) is large (in that) something is round in his thorax (*r3-ib*) like the iris in the eye."⁸⁵ Ebers 855i indicates that the *ib* normally dwells inside the *h3ty*: "it means that the *ib* spreads out (*ht3*) from the *h3ty*" and, "it means that the *ib* overflows (*h3h3*) from the *h3ty*".⁸⁶ Thus, the *ib* would appear to be an entirely intra-thoracic entity. The *st-ib*, the precise locus of the *ib*, is probably the heart (*h3ty*) within the chest (*r3-ib*) within the torso (*ht*).


This may not be the whole story however. In previous sections, it has been shown that the heart is only the narrower meaning of *h3ty* and that it also has a broader compass, namely the mediastinum. Like the *h3ty*, the *ib* is said to be supported upon a *mk3t*. CT Sp.572 states:

"my *ib* is not ignorant of its seat (*st*),
it holds steady (*mn*) upon its *mk3t*."⁸⁷

CT Sp.657:

"O my *ib* raise (*tsi*) yourself upon your *mk3t*,
that you may recall what is in you;"⁸⁸

In all probability, the *mk3t* of the *ib* is identical with that of the *h3ty*; in other words, the *ib* too is supported by the thoracic spine and/or the sternum. This conclusion has the same implications as it had for *h3ty*, namely that the *ib* extends beyond the physical heart into the posterior mediastinum. The explanation section of Ebers 855i in its complete form reads: "it means that the *ib* overflows from the *h3ty*; it ascends and descends and when it has reached his neck region, his *ib* vomits." This suggests that the normal upper limit of the *ib* may be as high as the neck region.

The text on the Statue of *Nb-ntrw* declares that the *ib* is a god and that the *r3-ib*, the thorax, is his shrine. One expects a god to be seated at the centre of his shrine so the *ib* ought to be centrally situated within the thorax. *hry-ib* , is a general term which means "middle" (noun), "in the middle" and "in the midst of". A literal translation of *hry-ib* is "that which is upon the *ib*" and it is interesting that the Egyptians should have selected the word *ib* to represent the quintessential centre of an entity. If spatial centrality is an innate feature of the *ib*, then the *ib* should be located at the centre of the chest.

Anatomically speaking, the heart is not strictly a central structure but is eccentrically situated in the upper torso. If the *ib* is supported by the thoracic spine, extends as high as the neck region and is innately central, then the ambit of the *ib* may be identical with the anatomical field of the larger *h3ty*; that is, the *ib* may inhabit the whole central compartment of the chest and not just the heart.

Many of the texts quoted in this chapter highlight the very intimate link that exists between the *ib* and the *h3ty*. There is a vast quantity of other texts, such as the medical texts and the anatomical lists, which tell the same story.

A plausible scenario that accommodates their apparent identity as well as their obvious differences, is that the Egyptians perceived the abstract *ib* or "psyche" to dwell within the physical *h3ty*. The evidence presented in this section confirms that the true and only anatomical locus of the *ib* is indeed the *h3ty*. It may have exactly the same anatomical field and focus as the *h3ty*; in other words, the *ib* inhabits the whole central compartment of the chest but its most intense focus is the heart.

12.11 *h3ty* and *ib* in the anatomical lists

h3ty appears in the earliest of the lists which associate parts of the body with particular deities and is represented in most lists through to the Graeco-Roman era. Only once (Pap.Vatican Magical) is *h3ty* written with the flesh sign and it undoubtedly denotes the heart *per se* here. In one of the Metternich Stela lists (discussed in 12.5) *h3ty* appears to have the broader meaning of "mediastinum". In all other instances it is not possible to be certain which meaning for *h3ty* is intended, although the more limited meaning "heart" seems more likely.

Deities linked with the *h3ty* are: Bastet, Sakhmet, Nehebkau, Atum, Two Mighty Ones (*shmwty*), Khepri, Khepri (again), Atum, Thoth, Ptah, Sun-disc (*itn*), Re-Horakhty. The link with the solar goddesses Bastet and Sakhmet occurs only in the earliest lists (PYR Utts.539, 580). The connection with the Two Mighty Ones occurs in BD Ch.172;

"your *ib* is content (*ndm*) every day,




your *h3ty* is the work of the Two Mighty Ones (*shmwty*)"
That the two deities are Horus and Seth is implied by this statement (quoted previously) from Pap.Vatican Magical:

"His heart (*h3ty*), if it is well-disposed, it is Horus,
if it is troubled, it is Seth"⁸⁹

ḥ3ty is linked with Thoth or Ptah only in late lists (Metternich Stela, Statue of Djedhor, Socle Behague).

All other deities associated with the ḥ3ty are various forms of the creator sun-god Khepri-Re-Atum of Heliopolis. This association is interesting in view of the role played by heart scarabs in Egyptian funerary practices. The early morning form of the sun-god - the form he assumes at the moment of rebirth - is Khepri who is depicted as a scarab beetle, as a scarab-headed man or a man with a scarab beetle on top of his head. Heart scarabs having the shape of this beetle are commonly placed on or in the body of the deceased from New Kingdom times onwards. One of their functions is to ensure the preservation and revivification of the physical heart after death so that the deceased can be reborn to a new life, as is Khepri every day.⁹⁰

ḥ3ty is cited amongst the cuts of meat from a butchered animal on the Ramesseum and Golenischeff Onomastica and on both occasions it is written with the flesh sign, as it is in the list of bodily parts in Pap.BM 10321 (Paditwerisheru).⁹¹ Almost certainly, ḥ3ty denotes the heart *per se* in these three lists.

ib is absent from all but one of the inventories of the cuts of meat from a butchered animal. The exception is Ostrakon Gardiner 156 which includes both *ib*  1 (line 8) and ḥ3ty   (line 12). Because *ib* is accompanied by the explanatory gloss "Ruler of (or, tying together) the intestine (*mht*)", Gardiner surmises that *ib* here may denote the abdomen generally and ḥ3ty the physical heart.⁹² Because ḥ3ty is cited between the lungs (*wf3*) and the liver (*mist*), and despite the fact that it is written without the flesh sign whereas *ib* does carry it, Gardiner is probably right about ḥ3ty designating the heart on this ostrakon. His interpretation of *ib* in line 8 must be rejected however; a meaning of "whole abdomen" for *ib* is completely unattested

elsewhere and the whole abdomen is a very unlikely cut of meat from an animal. Since lines 9 and 16 already concern the stomach (*ˁfdt* and *mndr*), it seems unlikely that *ib* can be denoting this organ. I am at a loss to explain the entry "*ib* 1 - Ruler of the intestine".⁹³

ib is less common than *ḥ3ty* in the lists of bodily parts and their respective deities and first appears only in the New Kingdom. With one exception, every list which contains *ib* also includes *ḥ3ty* and the two terms are always immediately juxtaposed in the sequence.⁹⁴ Since it is highly unlikely that a list would cite the physical heart twice, Gardiner is probably correct in hypothesising that only *ḥ3ty* denotes the heart and that, despite the fact that it is appearing within an inventory of anatomical structures, *ib* denotes the psyche.⁹⁵ It is noteworthy in this regard that *ib* is never accompanied by the flesh sign in these lists.

The *ib* is associated with Montu, Horus-*swnn*, Horus, Ptah, Khenty-khetu and Khenty-khetu (again).⁹⁶ The only list in which *ib* appears alone, without *ḥ3ty*, is that contained in the Litany of the Sun and the deity with which the *ib* is identified is Horus-*swnn* (var. Horus). It is probably significant that the previous entry, *šnbt* "breast" or "chest" is identified with Khepri who, as we have seen, is usually linked with the *ḥ3ty* and the physical heart. It raises the possibility that the physical heart is subsumed within the entry *šnbt* in this list. In light of this, and because there is a conceptual nexus between the god Horus and the *ib* as "psyche" or "self" (discussed above, 12.8), even in this Litany of the Sun list, *ib* probably denotes the psyche rather than the physical heart.

On the Metternich Stela, the *ib* is identified with Ptah and on Socle Behague, the *ḥ3ty* is identified as "the guiding heart (*sšm-ib*) of Ptah". The fact that Ptah only becomes

associated with *ib* and *h3ty* in late lists is consistent with the notion that the "Memphite Theology", in which Ptah is the creator of the universe by means of his heart (mind) and tongue, is a later invention of Egyptian theologians. It is now believed to date from the Ramesside era.⁹⁷ A passage from this theological discourse is pertinent to the present discussion and to several other issues that have been raised in the course of this chapter:

"There came into being in the heart (*h3ty*) and there came into being in the tongue (*ns*), the form of Atum.

Twice great is Ptah who [gave life] to all the gods and their *k3*'s by means of this heart (*h3ty*) in which Horus came into being as Ptah, and by means of this tongue in which Thoth came into being as Ptah.


Thus came about the sovereignty of the heart (*ib*) and the tongue over all the bodily parts [in accordance with the teaching] that it (the *ib*) is Foremost One of every torso (*hnty ht nb*) and it (the tongue) is Foremost One of every mouth (*hnty r3 nb*), of all the gods and of all Mankind,etc."⁹⁸

The *ib* is described as the foremost entity of the torso (*hnty ht*) which complies with its identification with Khenty-khety (*Hnty-hnty*) in some anatomical lists. *ib* and *h3ty* are clearly interchangeable when denoting the mind and the mind/psyche is once again identified with Horus, although in this instance it is not the *ib* as mind but the *h3ty* as mind that is equated with this deity.

In summary, *h3ty* occurs in several inventories of cuts of meat where it probably designates the physical heart. *ib* only appears in one such inventory but its meaning there is totally unclear. Throughout Egyptian history, *h3ty* seems to denote the physical heart in the anatomical lists. *ib* is a late arrival to these lists and is nearly always accompanied by *h3ty*. It is implausible that both terms are designating exactly the same entity, viz. the physical heart. This

conclusion is supported by the fact that there is very little overlap between deities associated with the *ib* and those associated with the *h3ty*. Almost certainly, *ib* denotes the mind or psyche in the anatomical lists.

12.12 Summary and conclusion

There are two reasons why *h3ty* is nearly always written with the heart sign ; firstly, because it is the term most commonly employed to denote the physical heart (although it is not the only one) and secondly, because the heart is always the major component of the *h3ty* (but not necessarily the only one). The fact that *h3ty* denotes this discrete anatomical structure accounts for the occasional presence of the flesh sign in its writing. *h3ty* can also denote an entire anatomical region; the anatomical "field" of the *h3ty* apparently comprising the whole central compartment of the chest (the mediastinum). There can be no doubt however, that the anatomical "focus" of the *h3ty* - its true core - remains the largest and most important organ in that central compartment, the physical heart.

The general region encompassed by *h3ty* does not include the lungs or the front surface of the chest. For these reasons, the current alternative translations for *h3ty* of "chest" and "breast" are unsatisfactory. That *h3ty* should also denote the mediastinum makes sense because the heart with its attached vessels and adjacent conduits do constitute a logical anatomical unit. In embalming practices, for example, the heart and all the other structures of the mediastinum are left within the body as a unit. This is done so that the heart remains properly supported and fixed in position. During ritual butchery, the heart alone may be withdrawn first but, under ordinary circumstances, it would be easier and more convenient to remove the whole mediastinum of the animal as a unit.

· *h3ty* also denotes the psyche which means that each person apparently has not one but two entities which perform mental functions. It is important to note that, apart from the *ib* and the *h3ty*, the Egyptians credited no other bodily part (for example, the head or the brain) with this role. Attempts to differentiate specific psychic parameters associated with *ib* from those associated with *h3ty* are unconvincing.⁹⁹ Nevertheless, there are differences between *ib* and *h3ty* in respect of their non-anatomical aspects.

Unlike *ib*, *h3ty* is not used to refer to the whole person or "self" and the *h3ty* does not appear to be a deity, as is the *ib*. Another difference is that, whereas there are many terms compounded with *ib* nearly all of which denote a state of mind or being, there are no terms or phrases compounded using *h3ty* which serve the same purpose, at least not in the pharaonic era. It is only in the Coptic era, when the word *ib* has completely dropped out of use, that such compounds formed with *h3ty* make their appearance. For example, *iwty h3ty* (lit. "who has no heart") which means "mindless" or "senseless".¹⁰⁰

A glance through the texts quoted in this chapter reveals that, when *h3ty* refers to the psyche, it is usually closely juxtaposed with *ib* which is fulfilling exactly the same role. For example, the texts of Anhurmoise and the incantation from Pap.Ramesseum III: "My *ib* holds the truth, my *h3ty*, there is no lie within it" and, "Do not permit this *ib*, this *h3ty* of mine, to be fearful/apprehensive". These texts do not mean that a person's mental functions or emotions are performed by two different entities or centres of the mind. The juxtaposition is more likely to be a poetic/literary device that reflects the large degree of identity between the *h3ty* and the *ib*. What they are really saying is, "My *ib* holds the truth, my very heart, there is no lie within it" and "Do not permit this *ib*, this very

heart of mine, to be fearful/apprehensive". That is, they are simply elaborating the nature of the abstract entity, the *ib* or "psyche", by poetically linking it with its physical habitat, the *h3ty* or "heart".

In their articles on *ib* and *h3ty*, both Long and Stracmans conclude that the *ib* is anatomically distinct from the *h3ty*¹⁰¹ but the evidence assembled in this chapter suggests otherwise. The *ib* seems to be an entirely intra-thoracic entity which occupies exactly the same anatomical field and focus as the *h3ty*. In other words, the *ib* inhabits the entire central compartment of the chest and is most densely concentrated within the physical heart. Claims that the *ib* is an intra-abdominal entity, that it is located in the epigastrium and that it is identical with the stomach all appear to be erroneous.

In a vast majority of instances, and particularly when it is an element of a compound noun, *ib* refers to one or other aspect of the psyche such as sensations, feelings or thoughts. *ib* can also refer to the whole individual, not in the sense of their whole body, but of their "person" or "self". The reason why *ib* is sometimes written with the flesh sign is because it can denote the physical heart but an important reason for the usual absence of this sign could be because *ib* primarily denotes a non-anatomical entity.

The end result of all these deliberations is that the picture concerning *ib* and *h3ty* is really much simpler than has hitherto been believed. Because they occupy an absolutely identical locus in the body, in contexts pertaining to the heart as well as in contexts pertaining to the psyche, *h3ty* and *ib* are able to function as synonyms. However, to a great extent, the words *ib* and *h3ty* preserve their singularity or individuality. Only rarely does the former refer to the heart and only rarely does the latter refer to the psyche. *ib* and *h3ty* are not two names for

exactly the same entity but are the names of separate aspects of one entity - the abstract psyche dwelling within the physical heart (or mediastinum). The situation with respect to the *ib* and the *h3ty* may be likened to the statement, "I live in my body" which does not perforce mean that I and my body are the same thing.

How then are we to translate *h3ty* and *ib*? On most occasions, *h3ty* can safely be translated as "heart". It is only in certain technical contexts, such as some of the medical texts, that this translation will be unsuitable. When it is apparent that the broader meaning for *h3ty* is intended, the translations "central chest" or "mediastinum" are to be preferred over "chest" or "breast".

A source of great confusion surrounding *h3ty* and *ib* has been the fact that both terms are translated as "heart" within the same text. But, as we have seen, the *ib* is not really a bodily part at all. It is a non-corporeal entity which, although it normally dwells within the body, can also travel outside it when the person is in an altered state, such as a state of fear, sleep or death. The *ib* is actually one of a person's "transformations" or "states of being" (*hprw*) rather than one of his/her anatomical structures. As such, the *ib* should be classed along with the *b3*, *k3*, *šwt*, *3h* and so forth, rather than amongst the internal organs of the body. It has proved impossible to find English translations for the names of these various states of being which adequately communicate the complex and often ill-defined theological concepts which they embody. Because of such difficulties, scholars are increasingly opting to leave these names untranslated. Traditional translations, such as "soul" for *b3*, "double" for *k3*, "shade" for *šwt* and "spirit" for *3h*, are, quite rightly, losing favour. What is true of these other terms is equally true of *ib*; translations such as "psyche", "mind", "spirit", "self" and so on, fail to

encapsulate all the nuances of *ib*. Since the *ib* is but another one of these states of being, *ib* too should remain untranslated. This would solve a multitude of problems.

Because *ib* so infrequently denotes the physical heart, almost nothing is lost, and much is gained, by completely abandoning "heart" as a translation for *ib*. In regard to the many terms compounded with *ib*, there still remain two methods by which they can be translated. The first is to retain the literal and more idiomatic expression; for example, the symptom *m3st-ib* is no longer "kneeling of the heart" but "kneeling of the *ib*". The second method is to completely interpret the term on those rare occasions when this is possible; thus, *3wt-ib* is not "wide of heart" or "wide of *ib*", but "joy".

In contexts where *ib* refers to the "person" or "self", there is room for considerable latitude and flexibility. The phrase "causing the *ib* to receive food", for example, could be rendered "causing a person to receive food" or "causing someone to receive food". Faulkner translates a passage in CT Sp.1130 as:

"I will relate to you the two good deeds which my own heart (*ib=i ds=i*) did for me within the Coiled One in order that falsehood may be silenced."¹⁰²

If we eschew the word "heart", there are still several acceptable translations for the relevant phrase, such as, "which my own *ib* did for me", "which my *ib* itself did for me" or even, "which I myself did for me". When *ib* is accompanied by a suffix pronoun like this, it can often be completely ignored in the translation. For example, "his *ib* vomits" and "my *ib* is resolute" become simply, "he vomits" and "I am resolute".

Generally speaking however, the price for wide-scale elimination of *ib* from translations seems too high because one loses the idiomatic flavour of the ancient Egyptian

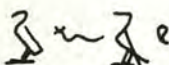
expressions as well as the insights into Egyptian thoughts and beliefs which these idioms provide. Hence, for a phrase such as *ndm ib=k*, the translation "your *ib* is content" is probably better than "you are content".

CHAPTER 13

sm3 

Findings :

1. "entire respiratory tract"
(trachea + bronchial tubes + 2 lungs)
2. any portion of respiratory tract

wf3 

1. "lungs" (both lungs together)
2. "lung" (one lung individually)







13.1 Introduction : semantic considerations



sm3 and *wf3* are both translated as "lungs" - meaning of course the two lungs of a person or animal. The impetus for a new assessment of these terms is to attempt to answer the following questions: (a) why are there two different words allegedly for the one (paired) anatomical entity, (b) if they denote a pair of organs, why is neither term written as a dual, (c) if *wf3* denotes the lungs, why is it completely absent from the medical papyri, (d) do *sm3* and *wf3* denote different entities?

Lefebvre states that both terms have the same meaning but that *wf3* became ascendent over *sm3* in the 18th Dynasty.¹ He implies that *sm3* is the earlier term and that *wf3* is a new word which came to replace it. Several observations seem to support this proposition: (a) *wf3* and *sm3* do not both appear in the same text, (b) in the different anatomical lists they occupy similar positions amongst the major internal organs of the torso, (c) from the New Kingdom onwards, in non-medical texts, *sm3* is sparsely attested and *wf3* is quite common. If Lefebvre is correct, the fact that *sm3* is well represented in the medical texts whereas *wf3* is absent would be testimony of the early origin (Second Intermediate Period or earlier) of the contents of these papyri. However, *sm3* persists in medical texts into the Ptolemaic Period (Pap. Rubensohn) which tends to cast doubt

upon Lefebvre's hypothesis. Another possible explanation is that *sm3* was the specialist term and *wf3* the commonplace term for the same structure.

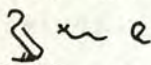
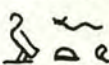
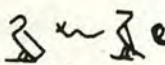

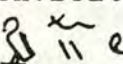
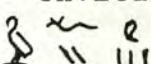
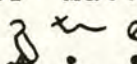

13.2 Lexicographical considerations

In the medical papyri *sm3* is written  or . Its early form in non-medical texts is  (*zm3*) (PYR Sp. 401, CT Sp.945) and later writings include  and  (Ostrakon Gardiner 155).  is Gardiner's sign F 36 and it portrays both lungs with the windpipe (trachea) attached. The lungs appear small in relation to the size of the trachea because, upon removal from the body, the lungs collapse to a much smaller volume than that which they occupy in a living animal or human being. There is a bar at the top of the sign which may represent the larynx or the cricoid cartilage at the upper extremity of the trachea.

sm3 is a masculine noun which seems never to have been written as a dual. Its various writings do not permit a conclusion as to whether it is a singular or a collective noun. However, the anatomical term *sm3* has obvious etymological links with the verb  *sm3* "to join together", "to unite" and with the noun  *sm3t* "union". From a purely etymological viewpoint, *sm3* ought to designate an entity comprised of two or more bodily parts joined together - *sm3* is probably a collective noun. If it does denote the lungs then it should be the two lungs joined together as a unit. The corollary of this conclusion is that, in addition to the lungs, *sm3* must encompass the two main bronchi (which join the lungs together) and probably the single trachea (from which the two main bronchi spring) as well.

As stated earlier, *wf3* does not occur at all in the medical papyri. Its writings in non-medical sources are

very diverse. Examples include:

			
Ch.Beatty VII-	Ch.Beatty VIII-	Mutter u.Kind-	Litany of Sun
			
Turin Mag. -	Vatican Mag. -	Golenischeff Onom. -	Pap.BM 10321

Unlike *sm3*, the hieroglyphs used to write *wf3* offer no clue as to the identity of the *wf3*. They are basic phonograms accompanied by the general flesh determinative *e*. If *wf3* designates the two lungs alone one might expect the word to be written occasionally with two flesh signs *e* or to be accompanied by a dual suffix pronoun. To my knowledge, there are no instances of such writings. The apparently plural forms amongst the writings given above and the employment of a plural/collective possessive article (*n3y=f*) with *wf3* in Pap.BM 10321 (Paditwerisheru) imply that *wf3* too is a collective noun. On purely lexicographical grounds, *wf3* ought to encompass more than one anatomical entity.

13.3 *sm3* in the medical texts

There are several glosses which mention the *sm3*. Ebers 855a reads:

GLOSS: "As for, 'the air which enters through the nose',

EXPLANATION: it enters into the central chest (*h3ty*) and the *sm3*. It is they which give to the entire torso (*ht*)."²

Ebers 855u:

GLOSS: "As for, 'perishing (*3q*) of the *ib* (and) forgetfulness (*mht*) of the *ib*',

EXPLANATION: it is the air/breath of the action of a lector-priest (? his uttering of magic spells) which produces it; it (the air/breath) enters into the *sm3* as an ailment (*sp*), the *ib* is distracted because of it."²

These glosses demonstrate that when air is drawn into the body through the nose it enters into the *sm3*. Therefore, the *sm3* must be one or more of the following structures:

pharynx (back of the mouth), larynx (voice box), trachea (windpipe), bronchial tubes, lungs.

Ebers 855d states;

GLOSS: "As for, '3d (?) which arises in the chest (*h3ty*)'.

EXPLANATION: it is its (*h3s*) (?) at the boundary of the *sm3* with the liver (*mist*)"⁴

This gloss is obscure but, nonetheless, unequivocally asserts that the *sm3* forms a boundary with the liver. In the list of respiratory tract structures given above it is only the lungs themselves which do this.

Case 34 in Pap.Edwin Smith concerns a dislocation of the medial heads of the collar-bones (clavicles). The accompanying Gloss A concludes with an anatomical description:

"Two conduits (*mt 2*) are under it (the dislocation), one on the right, (one) on the left, belonging to his windpipe (*htyt*) of his upper chest (*š3š3t*); they (the 2 conduits) lead to his *sm3*."⁵

The two conduits in the upper chest, one on the right side and the other on the left, which lead to the *sm3* can only be the right and the left main bronchus leading from the end of the trachea into each lung.

Ebers 855k reads;

GLOSS: "As for, 'the *ib* kneels',

EXPLANATION 1: it means that the *ib* is tied up, his heart (*h3ty*) is in its place (lit.upon its seat) in/with the blood of the *sm3* (*h3ty=f hr st=f m snfw nw sm3*), pettiness (*kt*) comes forth because of it.

EXPLANATION 2: it means that the chest/heart (*h3ty*) is burning (*t3*) and his *ib* becomes inert because of it; his appetite is poor and he chokes (*stp*)."⁶

In the first explanation "blood" is written uniquely as a plural, *snfw*, but the significance of this writing here is not readily discernible. Also obscure is the meaning of the

entire clause "the heart is in its place in (or with) the blood of the *sm3*".⁷ Despite these uncertainties, this gloss characterises the *sm3* as an organ which contains or carries blood, perhaps a lot of blood. The part of the respiratory tract which best fits such a characterisation is the lungs themselves.

An entry in a catalogue of the conduits (*mtw*) of the body also mentions the *sm3*. Ebers 854m reads;

"There are four conduits to the *sm3* (and) to the spleen (*nnšm*); it is they which give fluid and air to it likewise."⁸

Regrettably, by linking the *sm3* and spleen together within the one entry, the ancient author has rendered this passage incomprehensible. Since there are only two anatomical conduits attached to the spleen, namely the splenic artery and vein, the four *mtw* must pertain to both organs which means that two (or possibly three) to the *sm3* are under consideration. Because there are at least seven major anatomical conduits which serve the lungs (the trachea, bronchi, pulmonary arteries and pulmonary veins) it is impossible to determine which of these are being described in Ebers 854m.

Only a relatively small number of remedies in the medical papyri allude to the *sm3*. Ebers 35 = Ebers 185 is a recipe for a fermented drink to treat a complaint that is evidently characterised by intermittent fevers. Whereas Ebers 35 is located amidst remedies for the torso (*ht*), Ebers 185 occurs amongst remedies for treating the chest (*šnbt*). Their respective titles are, "Another (remedy) for driving out every type of ailment from the torso and treating the *sm3*" and, "Another (remedy) for treating the *šnbt*, driving out every type of ailment from the torso and treating the *sm3*".⁹ The only information conveyed by these

remedies is that the *sm3* is associated with both the torso and the chest and so may be situated within the latter.

Ebers 21, "Another (remedy) for treating (*srwh*) the *sm3*", is an oral remedy to be drunk which also falls between two remedies for treating complaints in the torso (*ht*).¹⁰ Of itself, Ebers 21 furnishes no information about the *sm3* but it is significant that this remedy is identical in every detail to Ebers 306 which is a remedy for driving out coughing.¹¹

Pap. Rubensohn (Berlin 10456) is entirely devoted to respiratory complaints. Three remedies refer to the *sm3*:
ln.9 "[A remedy for] driving out cough belonging to the *sm3*"

ln.12 "Another remedy for driving out cough from the chest (*šnbt*) (and) the *sm3*"

ln.16 "[....] driven out (from) the *sm3*".¹²

The first two remedies, like Ebers 21 above (through its parallelism with Ebers 306), link the symptom of coughing with the *sm3*. The ln.12 remedy, like Ebers 185 above, links the chest (*šnbt*) and the *sm3*. Although the lungs in the chest are the most obvious organ in the body in which to locate the symptom of cough, inflammation of the trachea (tracheitis) or of the larynx (laryngitis), without the lungs necessarily being involved in the disease process, can also produce this symptom. The prominent association of coughing with the *sm3* does not prove that *sm3* must denote the lungs alone. The possibility that the *sm3* includes the trachea is not precluded.

13.4 *sm3* in non-medical texts

sm3 occurs in only two of the lists that associate parts of the body with various deities. The list in CT Sp.945 includes the following sequence:, *h^em* (front of

employed in writing this word which does, after all, depict a trachea with the collapsed lungs attached.

CT Sp.1025 is a spell "for giving air to a man in the realm of the dead." The text is damaged but states;

"Re has put the north wind in order in the windpipe (*šbb*);

his *sm3* [....] he has given air to the *sm3*,

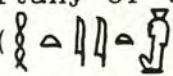
he has applied his hand to the *sm3* [....]." ¹⁷

Since the windpipe (trachea) has already been mentioned, *sm3* is unlikely to refer to it alone. In this spell for breathing, *sm3* must denote either the entire respiratory tract or the lungs alone.

13.5 *wf3* in non-medical texts

In contradistinction to *sm3*, *wf3* occurs in many of the anatomical lists. Significantly, the two terms do not both appear in any one list. *wf3* is invariably found in company with the major internal organs of the torso in these sequences and, along with them, is most commonly associated with the four Children of Horus. ¹⁸ There are three exceptions to this rule.

In Pap.Berlin 3027 *wf3* is identified with Min. ¹⁹ This association probably stems from a wordplay between *ⲙ* *sm3*, the particular symbol of Min, and *ⲙ* *sm3*, the other term for the lungs. In the list in Pap.Chester Beatty VIII, the relevant entry begins; "Your *wf3*, it is the *wf3* of He-whose-Shrine-is-Great (*ⲙ3-k3r=f*)". ²⁰ The identity of this deity is uncertain but the reference to the shrine in his epithet may be indicating that the *wf3* is also contained within a "shrine". In Chapter 11 it is shown that the thorax (*r3-ib*) is called the shrine (*k3r*) of the *ib* and it seems plausible that the *wf3* is being associated with the same shrine; that is, with the thorax/chest which is commensurate with an identification of *wf3* as the lungs.

In the Litany of the Sun, *wf3* is identified with the goddess *Htyt* ().²¹ This deity may be a form of Serget whose full name is *Srqt-htyt*. The name *Htyt* means "Breather" or "She-of-the-throat", an appropriate deity for the respiratory organs. *wf3* is a masculine term and, except in this particular list, it is associated with male deities.²² *htyt* is a feminine noun denoting the windpipe (trachea) in the throat and chest and *Htyt* should be the goddess who personifies this (feminine gender) bodily part. The identification of the *wf3* with *Htyt* in this list implies that the trachea is part of the *wf3*. This implication is nullified however by the inclusion of *htyt* as a separate bodily part earlier in the list, so *wf3* probably does denote only the lungs.²³


In other catalogues of bodily parts in Pap.Chester Beatty VIII and Pap.BM 10321 (Paditwerisheru), and in the lists of the cuts of meat from a butchered animal on Ostrakon Gardiner 156 and the Golenischeff Onomasticon, *wf3* also occurs together with the major internal organs of the torso.²⁴ These catalogues tend to support an identification of *wf3* with the lungs as does the linking together of *wf3* and the sides of the chest in another inventory of bodily parts contained within an incantation against *smn*-illness in Pap.Leiden I 343 + I 345. The spell reads, in part;

"O *smn*-illness, it is that which drinks you,
you that are submerged in the legs (*rdwy*) that walk,
in the, [in his] kidneys (*ggyt*) and heart (*h3ty*),
in his *wf3* and the sides of his chest (*drww*),
in his".²⁵

13.6 Summary and conclusion

The evidence presented in this chapter is neither exhaustive nor wholly conclusive but it does permit

provisional answers to be given for some of the questions posed in the introduction.

sm3 is a masculine collective noun which, as the hieroglyph  suggests, primarily denotes the entire respiratory tract comprising the trachea, bronchial tubes and the two lungs. This accounts for the absence of a dual form of writing for *sm3*. As with many of their anatomical concepts, it is likely that the Egyptians inherited this mode of perceiving and designating the respiratory organs from the practice of butchery. After an animal's trachea in the throat had been severed, the lungs and trachea may have been removed from the carcase as a unit.

This is not the only meaning of *sm3*, however. Although there is a separate word *htyt* which primarily denotes the trachea, Ostrakon Gardiner 155 (ln.5) demonstrates that *sm3* too can denote this structure. An interesting and unusual phenomenon seems to occur when this term is employed. Not only does *sm3* denote the respiratory tract as a whole but it can also be used to refer to constituent parts of that whole.

With *wf3* the situation is rather different. *wf3* is also a masculine collective noun but it seems to be more closely identified with the lungs themselves. The only text which hints that *wf3* might include the trachea is the Litany of the Sun in which the *wf3* is associated with the goddess *Htyt*. Upon closer examination, it becomes clear that such an interpretation for this association is invalid which means that, even in this text, *wf3* probably designates only the lungs. There is no firm evidence that *wf3* is also used to designate a single lung, although it seems plausible that it did so. On purely lexicographical grounds, one expects that *wf3* should also be able to designate the entire respiratory tract, as does *sm3*. The evidence assembled in this chapter does not permit a definite decision to be made

on this point however. The impression gained is that it does not.

If the present analysis of the meanings of *wf3* and *sm3* is correct, Lefebvre's explanation for the existence of two separate terms for the one anatomical entity can be expanded and its anomalies partially resolved. *sm3* is the earlier term and refers to the entire respiratory tract or to any part of it. *sm3* was probably originally employed in butchery contexts. Terms that specifically denote the trachea, namely *ḥtyt* and *šbb*, existed from an early date but a term which specifically denotes the other part of the respiratory tract, the lungs, namely *wf3*, did not come into use until the start of the New Kingdom Period.

The other hypothesis, that *sm3* may be a more specialised medical term and *wf3* a commonplace term for the lungs alone, appears to be incorrect. *sm3* and *wf3* do not possess exactly the same meaning and it is unlikely that the latter replaced the former. Both terms probably retained currency in both non-medical and medical contexts. *sm3* is likely to have been preferred over *wf3* in medical texts right down to the Ptolemaic Period for a good reason. Since respiratory complaints can affect the bronchial passageways, the lungs alone or both the bronchi and the lungs at the same time, employing the more encompassing term *sm3* in preference to the more restricted term *wf3* is seen to be quite logical.

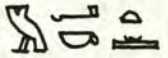

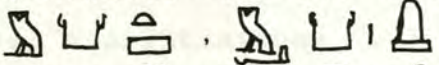
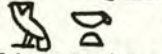
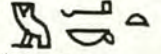
CHAPTER 14

mk3t 

Findings :

1. "support"
2. "anatomical pillar"
 - a. "thoracic spine"
 - b. "breast-bone" (sternum)

14.1 Introduction : semantic considerations






The word *mkt* () is a very general term which means "protection".¹ Another term *mkt* () means "correct position" or "proper station" and the authors of *Wb* understand it to be virtually synonymous with *st*, "seat" or "place".² A third term *mk3t* () which is frequently written *mkt* (e.g. , ) and which is probably related to the first two terms, denominates a structural support and is often translated simply as "support".

Because *mk3t* can refer to a horizontal support beneath an object - such as a pedestal, platform, socle, stela base, funerary bier and so forth - it is sometimes translated as "base".³ However, it is clear that *mk3t* can also denote a vertical support - for example, a temple column, a brick pillar and possibly also the supporting pillar found behind statues. Another translation for *mk3t* is "frame" and here the implication is that the support is not beneath or behind an object but surrounding it.⁴





In many anatomical contexts, and especially when it is written with the flesh determinative *Q*, *mk3t* seems not to be referring to a pillar or support in general but to a part of the anatomy in particular. Faulkner, for example, translates *mk3t* in certain funerary texts as "trunk", meaning the whole torso (see below).

Thus, there are still many unanswered questions concerning *mk3t*. Does it function solely as a general term and if so, does it primarily refer to horizontal or to vertical supports? Does it also have a specific meaning in anatomical contexts and if so, does it really denote the frame of the chest or the whole trunk as different authors imply? Although *mk3t* is not cited by any modern writer as a true anatomical term, there seems to be sufficient evidence to justify its being classified as such. The primary purpose of this chapter is to reveal the identity of the bodily part(s) that *mk3t* denotes.

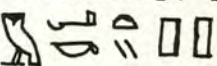
14.2 Lexicographical and general considerations

mk3t is a formation-in-*m* from the verb *k3i* which means "to carry", "to lift into being", "to produce/create by physical labour".⁵ A related term *k3wty* denotes a porter as well as a builder's labourer.⁶ The strong connection that *mk3t* has with lifting something into being and with the erection and construction of buildings is reflected in the following determinatives that accompany this word:  (stairway),  (upright stela on pedestal),  (brick),  (house),  (? pillar).


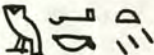



The last two determinatives occur in the dual in Pap. Edwin Smith Cases 4 and 7 dealing with serious head injuries. These references to a dual *mk3ty* enable us to discern the spatial configuration of a *mk3t*, specifically, whether it is a horizontal substructure or a vertical pillar. Case 4 (2.7) reads:

".... moor (him) at his mooring-stakes until the period of his injury passes. His treatment is sitting. Make for him two supports/pillars (*mk3ty*    ) of mud-brick (*dbt*) until you know that he has reached a decisive point."

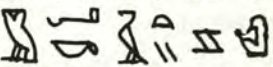
Case 7 (3.15) reads:

"His treatment is sitting, placed between two supports/
pillars (*mk3ty* ) of mud-brick until you know
that he has reached a decisive point."⁷

As Breasted points out, if the patient is sitting up, these supports must be pillars of mud-brick or adobe on either side of the trunk and reaching as high as the armpits.⁸ In this papyrus at least, *mk3t* undoubtedly does not denote a horizontal base but a vertical pillar.

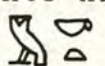
When *mk3t* is written with the flesh determinative  it is probably referring to a specific anatomical structure. In CT Sp.622, it is written .⁹ Because the context mitigates against this writing of *mk3t* being a plural, the last signs  are probably not the plural strokes  but, rather, a variant writing of  which usually connotes the spinal column.

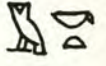
14.3 *mk3t* in anatomical contexts

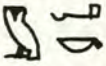
mk3t occurs in one anatomical list (that in the Litany of the Sun), not as an anatomical term but as a deity, viz. *Mk3ty* () or "He-of-the-pillar".¹⁰ Significantly, the bodily part associated with this deity is the spine (*bqsw*); *bqsw* particularly denotes the thoracic spine in the chest. An aberrant version of the list identifies *Mk3ty* with the *q3bt* which is the breast-bone (sternum) at the front of the chest. In the list in BD Ch.172, it is said of the *rmnwy* that they "hold steady upon their supports (*rmnwy=ky mn hr mk3wt=sn*)".¹¹ The *rmnwy* are the collar-bones (clavicles), the medial ends of which are attached to the top of the sternum and the lateral ends to the shoulder joint at the top of each arm. Clearly, the sternum is counted as a *mk3t* in this text. It is noted in passing that, in humans, the spine and sternum resemble


vertical pillars whereas in four-legged animals they are horizontal beams.

In the funerary texts, *mk3t* is recurrently linked with the term *wsrt*. PYR Sp.286 reads:


"O female apes who cut off heads, the King will escape safely from you; he has affixed his head (*tp*) onto his neck (*wsrt*) and his neck (*wsrt*) onto his *mk3t* ()." PYR Sp.396:


".... the King's neck (*wsrt*) is upon his *mk3t* ()." ¹² CT Sp.622 states:

"I have affixed my head (*tp*) onto my neck (*wsrt*) and my neck (*wsrt*) onto my *mk3t* () in this my name of Affixer-of-heads" ¹³

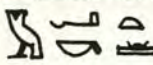
Faulkner translates *mk3t* in these spells as "trunk" which, although it suits the contexts well, is probably erroneous. ¹⁴ The correct term for the whole trunk or torso is *ht* (see Chapter 9) and the translation "trunk" does not fit other contexts in which *mk3t* occurs. *wsrt* is practically synonymous with *nhbt* and both terms specifically denote the posterior aspect of the neck, that is the cervical spine and its attached musculature. In light of this fact, and because it is written with the spine determinative  in CT Sp.622, *mk3t* probably does not denote the entire trunk but only the spinal column within it. The true import of the three spells is that the head is attached to the cervical spine (*wsrt*) which, in turn, is affixed to the thoracic spine (*mk3t*).

Several texts state that the *ib* and the *h3ty* reside upon a *mk3t*. For example, CT Sp.572 reads:

".... my *ib* is not ignorant of its seat (*st*), it holds steady upon its *mk3t* ()." CT Sp.657:

"O my *ib*, raise (*tsi*) yourself upon your *mk3t* () that you may recall what is in you;" ¹⁵

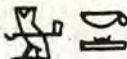
For these spells, Faulkner eschews the translation "trunk" and renders *mk3t* as "base" which is quite different in meaning. He is not completely confident about this translation and, in support of it, observes that the determinative with *mk3t* looks like a stela standing on a foundation slab.¹⁶ However, the most pertinent aspect of the determinative may not be the horizontal slab upon which the stela rests, as Faulkner seems to believe, but the upright stela itself.

Concerning the *h3ty*, the gloss Ebers 855n reads:
 "Then it (the *h3ty*) rises up on its *mk3t* ()
 and it departs from its seat (*st*)."¹⁷

The authors of *GdM* translate the first clause *tw n. hr=f hr mk3t=f* as "Und so stösst es <sich ab> auf seiner Unterlage" (And then it pushes itself off upon its base). Because this text pertains to human beings, if *mk3t* really does mean "base" (Unterlage), the base in question can only be the muscular diaphragm that lies beneath the heart and mediastinum and which separates the chest from the abdomen. For most contexts of *mk3t*, the translations "diaphragm" or "base" simply do not fit; for example, the abovementioned funerary spells in which the neck (*wsrt*) is said to be attached/affixed to the *mk3t*. It has been demonstrated earlier that *mk3t* can definitely refer to vertical structures which makes an alternative interpretation of this passage in Ebers 855n entirely plausible, viz. "And then it (the heart) rises up on its pillar/support and it departs from its seat."

Borghouts translates *mk3t* in a text on the Statue of Djedhor not as "base" but as "frame", viz.:

"You cat here - your heart (*ib*) is the heart (*ib*) of
 Khentekhtai, the lord of Athribis, the chief of the
 gods who keeps hearts (*ibw*) and breasts (*h3tyw*) firmly
 in their places (*swt*)."

He has kept your heart (*ib*) in its place (*st*),
 your breast (*h3ty*) in its frame (*mk3t*  *lll*)."¹⁸
 By "frame", Borghouts means the frame of the chest, in other words the rib-cage. This interpretation probably derives from Borghouts' notion that *h3ty* here is not referring to the heart but to the whole chest or "breast". In Chapter 12, it is shown that *h3ty* does not possess such a meaning. Another objection to his translation is that, as in all similar texts, the *h3ty* is definitely stated to be *hr mk3t=f* "on its *mk3t*" and not, as Borghouts implies, *m mk3t=f* "in its *mk3t*". The last sentence of the text is probably really stating:

"He has kept your *ib* on its seat (*st*),
 your heart (*h3ty*) on its pillar/support (*mk3t*)."



The *ib* and the *h3ty* occupy an identical locus in the body, namely the central compartment (mediastinum) of the chest; they do not encroach upon the lateral compartments containing the lungs (see Chapter 12). In respect of human anatomy, if the *mk3t* of the *ib* and the *h3ty* is not the base or diaphragm beneath them, nor the rib-cage around them, then what anatomical structure does support these entities? Since *mk3t* frequently designates a vertical pillar, the structure in question could be the thoracic spine behind the heart and mediastinum or the breast-bone in front of them (the relationship of the *ib* and the *h3ty* to their *mk3t* is discussed in more detail in Chapter 12.4 and 12.10).

14.4 Conclusion

For every context of *mk3t*, the very general word "support" is an entirely apposite translation for it whereas the names of different types of support, such as "base", "frame" and "pillar", do not always make sense. In anatomical contexts, the translations "base (of the heart)", "frame (of the chest)" and "trunk (torso)" are probably all

erroneous. "Pillar", on the other hand, fits well in every anatomical context and the evidence presented above points strongly towards the thoracic spine being the anatomical pillar which *mk3t* most often denominates.





CHAPTER 15

<i>shn</i> 	(in animals)	<u>Findings :</u> "breast meat" "brisket" "pectoral muscles"
<i>shn</i> 	(in humans)	? thyroid gland

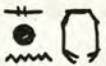
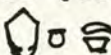

15.1 Introduction : semantic considerations





It has proved extraordinarily difficult to achieve a satisfactory or convincing translation for this term. The *Wb* states that the *shn* is an internal bodily part of an animal and that it is used as a food.¹ *shn* has variously been identified as the pancreas, the fat around the kidneys (i.e. peri-nephric fat, kidney-suet) and the shoulder-blade (scapula) with its attached muscles (i.e. a "shoulder" of meat).² This is a rather disparate array of bodily parts.


Lacau's assertion that *shn* denotes the scapula and its musculature is a recent and ingenious contribution to the debate and possesses much merit. Nevertheless, there are grounds for rejecting even this identification. One difficulty is that another term *mš^vqt* / *mh^eqt* is already known to specifically denote the scapula - the other problems will be discussed severally during the course of this chapter.



There is another word *shn* () which occurs in the medical texts and which also seems to be an anatomical term. Lefebvre carefully distinguishes between *shn* () and *shn* (), identifying the former as the pancreas of an animal and the latter (following Ebbell) as the thymus gland of a human being.³ Lefebvre is probably correct to make a distinction between the two terms but his respective identifications are rather suspect (the second anatomical term *shn*  is discussed in 15.4).

15.2 Lexicographical considerations

shn is usually written  *q*. It is frequently cited in funerary offering lists alongside *hpš*, *iw^c* and *swt* and these four seem to comprise a discrete category of cuts of meat. *hpš* is the foreleg, *iw^c* is the thigh and *swt* is the calf/shank and, in Old Kingdom texts, the determinatives for these three terms nearly always depict cuts of meat in which limb bones are clearly visible. *shn*, on the other hand, is consistently determined with a boneless joint of meat; for example, in PYR Sp.80, it is written . Gardiner reproduces the following representation of a *shn*-joint which was originally recorded by Petrie, ; this image may closely approximate the actual appearance of the joint.⁴ After the Old Kingdom, *shn* is usually accompanied by the basic flesh determinative *q*. The fact that bones never appear in determinatives for *shn* raises doubts about Lacau's identification of *shn* with the scapula.

A sign that is normally employed in writing *shn* is  which Gardiner describes as "arms enclosing or embracing" (Gardiner D 32). This sign determines several words, including the verbs *shn* "to embrace", *inq* "to gather together", *s3q* "to hold together", *pg3* "to unfold" "to reveal", and the nouns *hpt* "armful (armsful)", *qni* "bosom". The quintessential concept contributed by  to these words appears to be more than simply that of holding or embracing. It seems to be one of gathering up things (or someone), enfolding them within one's two arms and clutching them to one's bosom. This whole schema is apparent in the use of the word *hpt* in the following excerpt from the Story of Sinuhe (B 135): "Thereupon his shield and his axe and his armsful (*hpt*  ) of javelins were fallen, after I had caused his weapons to go forth."⁵ The enemy was not carrying his javelins under one arm, but encircling them

with both arms which means that he was clutching them against his chest. The employment of *shn* to denote a bundle or sheaf of reeds⁶ is probably another example of this concept; a large number of reeds would be gathered together into a bundle, encircled with a tie and the sheaf (*shn*) carried within the rushcutter's embrace. That the clutching to the chest is as integral to the whole concept as holding or enfolding within the two arms, is indicated by the fact that  also determines *qni* which denominates a mother's bosom, the front of the chest.

Lacau seems to interpret this "embrace" sign from the perspective of the person being embraced; that is, the embracer's hands are upon the person's back and, by analogy, the *shn* which is written with this sign will be upon the back too, hence he identifies it with the shoulder-blade (scapula). Overwhelmingly however, the focus of action of all words determined with  is the arms and the front of the chest. Thus, it is plausible that the sign is to be interpreted from the perspective of the embracer; that is, *shn* and other terms with  pertain to bodily parts or activities occurring at the front of the body.

The lexicography of *shn* permits the following hypotheses. Since the *shn* is boneless, it should be either an internal organ or else muscle meat. Since it belongs in the same category as the three limb joints of meat then, as Lacau points out, the characteristic that the *hpš-*, *iw^c-*, *shn-* and *swt-* joints share in common is most likely to be that they are all muscle meat. Thus, the *shn* may be a muscular anatomical structure situated in the general vicinity of the front of the chest.

15.3 *shn* in anatomical sequences


The group comprising the three limb joints of meat plus *shn* is most commonly arranged in the following order: *hpš* (foreleg), *iw^c* (femur), *shn*, *swt* (tibia + fibula).⁷ This is unlikely to be the order in which a butcher successively produces the joints from a carcass however, because, if it was, the *shn*-joint would probably be part of the hind leg. There are many reasons for rejecting this deduction, including the facts that the *shn*-joint is boneless and that the entire musculature of the leg is already accounted for under the terms *iw^c* and *swt*.

Pictorial representations of a *hpš*-joint strongly suggest that it is greater in extent than the (front) leg alone and that it may also encompass the scapula and muscles of the shoulder-girdle.⁸ This hypothesis is proved conclusively by statements contained on the recto of Ostrakon Gardiner 155: (ln.3) "*hpš* 2 - each has four bodily parts (*wt*) which makes 8" and (ln.8) "*mnt* 2 - each has three bodily parts which makes 6".⁹ Undoubtedly, the four bodily parts comprising each *hpš* are the shoulder girdle (scapula), the upper foreleg (humerus), the lower foreleg (radius + ulna) and the forefoot (carpals + metacarpals).¹⁰ Because the shoulder-girdle is an integral component of the joint/bodily part designated by *hpš*, it seems very unlikely that *shn*, in the group *hpš*, *iw^c*, *shn*, *swt*, can be denoting the scapula/shoulder-girdle.



shn does not appear in any list of bodily parts and their associated deities, nor in any of the inventories of the "relics" of Osiris, but it is cited in two of the catalogues of the cuts of meat obtainable from an animal. Thus, *shn* seems to be primarily a butchery term applicable to animals and only rarely used in reference to humans, if at all (see 15.4).

In the Ramesseum Onomasticon, entries 300-310 read: "....., *h3ty* (heart), *wf3* (?) (lungs), *r^cmw* (?), *qnqn* (?), *h^c n d3w* (?), *df3yt* (?), *shn*, *imy hnt* (?), *qs n h3* (occiput), *š3* (upper chest), *q3bt* (sternum),"¹¹ Unfortunately, the contextual environment of *shn* in this list is riddled with uncertain readings and unfamiliar terms so that no useful information is obtainable. We are on slightly firmer ground with the Golenischeff Onomasticon. Entries no.597-607 read: "....., *grgyt* ("prime rib" - upper three ribs), *mist* (liver), *wf3* (lungs), *nnšm* (spleen), *h3ty* (heart), *mhtw* (intestines), *r^cm* (?), *shn*, *drww* (flank - lower 10 ribs), *trst* (?), *qbht* (?),"¹² The only contribution that this sequence makes is that, because *shn* is juxtaposed to *drww*, there is the hint of a close connection between *shn* and the ribs of the thorax.¹³



15.4 *shn* in the medical texts

A word *shn* occurs four times in the medical papyri and has a different writing on each occasion. It is noteworthy that the sign  does not appear which raises the possibility that the *shn* in the medical texts is a different anatomical structure from *shn*, the joint of meat.

It will be pertinent to briefly examine each of the medical contexts in which *shn* appears. Berlin 116 reads:



"It (the remedy) is effective for driving out *whdw*-illness which throbs, the *shn* ( ) of a dead man or a dead woman."¹⁴

Here, *shn* may simply mean the (malevolent) embrace of a dead man or woman. Ebers 193 reads:

"Then you should say concerning it (the illness), 'It is a *shn* ( ) of *whdw*-illness which has not yet lodged itself'. "¹⁵





















The determinative and context of *shn* point strongly towards



it being the name of a symptom or illness rather than of a bodily part. Ebers 207 reads:

"(Then you should say concerning the illness), 'It is a deep *shn* ( )', he has eaten bad meat (*d3f*)'." ¹⁶

Despite the fact that it is written with the flesh determinative, *shn* again seems to be denominating a symptom. The authors of *GdM* (VII p.790:2) note that symptom names, for example *wbnw* "open wound" and *šn* "accumulation/obstruction", can sometimes be written with the flesh determinative.

Finally, Ebers 860 reads:

"If, when you assess a *hnhnt*-swelling of fat (*°d*) in the front of his neck (*h°m*), you find it like the *shn* of the body (                   

The authors of *GdM* do not agree that *shn* denotes an anatomical structure here. Once again, they interpret *shn* to be a symptom and translate the phrase *shn n h^c* as "a *shn*-swelling of the flesh".¹⁹ Irrespective of this divergence of opinion, the difference in writing between *shn* (), the joint of meat, and  in Ebers 860 is great enough to engender suspicion that they are not the same term and that they denote different anatomical structures.

To summarise, all four instances of *shn* in the medical texts are likely to be different words from the *shn* cited in the offering lists and funerary texts. The latter *shn*, a term abundantly attested as the name of a specific cut of meat, does not seem to have been employed in reference to human beings.

15.5 Conclusion

Because the *shn* is consistently found in company with joints of muscle meat and never amongst the internal organs of the body, its identification with the pancreas and with the perinephric fat (kidney suet) are very suspect. I have found no evidence to suggest that *shn* might denote an internal organ. Lacau's conclusion that *shn* denotes the shoulder girdle (scapula) is closer to the mark but cannot be correct because the shoulder girdle is already accounted for as an integral part of the *hps^v*-joint in the common sequence *hps^v, iw^c, shn, swt*, and also because the *shn*-joint appears to be boneless.

In conclusion, the *shn* is probably a cut of muscle meat and it may be closely associated with the ribs and with the front of the body. The part of the anatomy which fits this description *par excellence* is the great pectoral muscles overlying the ribs on either side of the front of the chest.



This is the breast meat or "brisket" of an animal. Why *shn* was not employed to designate the pectorals or bosom of human beings remains a mystery.

Another term, *iwf h3t* / *iwf n h3t*, has been understood to denominate the breast meat or brisket.²⁰ However, *iwf n h3t* may not refer to meat from the front or underside of the forepart but rather to meat from the back or topside of the forepart, in other words, *iwf n h3t* may really designate the choice fillet of muscle meat from alongside the thoracic spine of the animal (see Chapter 4).

PART E : ABDOMEN AND PELVIS

CHAPTER 16

Findings :

mndr   e







"stomach"

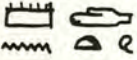
16.1 Introduction : semantic considerations

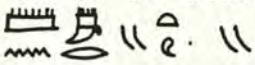
The total number of occurrences of *mndr* is fairly small. It appears twice in the medical papyri and on both occasions is specified as belonging to an animal. *mndr* is also cited in the inventories of the cuts of meat obtained from an animal on the Ramesseum Onomasticon and Ostrakon Gardiner 156. Its inclusion in two of the anatomical lists (in Pap.Chester Beatty VIII and the Litany of the Sun) confirms that human beings also possess a *mndr*.

Up to the present day, *mndr* lacks a secure translation. Most often, it is merely stated to be an unknown internal organ.¹ Gardiner, following Dawson, tentatively identifies *mndr* as the gall-bladder but Hornung, somewhat more confidently, identifies it as the stomach.² The latter translation fits the evidence quite well but it appears to conflict with the identification of the more common term *r3-ib* with the stomach.

16.2 Lexicographical and etymological considerations

mndr is a masculine singular noun which is never written in a dual form or as a plural. Its usual writing is   e. In the list of bodily parts in the Litany of the Sun, *mndr* is   e but a variant list in the Papyrus of Katseshni (Dyn.21) has   e in this position. Allen interprets this to be *mndt* and so translates it as "cheek".³ de Wit evidently perceives it to be a writing of *mnd* and, because it is associated with not one but two deities in

this papyrus, he translates it as "two breasts".⁴ These two translations are quite out of place in the anatomical context created by the surrounding terms, viz. . . . , *nnšm* (spleen), *wf3* (lungs), *mndr*, *mhtw* (intestines), In view of the parallelism of this entry with *mndr* in other versions of the Litany of the Sun, it is certain that Allen's and de Wit's translations are incorrect. The same writing appears in Pap. Chester Beatty VIII (Vs 4.10) but Gardiner (following Faulkner) discerns that it is not *mndt* at all but a different writing of *mndr*.⁵  in these texts is probably *mndrt* rather than *mndt*.



Because *mndr* is always accompanied by the flesh determinative, it is more likely to denote a discrete anatomical structure than a general anatomical region. On Ostrakon Gardiner 156 (ln.16), it is written with an additional determinative thus,  is an idiosyncratic sign which is certainly not the double oblique stroke \ \ *y* and may be a crude depiction of the anatomical structure that *mndr* denotes (see below).

Gardiner and Hornung state that *mndr* is a derivative-in-*m* of *ndrw* "to grasp, to hold fast, to secure, to take possession of".⁶ In the anatomical list from the Litany of the Sun, the fingers (*dbꜥw*) are identified as *Ndryw*, that is, as a deity with the name of "Grasper", a name which obviously stems from the ability of the fingers to grasp something and to hold it securely within the hand. Theoretically, *mndr* should be a place where something is held fast, perhaps a type of receptacle. Both the gall-bladder, which receives bile from the liver and holds it, and the stomach which receives ingested food and holds it, qualify in this respect and so, as translations for *mndr*, both organs are compatible with this proposed etymology.



16.3 *mndr* in non-medical texts

The Ramesseum Onomasticon contains a list of the parts of a butchered animal amongst which the *mndr* appears in the following position: , *mhtw* (intestines), [?] , *nnšm* (spleen), *mist* (liver), *mndr*, *h3ty* (heart), *fyfy* (?),⁷ *mndr* is being grouped with the major organs of the torso and its placement after the liver and before the heart may be a clue as to its approximate anatomical locus.

Ostrakon Gardiner 156 is another inventory of the parts of a butchered animal and *mndr* is mentioned twice on this document. Its second occurrence (ln.16) is in the following sequence: , *wf3* (lungs), *h3ty* (heart), *mist* (liver), *nnšm* (spleen), *mhtw* (intestines), *mndr*, *fyfy* (?), *ggt* (kidneys),⁸ The first citation in Line 9 is damaged and only partly decipherable but it begins:

"*ˢfdt* ( ) 1 It is the *mndr* [. . . .]."

Now, *ˢfdt* is the word for a storage box or chest and this line seems to support the etymologically-based notion that the *mndr* is a place where something is held fast, that is, a receptacle.


Pap.Chester Beatty VIII enumerates the following relics of Osiris as being held by the city of Athribis (*Ḥwt ḥry-ib*) in the Delta (Vs 4.10): "the heart (*h3ty*), the lungs (*wf3*), the spleen (*nnšm*), the *mndrt* ( ), those vital parts (*stp*) of Osiris, verily, the middle (*ḥry-ib*) of Osiris."⁹ *ḥry-ib* denotes the middle of the body, particularly the region of the torso centred upon the heart. *mndr* is linked here with three major internal organs and all are categorised as belonging to the *ḥry-ib*. Thus, like the lungs and the spleen, the *mndr* is probably close to the heart.

mndr appears in the following anatomical sequence in the Litany of the Sun: , *htyt* (windpipe), *wy* (arms), *dbw* (fingers), *šnbt* (chest), *ib* (psyche/heart), *mist* (liver), *nnšm* (spleen), *wf3* (lungs), *mndr*, *mhtw* (intestines), *psd* (back),¹⁰ Again, *mndr* is seen to occupy a place amongst the major internal organs of the torso. It is noteworthy that both the Litany of the Sun and Ostrakon Gardiner 156 juxtapose the *mndr* with the *mhtw*, the intestines, suggesting that these structures are closely associated.

When the four catalogues are considered together, the only internal organs or structures which have not been accounted for are the stomach, gall-bladder, pancreas, diaphragm and bladder. The uterus, ovaries and vagina may be excluded on the grounds that the lists enumerate the bodily parts of male persons (the King and Osiris) and male oxen. *mndr* is unlikely to designate the bladder since *šptyt* is known with certainty to be the word for this organ. Thus, the *mndr* is probably either the stomach, gall-bladder, pancreas or diaphragm.

The deity who is directly identified with the *mndr* in the Litany of the Sun is of considerable interest. In the standard version of the Litany he is named as *Wpw* "Opener". Hornung rightly identifies this god as *Wepwawet*¹¹; *Wepwawet* also appears in several other anatomical lists. *Wepwawet* is the "Opener of Ways", a god who safely guides the deceased along pathways and through portals *en route* from the realm of the living to the realm of the dead, the netherworld, and thence up into the sky. It is no coincidence that *Wepwawet* is frequently associated in the anatomical lists with orifices or entranceways into the body, as are other jackal deities (*Inpw*-Anubis, *S3b*-Jackal).¹² It is not unreasonable to surmise that the *mndr* too may somehow be associated with

the entrance of something into the body and/or the passage of something through it.

In the variant version of the Litany of the Sun list in the Papyrus of Katseshni, *mndr* is identified not as *Wpw* but as *Wp-w3wty* "the Two Wepwawets"!¹³ Keeping in mind the association of Wepwawet with passages and portals, it is tempting to see in this variant an association between *mndr* and an organ which has two portals/orifices. An obvious candidate is the intestinal tract, or at least one part of it, particularly the stomach. The stomach possesses two very distinct orifices, unlike the gall-bladder, which has only one. The abovementioned additional determinative with *mndr* on Ostrakon Gardiner 156, viz. , may possibly depict a portion of the gastro-intestinal tract.

16.4 *mndr* in the medical papyri

There are only two mentions of *mndr* in the medical texts. Ebers 875 is a well-known case study concerning the extraction of a Guinea worm from its blister in the superficial tissues, probably of the legs.¹⁴ It will be useful to give a complete translation of this case.

TITLE: "Instructions concerning *ꜥ3wt*-swellings in any bodily part of a man

CLINICAL DESCRIPTION: if you assess an *ꜥ3t*-swelling of *ꜥ3wt*-swellings in any bodily part of a man, you having performed an examination upon it and you discover that it goes and comes (? starts and stops) when it is wound out (*dqr*) against the skin (*hꜥ*) which is beneath it¹⁵

DECLARATION: then you should say concerning it, '(It is) *ꜥq* (? exiting) of *ꜥ3wt*-illness'

INSTRUCTIONS: then you should do to it (the *ꜥ3wt*-swelling) an operation, it being cut open with a *ds*-knife (flint)

and held fast with a *hnwḥ*-instrument. That which is inside it is to be held fast with the *hnwḥ*-instrument, then you should remove it with the *ds*-knife, it will remain complete thereby.

CLINICAL DESCRIPTION 2: When there is something (*iḥt*) in it (the *ˁ3wt*-swelling) like the *mndr* of a mouse

INSTRUCTIONS 2: then you should remove it with a *š3s*-knife without bringing away (*ini*) those cords (*idrḡ*) beside it (the *iḥt*) which adjoin to the skin (*ḥˁ*); (it is) to be held fast using *hnwyṯ*-part of carob. Any (lesion) which resembles the calvarium (*d3d3*), it is (to be treated) the same."¹⁰

There are three main contenders for the "something" (*iḥt*) inside a Guinea worm lesion which might need to be excised using a *š3s*-knife:

(a) the live intact worm. This is unlikely since the preferred method of extracting the worm, by winding it out onto the skin, is described in the first Clinical Description. Surgical extraction of an intact worm may well be the procedure described in the first Instructions section but the text there stipulates that the operation is to be done with the *ds*-knife, implying that the third procedure, using the *š3s*-knife, is a different operation.

(b) a dead worm, either intact or broken. A break in the skin in conjunction with a dead or broken worm underneath is potentially very dangerous since a life-threatening bacterial infection, such as tetanus or gas-gangrene, can supervene. In light of this hazard it would be prudent medical practice to excise any remnant of a dead worm, using the *š3s*-knife.

(c) the tunnel of fibrous tissue surrounding the worm. In the second Instructions section the operator is strongly advised not to cut out (bring away) the tissues beside the "something". There is controversy as to whether the tissues

in question are the deeper ligamentous or tendinous insertions of muscles onto bones and joint capsules, or more superficial tissues such as those generated by the body in reaction to the worm.¹⁷ Because these tissues are also specified as adjoining the *h^c* which, in this text, denotes the skin, they probably are superficial. The noun *idr* means a stitching thread and *idrw* here probably refers to anatomical cords or threads such as tendons and nerves. It is likely that this passage means that any anatomical cords adjacent to the worm tunnel are to be carefully preserved by the physician and left *in situ*. A worm tunnel is comprised of reactive fibrous tissue surrounding the worm and it will probably be adherent to the skin and subcutaneous tissues. The Guinea worm tunnel inside the blister, the *‘3t*-swelling, must be favoured as the "something" which Ebers 875 likens to the *mndr* of a mouse and which it exhorts the physician to excise.

The simile "like the *mndr* of a mouse" in this case-study is beset with difficulties. Of the possible translations for *mndr* that have been canvassed above, "stomach" (or "intestinal tract") seems the most plausible. The Egyptians may well have likened the appearance of an evacuated worm tunnel to that of the gastro-intestinal tract, albeit a "mouse-sized" tract. It seems hardly credible that the simile alludes to the gall bladder, the pancreas or the diaphragm of a mouse.

In Ebers 766 the *mndr* of a goat is an ingredient of a powder designed to dry up an oily discharge in the ear. The case reads, in part:

CLINICAL DESCRIPTION: "if it (the ear) becomes greasy
because of it (the illness)

INSTRUCTIONS: then you should make for him a medicine (*sp*)
for drying up a wound

INGREDIENTS: cranium (*d3d3*) of an *‘m^cm* (? type of rodent) /

mndr of a goat / tortoise shell / *innk*-plant :
DIRECTIONS FOR USE: (the ear is) to be powdered with it
often, often."¹⁸


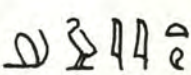
In order to make such a powder each ingredient would have to be completely dessicated prior to being ground finely on a quern or in a mortar. Dessicated goat's stomach seems a less exotic and more plausible ingredient than dried gall bladder or dried pancreas. Powdered goat's tripe would probably be a good source of gelatin and, along with powdered bone and tortoiseshell, might well be an effective absorbent in a moist, oily ear.

16.5 Conclusion

Although the evidence concerning *mndr* is scant, all of it points to an identification of the term with a single organ or anatomical structure within the torso, possibly in its central region near the heart. There is no direct evidence as to the function of the *mndr* but it may be concerned with the reception of something into the body and/or the passage of something through it. *mndr* may denote a part of the gastro-intestinal tract. Dawson's translation of *mndr* as gall-bladder appears less and less tenable whereas the more recent translation as "stomach" has much to recommend it. The fact that another term, *r3-ib*, has traditionally been accepted as denoting the stomach seems to cast doubt upon this identification for *mndr*. The doubt is removed however, by the discovery that *r3-ib* does not denote the stomach after all but is a term for the chest (see Chapter 11).

CHAPTER 17

Findings :

<i>phwy</i>		"pelvic region" "pelvis" "rear end"
<i>phwyt</i>		"rectum" "pelvic intestine" (sigmoid colon + rectum) "back passage"

17.1 Introduction : semantic considerations

phwy and *phwyt* are very closely related terms. *phwyt* is quite common in the medical texts but only rarely encountered in non-medical texts. *phwy*, on the other hand, is common in both.

Egyptological opinion has been evenly divided about these two words. One group, including the authors of *GdM*, the *Wb*, Breasted and Lefebvre, believe that there is no practical difference in meaning between *phwy* and *phwyt* and so treat them as variant spellings of a single term which they translate as "anus".¹ The authors of *GdM* further assert that *phwy* is the earlier form of the term and *phwyt* its later spelling.² A serious objection to this claim is that a large number of remedies, across the whole range of the medical papyri, refer to both the *phwy* and the *phwyt* within one prescription. The *Wb* states that, in addition to "anus", *phwy* also means "rear end" or "hindpart".³


Another group of writers, including Ebbell, Gardiner, Faulkner and Weeks, believe that *phwy* and *phwyt* are different terms designating two different anatomical structures.⁴ *phwy* is translated by Ebbell as "hinder part", by Faulkner as "hinder parts" and by Gardiner, Faulkner and Weeks as "hindquarters". The last two translations imply that *phwy* must be a collective or a dual noun. "Hindquarters" is usually only applied to four-legged animals where it refers to the parts of the torso adjoining

the two hind legs, and it particularly includes the legs themselves. It will be shown that *phwy* is a single noun and does not include the legs within its orbit of meaning.

Most authors translate *phwyt* as "anus". A difficulty with this translation is that another term *ꜥrt* has been alleged to denote the anus (see Chapter 18). Gardiner, Faulkner and Steuer state that *phwyt* designates not just the external orifice of the rectum, the anus, but its internal parts as well. In other words, the *phwyt* is the entire rectum including the anus.⁶

The following discussion will demonstrate that *phwy* and *phwyt* do denote different anatomical entities and that neither of these entities is the anus *per se*. *phwy* probably designates the pelvis and, of the translations for *phwy* mentioned so far, the *Wb*'s "rear end" is closest in spirit to the true meaning of *phwy*. It at least possesses the virtues of being singular and of not necessarily encompassing the legs. With regard to *phwyt*, it will be shown that the translation "rectum" is indeed closer to the true meaning of *phwyt* than is "anus".

17.2.1 Lexicographical considerations - *phwy*

The simplest writing of *phwy* is . This sign (Gardiner F 22) portrays the hindpart of a lion and it is an ideographic determinative in several words, contributing to them a general connotation of "end point", "rear end" or "bottom". It also functions phonogramatically and is usually stated to be a biliteral phonogram with the value *ph*.⁸ In anatomical words however, the sign almost certainly has the fuller phonogrammatic value of *phwy* as revealed by instances where the sign is followed by a dual suffix pronoun. For example, in Ebers 198:

"This condition comes out either from his mouth or from

his *phwy* (𐛥𐛚) (looking) like pig's blood which has been roasted"

Most commonly, one or more phonetic complements accompany 𐛥 in the writing of *phwy*; for example, 𐛥𐛚𐛚, 𐛥𐛚𐛚, 𐛥𐛚𐛚𐛚.

The fact that *phwy* is never written with duplicated signs, as follows, 𐛥𐛥 or 𐛥𐛚, makes it unlikely that the *phwy* is a structure which is dual or paired within the body. However, the occasional presence of dual suffix pronouns may indicate that the *phwy* is a bipartite entity; that is, a single entity but one which can be considered as having two halves.

During the New Kingdom, apparently in the late 19th Dynasty, the spelling of *phwy* changed. Henceforth it is written with a *t* and so becomes easy to confuse with *phwyt*. The new writings of *phwy* include the following: 𐛥𐛚𐛚, 𐛥𐛚𐛚, 𐛥𐛚𐛚𐛚, 𐛥𐛚𐛚𐛚𐛚.

Only once in the medical papyri is *phwy* written in an apparently plural form. Berlin 163c reads:

"There are two conduits (*mtw*) to his thighs {*mndty*}<*mnty*>, it is they which put *t3w*-heat upon the *phwy* (𐛥𐛚𐛚𐛚)"
The parallel text, Ebers 856c, reads:

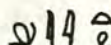
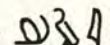
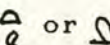
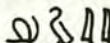
"There are two conduits in him as hidden ones to his thigh(s) {*mnd*}<*mnty*>, it is they which create *t3w*-heat in the *phwyt* (𐛥𐛚𐛚𐛚𐛚)"

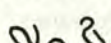
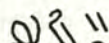
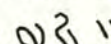
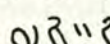
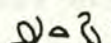
This variant text raises the distinct possibility that the writing in Berlin 163c is simply a defective spelling of *phwyt*. This conclusion receives qualified support from the fact that 𐛥𐛚𐛚𐛚 is written with the flesh determinative (see next section).

phwy can be accompanied by the flesh sign 𐛚 but its presence is exceptional; in a great majority of writings it is absent. This implies that the *phwy* is an entire anatomical region rather than a single organ or structure.

In conclusion, the *phwy* is a single anatomical entity; it may be a whole region of the body and it may be bipartite. Because *phwy* is likely to be a singular noun formed from a *nisbe* adjective¹⁰, it should have an approximate meaning of "the-part (or region)-belonging-to-the-end".

17.2.2 Lexicographical considerations - *phwyt*



phwyt is written ,  or . A plural form of the word is found in Ebers 155, the title of which reads: "Another (remedy) for driving out *t3w*-heat upon (people's) *phwyt* ()"¹¹ - this is almost certainly a simple plural and not indicative that *phwyt* is a collective noun. To my knowledge, no dual form of *phwyt* exists and it never takes a dual suffix pronoun.

The following writings in Pap.Berlin might also be construed as plural forms of *phwyt*:  (Bln 1),  (Bln 163h).¹² If these unusual writings are actually *phwyt*, then it is a curious coincidence that they are also the only examples in the medical papyri of *phwyt* being written without the flesh determinative. Berlin 163h has a parallel text, Ebers 856h, and on three out of four occasions in these two texts *phwy* is written and on the fourth occasion it is . This suggests that  in Berlin 163h, and hence also  in Berlin 1, are not plural forms of *phwyt* at all but late writings of *phwy*.¹³ If this is true, the absence of the flesh determinative in the two Berlin writings becomes explicable; *phwy* does not normally carry this determinative!

In conclusion, *phwyt* is a feminine singular noun which denotes a single non-bipartite entity in the body. Because it is apparently invariably accompanied by the flesh sign in

the medical papyri, *phwy* probably denotes a discrete anatomical structure rather than a general anatomical region. The fact that *phwy* is rare outside the medical papyri, and yet quite common within them, implies that it may be a rather specialised term, perhaps designating an internal structure with which only persons having special knowledge would be familiar.

17.3 The relationship between *phwy* and *h3t*



h3t ( , later ) denotes the forepart of a four-legged animal but is only rarely used to denote the equivalent upper part of a human being. *h3t* is frequently found juxtaposed with *phwy*, for example, CT Sp.227 reads;

"I am Osiris, Lord of *k3 s*,

alive of forepart (*h3t*), strong of hindpart (*phwy*),

stiff of phallus, who is in the boundary of the plebs."¹⁴



When they are paired like this, *h3t* and *phwy* often appear to represent the entire body and it is reasonable to deduce that *h3t* refers to the entire front half of an animal's body and *phwy* the entire rear half. Although they are occasionally employed with this sense, the exact extent of both the *h3t* and the *phwy* seems to be more circumscribed.

The basic element in the word *h3t* is  which depicts the front end of a lion. The anatomical cut-off point in this sign is just behind the shoulders; most of the lion's thorax is not depicted. In *phwy*, the basic element is  which depicts the rear end of a lion. Here, the cut-off point is just in front of the hind legs; the lion's abdomen is not depicted. Thus, taken together, these two signs fail to portray a significant portion of the animal's torso.

The following excerpts shed more light on this subject. BD Ch.125 reads;

"I am pure, my forepart (*h3t*) is clean,

my hindpart (*phwy*) is cleansed,
and my middle part (*hry-ib*) is in the Pool of Truth,

there is no bodily part (*t*) in me devoid of truth."¹⁵
The text implies that the body of the deceased is incomplete when it comprises only the *h3t* and the *phwy*. *hry-ib* denotes the central region of the body, specifically the middle of the torso, and it is precisely this region which is missing when  and  are placed together.

PYR Sp.2128 reads:

"Quell Seth as Geb, the being who eats offal (*bskw*),
your forepart (*h3t*) is the Jackal (*S3b*),
your hindpart (*phwy*) is the Celestial Serpent (*Qbht*),
your spine (*bqsw*) is the door-bolt of the God."¹⁶


In this spell, the King is being identified with a composite animal and *bqsw*, which denotes the spinal column of the torso, serves to represent the missing central portion of his body.

Clearly, *h3t* denotes the very front end of the body more than its entire front half and *phwy* denotes the rear end of the body rather than the entire rear half. Almost certainly, the *phwy* is centred upon the pelvic region and includes the pelvis itself.


17.4 *phwy* and *phwyt* in the anatomical lists

h3t (with the meaning of "forepart") does not occur in any of the lists which arrange the parts of the body in a head-to-foot sequence¹⁷, but *phwy* appears very commonly. *phwyt*, on the other hand, does not appear at all in these lists but it is cited in one of the inventories of the cuts of meat from a butchered animal (discussed below).


It will be useful to set forth the relevant portions of the lists, as well as the deities associated with the *phwy*.
PYR Utt.539 ¹⁸

....., *h3ty* (heart), *ht* (torso/belly), [? back],
 [? vertebrae], *phwy* () , *hpdw* (buttocks), *hnn* (penis)
mnty (thighs), Deity: Heqet.


Pap.Berlin 3027 ¹⁹

....., *ht*, {*hpw*}<*hp3*> (navel), *kns* (genital region),
hnn (penis), *nphw* (groin), *i3t* (back), *s3wt* (?), *phwy*
 () , *hpdw* (buttocks), *mnty*, Deity: -


Pap.Chester Beatty VII ²⁰

....., *mhtw* (intestines), *spt* (?), *iwf nb n ht=f* (every
 organ of his torso; this phrase summarises the short list
 of internal organs ending at *spt*), *phwy* () , *hnn*
 (penis), *3st* (testicles), *mnty*, Deity: Hathor


Pap.Chester Beatty VIII ²¹

....., *wf3* (lungs), *ht* (torso), *hp3* (navel), [....],
phwy () . Deity: Isis


Pap.Vatican 19a ²²

....., *nnšm* (spleen), *wf3*, *tswt n i3ty* (vertebrae of
 back), *phwy* () , *kns* (pubic region), *hnn*, *mnty*,
 Deity: Sakhmet



Pap.Geneva MAH 15274 ²³

....., [*i3t*], *kns* (pubic region), *phwy* () , [*hnn*
 penis], *3s* (testicles), *mnty*, Deity: -


Pap.Turin Magical ²⁴

....., *mhtw* (intestines), *phwy* () , *hnn* (penis),
mnty, Deity: Geb


Metternich Stela and Socle Behague (Sp.10) ²⁵


....., *ht* (torso), *phty* () "strength"; undoubtedly in
 error for  *phwy* since all other entries are bodily
 parts), *hnn* (penis), *mnty*, Deity: Seth

Socle Behague (Sp.8) ²⁶

....., *ht*, *b3h* (glans penis), *phwy* () , *mnty* (thighs),
 Deity: Serqet

Dendera Socle ²⁷

....., *ht* (torso), *kns* (pubic region), *hnn* (penis),
inswy (testicles), *phwy* () , *sdhwy* (shins), [....]
 Deity : Montu

....., *mhtw* (intestines), *phwy* () , *mt3* (penis),
psd (back), *mnty*,

Deity: Hathor


The lists locate the *phwy* distal to the navel and the major organs of the abdomen and proximal to the buttocks and thighs. It is closely associated with structures in the genital area, in particular, the pubic or suprapubic region (*kns*), the penis (*hnn*, *mt3*) and the testicles (*inswy*, *3s*). The fact that *phwy* follows the internal organs of the torso but usually precedes the external genital structures, supports the earlier conclusions that the *phwy* is centred upon the pelvis and that it is smaller in extent than the entire rear half of an animal (lower half of a human).

The *phwy* is invariably associated with a single deity in these lists supporting the premise that it is a single entity within the body and not a bodily part which is paired. No pattern emerges from the gender of the deities; a god or a goddess can be associated with the *phwy*, which may reflect a certain confusion about the gender of this term. The goddesses who protect the *phwy*, namely Isis, Hathor, Sakhmet, Serqet and Heqet, are often associated in myths with childbirth, particularly with the birth of the new Sun-god. Such associations also support a pelvic location for the *phwy*.

Another text which enumerates bodily parts, but not in an orderly sequence, also reveals something about the *phwy*. Pap.Chester Beatty VIII contains a fascinating excerpt from the Book of Banishing an Enemy which enumerates the various portions/relics of the body of Osiris that are kept in different cities. Herakleopolis possesses the *hpd* (buttocks), *hnn* (penis), *rdwy* (legs) and the *phwy*.²⁹ Now, the anus is a short passageway with walls extending to a depth or thickness that is not readily delineated. Compared with the buttocks, phallus and legs, the anus is not a

clearly circumscribed bodily part that is easily separable from the rest of the body and thereby able to serve as a sacred relic. It is rather implausible that Herakleopolis would own the anus of Osiris. It seems equally unlikely that the relic in question is the whole rear/lower half of Osiris, but quite plausible that it is Osiris' pelvis.

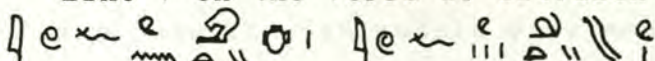
Three of the inventories of the cuts of meat obtainable from a butchered animal mention the *phwy* or the *phwy*t. Line 9 of Ostrakon Gardiner 156 pertains to the stomach (*mndr*) and the following Line 10 reads,


wn ht *phwy* nfr | p3 pw mht n *phwy* 30

The first phrase is difficult and may be a butcher's idiom for a specific cut of meat. The second phrase, "it is the intestine belonging to the *phwy*" is an explanation of the initial phrase and can be interpreted in more than one way. It could mean "the intestine attached to the anus" but is more likely to mean the intestine located within the *phwy*. It is not possible to say whether this phrase describes the entire intestinal tract beyond the stomach, or only the pelvic portion of the tract. In other words, it is not clear whether *phwy* here denotes the rear half of the animal or only its rear end, the pelvis. Nevertheless, this line heralds a very close link between the *mhtw*, the intestines, and the *phwy*. In the anatomical sequence in Pap.Turin Magical, cited above, *phwy* is found juxtaposed with the *mhtw* "intestines", as it is in a verse in Pap.Louvre 3129:

"Your *mhtw* are given to Bast, your *phwy* to Hathor,
their cutting up is performed in front of the Sun-god
when he appears (bringing) joy to the Ennead."²¹

Line 7 on the verso of Ostrakon Gardiner 155 reads,


iwf n {*h3ty*}<*h3t*> *iwf* n *phwy* ²²

This line is discussed in Chapter 4 (4.4) where it is

discrete cut of meat and could conceivably be a length of intestine.

17.5.1 *pḥwy* and *pḥwyt* in the medical papyri - Other
bodily parts associated with the *pḥwy* and the *pḥwyt*


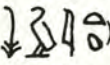
17.5.1.1 *ht* - torso/belly

Ebers 132-137 (= Ebers 147-152) is a series of six remedies "for treating the torso/belly (*ht*) (and) treating the *pḥwyt*".³⁶ The medications prescribed are liquid remedies to be drunk and, in one case, a food to be eaten. Such remedies would not have a significant effect at the anus but could well alleviate intestinal disorders, whether in the proximal intestine within the belly or in the distal intestine in the pelvis.


Berlin 164 is titled "A remedy for driving out *whḏw*-illness from the torso/belly (*ht*), *ḥdbwt*-illness of *whḏw*-illness (and) accumulations (*šnꜥw*) belonging to the *pḥwy*". The prescribed treatment is three successive medicinal enemas, the last of which is announced by; "What is prepared against it as a remedy for its (the *pḥwy* 's) accumulation, to cause it to come out". The enema is "to be injected into the *pḥwy* so that it (the accumulation) comes out immediately".³⁷ Almost certainly, this enema is designed to facilitate the spontaneous evacuation of faecal masses ("accumulations") from the rectum and colon of a person suffering with severe constipation. Since faecal masses are usually only in the distal colon and because an enema can only percolate up into the torso as far as the beginning of the colon (at the very most), the *whḏw* in the *ht* and the "accumulations" in the *pḥwy* which these enemas are treating, will be located in the large bowel (colon), more specifically, they will be in the descending colon within the belly (*ht*) and the sigmoid colon and rectum within the

pelvis (*phwy*) respectively.

17.5.1.2 *kns* - suprapubic region

kns  *pe* denotes the suprapubic region. Ebers 164 is a very aromatic remedy for, "Easing (*sndm*) the *phwy* (and) easing the *kns*". The ingredients are made into a pill (*swit* ) which is then to be put into the *phwy* (*rdi m phwy*). The sex of the patient is not specified but if a woman was being treated, putting a *swit* into the *phwy* could mean inserting a pessary into the vagina. It is much more likely however, that the destination for the pill in Ebers 164 is the rectum.³⁸ Aromatic compounds made into a suppository (pill), such as in this prescription, will act upon the rectum and the adjacent anus but would also be able to exert a beneficial effect upon anterior pelvic structures which are separated from the rectum by only a thin band of tissue. This seems the most plausible explanation for a pill placed in the *phwy* (pelvis/rear end) being able to ease both the *phwy* and the *kns* (suprapubic region). The translation "anus" for *phwy* and *phwy* in this text is not entirely meaningful. A pill or suppository placed in the anus itself will not benefit the suprapubic region (*kns*) and, besides, it will not stay in the anus; it will either slip inside the rectum or will fall outside.

17.5.1.3 *šptyt* - bladder

Beatty 10 is a remedy "for the crushing of *bnw*-illness; driving out *t3w*-heat upon his *phwy*, upon the bladder (*šptyt*) (and) upon the *s^cq-mš3t* () of a man or a woman". The prescribed treatment is an ointment or a poultice which is to be bandaged onto the patient.³⁹ Unfortunately, the *s^cq-mš3t*, or simply the *mš3t*, is an unknown bodily part but, clearly, to be able to influence both the bladder and the *phwy*, the site of the

bandage cannot be the anus. Almost certainly the medicament is to be bandaged across the lower abdomen where it would not alleviate any anal complaint but could ease bladder symptoms and simultaneously ease symptoms occurring in other pelvic organs, such as the sigmoid colon and rectum (the *phwy*t ?).

Ebers 139 is another "remedy for driving out *t3w*-heat upon the *phwy*t (and) upon the bladder for one who has a lot of wind without his knowing it."⁴⁰ The mention of "a lot of wind" means that the patient must have excessive gas in his bowel. This condition can cause colicky pain in the abdominal and pelvic regions. The phrase "without his knowing it" probably means that the patient, evidently a man in this case, is not passing any of the wind and so is not "knowing it".⁴¹ If a person is not passing wind, they are likely to have some degree of obstruction of the bowel which, apart from being very painful, can cause symptoms in the bladder secondary either to increased pressure in the pelvis or to the pathology of the colo-rectum which is causing the obstruction. Treatment in Ebers 139 is a suppository (*mt*) "to be put into the *phwy*". This suppository will not treat the bladder directly but will treat the pathology in the *phwy*t whereupon the secondary symptoms in the bladder will abate. If *phwy*t denoted the anus, Ebers 139 would be describing a very unusual clinical situation. A disease which involves the anus and bladder and which also prohibits the escape of intestinal gases is not readily conceivable. The *phwy*t must be the pelvic colon and/or the rectum.

Beatty 11-12 is "Another remedy for the *s^cq-šp(t)yt* for driving out *šnft* \ driving out any ailment upon the *phwy* of a man or a woman".⁴² The identity of the *s^cq-šptyt* is not certain but it may be the ureter which transmits urine from each kidney down into the bladder. *šnft* is another

word whose meaning is unknown but its determinative 𓂏 and its apparent association here with the ureter and bladder raises the possibility that it denotes a urinary calculus (stone).⁴³ Treatment is twofold (see discussion below concerning the adjunctive pairing of many remedies in Pap.Chester Beatty VI). The first remedy (Beatty 11) drives out the šnft from the $\text{s}^{\text{c}}\text{q}-\text{šptyt}$ and is an enema "to be injected into the pḥwyt ". Obviously, the destination of the enema is the rectum where, one presumes, the medication would be able to exert a direct effect upon the site of the symptoms in the $\text{s}^{\text{c}}\text{q}-\text{šptyt}$. Does this case signify that the Egyptians treated ureteric colic (due to stones) by means of rectally administered drugs? It seems a not unreasonable method of attempting to treat such a complaint. The second remedy (Beatty 12) treats the pḥwy and is a medicated dressing "to be bandaged onto it (the pḥwy)". An illness of the $\text{s}^{\text{c}}\text{q}-\text{šptyt}$, which is probably attached to the bladder, is the main focus of Beatty 11-12. In view of this fact, it seems likely that the second remedy, which drives out ailments from the pḥwy , is not to be bandaged onto the anus but onto the lower abdomen (as in Beatty 10 above) where it can have a soothing effect on the whole pelvic region (the pḥwy), including the bladder and ureters.

There are several other remedies in the medical papyri dealing with urinary and bladder complaints in which the treatment is a medication to be injected into the pḥwy or the pḥwyt .⁴⁴ All cases which associate the bladder with pḥwy or pḥwyt make more sense if these terms denote internal pelvic structures than if either or both of them denotes the anus.

17.5.1.4 *šnbt* - chest region; *drww* - side of the chest;
h3ty - heart (or central chest)

Pap. Chester Beatty VI contains several remedies which appear to associate treatment of the *phwyt* with treatment of the *šnbt* (e.g. Bt 14, 16), the *drww* (Bt 14, 32) and the *h3ty* (Bt 16, 18, 20, 22, 25). All these bodily parts are in the chest region and so are a considerable distance from the pelvic area, the apparent location of the *phwy* and the *phwyt*. How is this to be explained?

Upon close inspection of this papyrus it becomes clear that, although Egyptologists have given each remedy a separate number, most of the remedies do not stand alone but really belong in pairs. That is, two (and occasionally more) successive remedies constitute a single treatment regime. For example:

Bt 14. "A remedy for driving out *hw*-illness from the *šnbt*,
treating his *drww*, \ \ soothing the *phwyt*"

Treatment: a drink

Bt 15. "What is made as an infusion after that"

Treatment: [an enema]

.....
Bt 16. "Another remedy for treating the *šnbt*, soothing the
h3ty, \ \ soothing the *phwyt*, driving out all its
t3w-heat" Treatment: a drink

Bt 17. "What is made as an infusion after that"

Treatment: an enema into the *phwyt*

.....
Bt 18. "Another remedy for soothing the *h3ty*, \ \
soothing the *phwyt*, invigorating the *mtw* ("vessels",
see below) which is prepared in the season of summer"

Treatment: a drink

Bt 19. "Another remedy which is made after it as an infusion"

Treatment: an enema into the *phwyt*

A consistent pattern is evident here. The titles of Beatty 14, 16 and 18 are divisible into two parts; the point at which they are to be divided is indicated by \\. The first part of the title describes the effect that the first treatment (the drink) will exert. The second part describes what the subsequent remedy, i.e. Beatty 15, 17 and 19, will achieve. Thus, the second part of the title actually has very little connection with the first part, or with the first remedy.

Evidently, the Egyptians believed that when a chest complaint was treated with an oral medication it was also necessary, or at least desirable, to administer a rectal preparation; in effect, to totally cleanse the body. Treatment of the *phwyt* by means of an enema in the above examples is a minor objective; it is an important procedure but one which is purely secondary and adjunctive to treatment of the chest complaint. In light of these findings, Pap.Chester Beatty VI takes on an entirely new complexion. The papyrus certainly focusses upon remedies to be administered rectally but only a small number of these are treatments for a primary rectal complaint. A far greater number are complementary treatments for complaints occurring elsewhere in the body; Pap.Chester Beatty VI is more a handbook of treatments for chest complaints than a treatise on "maladies of the anus", as has been widely believed.⁴⁵

In the six cases cited above, contrary to initial impressions, symptoms or illnesses in the chest are not being treated with enemas and, conversely, the *phwyt* is not being treated with oral remedies. Discernment of the rules which govern the writing of the complementary remedies in this papyrus enables symptoms to be placed in their correct anatomical locus. For example, *ḥw* in Beatty 14-15 only afflicts the *šnbt* and the *drww*, it does not also afflict the

pḥwyt, and the "vessels" which are invigorated in Beatty 18-19 have nothing whatsoever to do with the *ḥ3ty* but belong to the *pḥwyt*. It also permits us to reject the notion that the Egyptians must have believed in the existence of some sort of anatomical nexus between the *pḥwyt* and the *šnbt*, *drww* or *ḥ3ty*.

17.5.1.5 *mtw* - "vessels" "conduits"

Pap. Chester Beatty VI possesses two remedies which link *mtw* with the *pḥwyt*. The text of Beatty 2 is somewhat damaged but the second part of the title refers to "the crushing of *bnw*-illness upon the [*pḥw*]yt, calming (*šḥtp*) the *mtw* of the *pḥwyt*, driving out *wš* ("chewing" ? itching) [...] of a woman [...]." ⁴⁶ Unfortunately, Beatty 3, the adjunctive remedy which would perform these tasks, preserves little more than the word *pḥwy* in its treatment section. Thus, it cannot be determined whether the *mtw* of the *pḥwyt* are to be "calmed" by an ointment or medicated bandage applied against the *pḥwy*, or by an enema or suppository inserted into it. Beatty 18-19 has been mentioned earlier (17.5.1.4); Beatty 19, the adjunctive treatment, is an enema for "soothing (*sqbb*) the *pḥwyt* (and) invigorating (*sḥnh*) the *mtw* (of the *pḥwyt*)". ⁴⁷

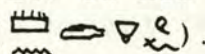
Ebers 161 is "Another (remedy for) easing (*sndm*) the *mtw* of the *pḥwy*". ⁴⁸ Here the treatment is a poultice composed of ox fat and Nile acacia leaves which is to be bandaged onto the *pḥwy*. As in the bladder cases (discussed above; 17.5.1.3), it is more likely that this poultice is to be bandaged onto the lower abdomen than onto the anus.

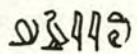
What then are the *mtw* of the *pḥwy* and the *pḥwyt* which are able to be invigorated, calmed or eased by local treatments such as an enema or a poultice? *mtw* is usually translated as "vessels" but this has the disadvantage of implying that it refers to the blood vessels; *mtw* does

denote these but by no means exclusively. *mt* is a very general term for an anatomical "tube", "passage" or "conduit". In the above three cases, the *mtw* of the *phwy* and the *phwyt* that are treated by enema or poultice are almost certainly not the blood vessels of the anus but anatomical conduits in the pelvis, especially the rectum and sigmoid colon.

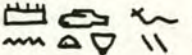
Ebers 856a-h and Berlin 163a-h are parallel series of short statements containing information about anatomy and about the causation of certain illnesses. The meaning of the statements is sometimes obscure. Two of them (c and h) mention the *phwyt* in connection with *mtw*. To analyse statement c it is necessary to fully translate both versions of statements c and d, the latter statement being of great assistance in the interpretation of the former.

Ebers 856c

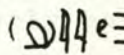
E 1 "There are two *mtw* in him as the hidden one(s) to (n) his *mnd* (.

E 2 It is they which create *t3w*-heat in the *phwyt* (.

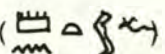
Berlin 163c

B 1 "There are two *mtw* to (n) his *mndty* (.

B 2 It is they which place *t3w*-heat upon the

{*phwy* ()} <*phwyt*>"

Ebers 856d

E 3 "There are two *mtw* in him to/of (n) his thigh (.


E 4 If he suffers in his thigh and his two lower legs

(*rdwy*) tremble(?) (*d3*),

E 5 then you should say concerning it,

E 6 'It is the hidden *mt* of his thigh, it has become ill'"

Berlin 163d

B 3 "There are two *mtw* in (m) his two thighs (.









B 4 If he suffers in his two thighs and his two

{arms (*wy*)} <lower legs (*rdwy*)> are exhausted (*bdš*),

B 5 (then you should say concerning it),

B 6 'It is the hidden *mt* of his two thighs, it has become
ill'" 49

The following information can be derived from these four statements. Because lines E 3 and B 3 must be conveying identical information, it has to be that each thigh contains one *mt*; that is, each *mnd* or *mnt* in statements c and d possesses only one *mt*, and not two as the Ebers versions imply. Line B 3 also reveals that the *mtw* in statement d are actually in (*m*) the thighs; that is, one *mt* is inside each thigh. What then is the identity of the *mt* discussed by statement d? It is a single structure hidden from view inside each thigh and it can cause trembling (?) or exhaustion in the lower leg when it is ill or diseased. The obvious candidate is the femoral artery.

There is cause for doubt concerning the destination or attribution of the *mtw* in statement c. Both versions have each *mt* leading to a breast (Ebers    , Berlin   ); the breast is a long way from the *phwy* and the *phwy*t in the pelvic area. It seems likely that the ancient writers were copying from a flawed original. Since statement d, which follows, is concerned with *mtw* in the *mnt*, the thigh, the word which properly belongs in statement c may also be *mnt* ( ) "thigh", and not *mnd* at all.

Because the *mtw* described in statement c will be a different set from those described in statement d, the *mtw* of statement c ought to lie outside the thigh. The *n* in lines E 1 and B 1 may not be genitive, meaning "of" or "belonging to", but dative. If this is so, and if the *mnty* are the correct anatomical subject, then these lines are stating, "There are two *mtw* to his two thighs"; that is one *mt* leading to each thigh). The *mtw* of statements d and c are both described as "hidden". If the hidden *mtw* in the thighs in statement d are indeed the femoral arteries then the hidden *mtw* leading to the thighs in statement c must be

the two major iliac arteries. These arteries arise from the end of the aorta, traverse the brim of the pelvis and become the femoral arteries when they emerge from the pelvis and enter the thighs.

If the above speculations are correct then the *mtw* which generate *t3w*-heat in the *phwy* and the *phwyt* will be the iliac arteries within the pelvis. Regrettably, the exact nature of the symptom of *t3w*-heat is unknown as is the manner in which the *mtw* were believed to have generated it. Despite these uncertainties, Ebers 856c = Berlin 163c seems to favour an internal pelvic location for the *phwy* and the *phwyt*.

Ebers 856h = Berlin 163h is the concluding statement of the series and is in the nature of a summary. It reads,

- 1 "All (*mtw*) return to his heart/mediastinum (*h3ty*),
- 2 (they) divide/branch (leading) to his nostril (*šrt*),
- 3 they join/unite (leading) to his *phwy*.
- 4 Ailments (*mrw*) of the *phwy* arise through them,
- 5 it is excretory products which lead the/its coming,
- 6 it is the *mtw* of the lower legs (*rdwy*) which start to die."⁵⁰

Because the *mtw* of statements c and d are blood vessels, probably major arteries, it is likely those in statement h are arteries too. This conclusion is reinforced by the allusion in Line 6 to death of the *mtw* of the lower legs which must refer to progressive arterial disease. Line 3, "they join/unite (leading) to his *phwy*" may well describe the aorta, the single large artery which leaves the heart and travels down through the chest and abdomen to a point just above the pelvic brim where it divides into the two major iliac arteries.

Line 4 echoes Line 2 of statement c above in that symptoms or illnesses in the *phwy* are said to be generated by the *mtw*. Line 5 appears to be stating that "excretory

products" (*wsšt*) precipitate the onset of illnesses in the *pḥwy*. Unfortunately, it is uncertain whether this refers to the pathogenic excretory products of disease-demons or the person's own excretory products. If it is the latter then presumably, by "excretory products", the contents of the intestines and/or colon are meant. Intestinal contents as the origin of illnesses in the *pḥwy* implies that the *pḥwy* contains a part of the intestinal tract. The fact that illness in the *pḥwy* is causally linked with death of the *mtw* (arteries) of the legs makes it very unlikely that *pḥwy* is the anus; no anal complaint has this effect on the legs.

Ebers 854a-o is a different series of short statements pertaining to anatomical features. Statement 854o reads,

1 "There are four conduits (*mtw*) which open to the *pḥwyt*.

2 It is they which enable fluid and gas to be produced from it (the *pḥwyt*).

3 The *pḥwyt* also opens to every conduit to the right half and left half (of the body),

4 (including) in the arms and in the legs,

5 when (it is) overfilled with faeces (*ḥs*)."⁵¹

In the sentence beginning at line 3, the context demands that the bodily part(s) referred to as being "overfilled with faeces" must be either the *mtw* or the *pḥwyt*. The *mtw* in question must include blood vessels since they are stated to extend into the arms and legs. This sentence is stating that blood vessels and other conduits of the body are adversely affected when the *pḥwyt* is engorged with faeces. In line 2, the mention of gas production from the *pḥwyt* implies that at least one of its *mtw* is the intestinal tract, or a part thereof.

Thus, in Ebers 854o, the *pḥwyt* is associated with four *mtw*: at least one carries blood, at least one produces gas and one (or more) of the *mtw*, or else the *pḥwyt* itself, can be overfilled with faeces. Clearly, not all the *mtw* of the


phwy are blood vessels, one of them must be a part of the intestinal tract. Since the *phwy* is the principal subject of statement o, the comment about being overfilled with faeces probably directly pertains to the *phwy* itself. The *phwy* is likely to be the colo-rectum.

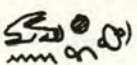
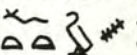
17.5.2 *phwy* and *phwy* in the medical papyri - Treatments employed in connection with the *phwy* and the *phwy*

The commonest mode of treating complaints affecting the *phwy* and the *phwy* is the infusion of a liquid medicinal preparation into them. The phrase which describes this procedure is *wdh m phwy* or, less often, *wdh m phwy*. *wdh* means "to pour out", "to pour off". Obviously, the instruction *wdh m phwy* does not mean that the medicines are to be poured directly onto the anus as anal treatments. Their intended destination is the rectum but to get them there the Egyptians must have employed a device such as a tube, funnel, douche or syringe. *wdh m phwy* describes this active infusion process and so is best translated as "to be injected into the *phwy*". Since the medication goes inside the pelvis, the directive "to be injected into the *phwy* / *phwy*", when taken at face value, means that *phwy* and *phwy* denote internal regions or structures. However, the preposition *m* can also mean "through" so the phrase could mean "to be injected through the anus", although this seems less likely.

Approximately a dozen remedies prescribe suppositories or pills and, in nearly all cases, the destination of the medicament is the *phwy*; in only two cases is it the *phwy* (Ebers 163, Smith 22.11). *rdi m phwy* is the phrase used for the insertion of a suppository or pill and means "to be put/placed into the *phwy*".⁵² Only one remedy, Beatty 5 discussed above, advises that pills are "to be placed against (*r*) the *phwy*"⁵³ but in view of the fact that all

other suppositories are to go into (*m*) the *pḥwy*, and because it makes little sense to treat a bodily part by placing pills against it, the preposition *r* here is probably an error.

Beatty 9 is an interesting remedy which is titled, "A remedy (for) driving out *ˁnn* () from the *pḥwy*". Treatment consists of a mixture of ground up beans, salt, goose grease, barley dough (?) and honey; this mixture is "to be placed against (*r*) the *pḥwy*".⁵⁴ The usual meaning of *ˁnn* is "to turn back" "to come back" and it seems plausible that the condition being treated is a prolapse of the lining of the rectum, or perhaps of some large haemorrhoids, through the anus. Placing the mixture "against the *pḥwy*" probably simply means placing it against the rear end. In a case of prolapse, the *pḥwy*, which is normally inside the body, has come outside. Thus, the treatment is seen to be very apt because, unusually, the remedy can be applied directly onto the affected *pḥwy*.

Ebers 145 is a remedy for "*wnḥ* () in the *pḥwy*". The ingredients are to be cooked all together and made into a *ftt* () which may be a medicated lint wick or plug. This is "to be put into the *pḥwy*".⁵⁵ The authors of *GdM* translate *wnḥ* as "displacement" but this is not a certain translation and the condition being treated here remains unclear. A lint wick or plug might be placed in the anus (perhaps to treat an anal fissure) but is unlikely to be inserted wholly into the rectum. Such a wick or plug is most apposite for treating a perianal condition (such as a perianal abscess, ischiorectal abscess, anal fistula or pilonidal sinus). Thus, although the phrase *rdi m pḥwy* could possibly mean "to be put into the anus", it is more likely to mean "to be put into the rear end" where "rear end" does not refer to the back passage but to the pelvic region generally.

A rather unusual treatment is found in Hearst 7. The text reads, "A remedy for the *phwyt* when it is ill. (It/he is) to be fumigated (*k3p*) with limestone, with sand (and) with *hs3* (? lees) or beer".⁵⁶ In order to produce the fumes, the lees or beer would probably be splashed onto the heated limestone or sand. The way in which the patient is then treated with these fumes is not clear. Is he to inhale the fumes or are they to be wafted against his anus or even into the rectum via a tube? Until further study is done on the theory and practice of fumigation by the ancient Egyptians for medical and magical purposes, this question cannot be answered with any confidence.

There are only four *phwy* / *phwyt* cases which recommend that a medication be bandaged onto the patient. Beatty 10, a remedy for "crushing *bnw*-illness, driving out *t3w*-heat upon his *phwyt*, upon the bladder and upon the *s^cq-mš3t*", and Ebers 161, a remedy "for easing the *mtw* of the *phwy*", have already been discussed (17.5.1.3 and 17.5.1.5). Beatty 7 and 8 are two very general remedies for "any (bad) condition (*iht*) in the *phwyt*".⁵⁷ The texts do not provide enough information to permit one to identify the bodily part onto which the medication is to be bandaged. For Beatty 10 and Ebers 161 it was concluded that it is to be bandaged onto the lower abdomen rather than over the anus, and there is no reason to believe otherwise for Beatty 7 and 8.

To summarise, the vast majority of treatments for illnesses directly affecting, or otherwise involving, the *phwy* and the *phwyt* are internal rectal medications. Of the other modes of treatment, only two, the lint plug or wick in Ebers 145 and the fumigation in Hearst 7, might be considered as more appropriate for an anal condition than for an internal complaint. There is a glaringly obvious omission from the catalogue of different treatments; not once is an ointment or similar external medication

prescribed to be rubbed into or smeared onto the *pḥwy* or the *pḥwyt*. If either of these terms denotes the anus then it is astonishing that this type of therapy, which is ideally suited to the treatment of anal complaints, is never employed. Its total absence is a cogent argument against "anus" as the translation for *pḥwy* or *pḥwyt*.



17.6 Conclusion

It is quite understandable how the notions came into being that *pḥwy* and *pḥwyt* are the same word and that both denote the anus. In the medical texts, the two terms often seem to be interchangeable; for example, enemas are prescribed to be injected, and suppositories to be inserted, into the *pḥwy* or into the *pḥwyt*. Outside the medical texts, statements such as the following seem to support "anus" as a translation for *pḥwy*. CT Sp.173: "Eat this excrement (*ḥtp k3*) which issued from the *pḥwy* of Osiris;". CT Sp.1102: "Eater of Droppings (*ḥ3mt*) of his *pḥwy* is the keeper of the third gate."⁵⁸ There is much other evidence however, which countermands these notions.

Because *pḥwy* is only rarely written with the flesh determinative, it probably designates a whole region of the body. Sometimes, especially when it is paired with *ḥ3t*, *pḥwy* seems to denote the entire rear half of an animal (lower half of a human). However, the *pḥwy* is really much more circumscribed in extent. Its very presence in many of the anatomical lists mitigates against it designating an entire half of the body and its position in those lists favours a location in the pelvic region.

In the medical papyri, the *pḥwy* is closely associated with internal pelvic structures such as the bladder (*šptyt*), the arteries (*mtw*) in the pelvis and structures in the suprapubic region (*kns*). Ostrakon Gardiner 156 contains the

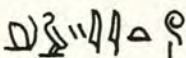
phrase *mht n phwy* "the intestine belonging to the *phwy*" which signifies that the *phwy* contains at least a portion of the intestinal tract. On Ostrakon Gardiner 155, the specific cut *iwf n phwy* is probably muscle meat and suggests that the *phwy* also possesses significant musculature.

In PYR Sp.415 it is said of the King, "his *m^crq*-garment, made of the hide of a baboon, is upon his *phwy*".⁵⁰ *m^crq* is a formation-in-*m* of *rq* "to bend" in which case it may denote a garment for the place of bending. A spell against *smn*-illness in Pap.Leiden I 343 + I 345 reads, "O *smn* you that are submerged in the lower legs (*rdwy*) that walk, in the thighs (*mnty*) that run, in the *phwy* that bends/bows down (*kst*  ),"⁵¹ The place of bending/bowing in the body is the pelvis.

The *m^crq*-garment upon the *phwy* in PYR Sp.415 is probably a loincloth since a loincloth specifically clothes the pelvic region, and not much else. The spell indicates that *phwy* encompasses the outside of the pelvis, and the abovementioned association of *phwy* with internal pelvic structures confirms that it encompasses the interior of the pelvis too. Thus, the best translation for this term is "pelvic region". The reason that *phwy* is sometimes accompanied by a dual suffix pronoun is not because the *phwy* is a paired anatomical structure but because the pelvic region is bipartite, it possesses two halves.

In conclusion, the *phwy* is a smaller entity than the rear half of the body and there is no firm evidence that the (hind)legs are an integral part of the *phwy*. On the other hand, it is clearly a much greater entity than the anus or rectum. The instruction to insert a suppository or inject an enema into the *phwy* is best understood and translated as administering the medication into the "rear end", rather than into the anus or the back passage.

• Unlike *pḥwy*, *pḥwyt* is invariably written with the flesh determinative implying that it denotes a discrete anatomical structure rather than a whole region; it is not a paired or bipartite structure. The *pḥwyt* is found within the inventory of cuts of meat on the Ramesseum Onomasticon. Like the *pḥwy*, the *pḥwyt* is also closely associated with the bladder, the pelvic arteries and structures in the suprapubic region. Ebers 854o reveals that the *pḥwyt* can be overfilled with faeces and links it with gas production. The *pḥwyt* must be greater than the anus and is probably the intestine in the pelvis, that is the rectum and sigmoid colon. Enemas and suppositories administered into the *pḥwyt* are best understood and translated as being put into the "back passage", rather than into the anus or the rear end.

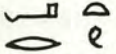
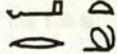
Interestingly, *pḥwyt*  is the term for the stern rope of a ship⁶¹ and the conceptual parallel here is obvious; *pḥwyt* denotes the rope carried in the rear end of a ship as well as the rope in the rear end of the body, that is the distal intestine.

The notion that *pḥwy* and *pḥwyt* are merely variant spellings of one word is probably erroneous and their simultaneous occurrence within a large number of remedies dispels the supplementary notion that one spelling is earlier and the other later. *pḥwy* and *pḥwyt* are separate terms denoting two different anatomical entities. The conclusion that neither of these is the anus is strongly supported by the total absence of medicated oils and ointments to be rubbed directly onto the *pḥwy* or the *pḥwyt* from the inventory of different treatments for these bodily parts. In all probability *ꜥrt*, which does not even appear in the medical texts, is the correct term for the anus (see Chapter 18).

The amended meanings for *phwy* and *phwyt* put an entirely different complexion upon many of the cases in the medical papyri, especially upon the material in Pap. Chester Beatty VI which is seen not to be primarily concerned with anal conditions at all. The ancient Egyptians were not especially prone to illnesses affecting the anus and their physicians were not excessively preoccupied with treatments of this bodily part. These impressions have held sway because of the frequent occurrence of *phwy* and *phwyt* in the medical texts and because of the identification of both terms with the anus. "Anus", as the translation for either term, should be abandoned. The optimal translation for *phwy* is "pelvic region" or "rear end", and for *phwyt* it is "rectum" or "back passage".

CHAPTER 18

Findings :

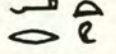
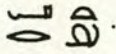


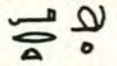

ꜣrt  , 

"perianal region" "anus"

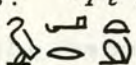
18.1 Introduction : semantic considerations

ꜣrt is an uncommon anatomical term, one which is not encountered in the medical papyri at all. Breasted translates it as "buttocks", Gardiner as "hind-quarters" and Faulkner as "hinder parts" (of a human being) and "hindquarters" (of an animal).¹ Lefebvre, however, is confident that ꜣrt specifically denotes the anus and the *Wb* also records this meaning.² In view of this divergence of opinion and because both *phwy* and *phwyt*, especially the latter, are also translated as "anus", it is timely to review the evidence concerning ꜣrt.

18.2 Lexicographical and etymological considerations

ꜣrt is usually written  or . The fact that it is invariably singular in form, and never dual or plural, calls into question the validity of "buttocks", "hindquarters" and "hinder parts" as translations for ꜣrt. However, the determinative  indicates that ꜣrt has at least some association with the hindpart or rear end. The presence of the flesh determinative  implies that ꜣrt denotes a discrete anatomical structure. A variant writing which occurs more than once in the Coffin Texts (e.g. in CT Sp.197), is very interesting;  carries an additional circular determinative  which resembles a small pellet.³ Another interpretation is that it is a depiction of a small hole; if this is correct, its presence would strongly support "anus" as the translation for ꜣrt. A third possible

interpretation of this sign will be given in the conclusion to this chapter.

Breasted states that *ꜥrt* may be etymologically related to *ꜥrwt* "leaf of a door" and *ꜥrrt* "gateway".⁴ If this is true, the *ꜥrt* may have been perceived as a doorway into or out of the body which would, of course, also support an identification with the anus. *ꜥrt* may also have an etymological link with *wꜥrt*  "hip" or "lower limb", although the precise nature of the link is not readily characterised.

18.3 *ꜥrt* and the anatomical lists

ꜥrt appears in only one list, that in CT Sp.945, in the following sequence:, *b3h* (glans penis), *inswy* (testicles), *g3s* (?), *ꜥrt*, *wꜥrty* (hips), *hpdwy* (buttocks), *mnty* (thighs), etc.⁵ The presence of *ꜥrt* with "buttocks" in the same sequence suggests that *ꜥrt* is not identical with this bodily part. This raises serious doubts about the translation "buttocks" for *ꜥrt*.

The list associates *ꜥrt* with the frog-goddess Heqet who in another list, in PYR Utt.539, is associated with the *pḥwy*. *pḥwy* denotes the pelvis and its internal structures (see Chapter 17). Their mutual association with Heqet implies that the *ꜥrt* and the *pḥwy* may be very closely linked; *ꜥrt* could possibly denote the gateway of the pelvis, that is the anus.

18.4 Other occurrences of *ꜥrt*

Breasted and Lefebvre draw attention to the following statement which occurs more than once in the Coffin Texts:

"I eat with my mouth, I defaecate with my *ꜥrt*
(*iw fgn=i m ꜥrt=i*)."⁶

Now, while it is equally true that one defaecates with one's hinder part, one's hindquarters and one's buttocks as much as with one's anus, the parallel with the mouth which is being drawn here cannot be ignored. Undoubtedly, the subjects of the parallel are the structures at each end of the body that are concerned with the ingress and subsequent egress of food, that is, the mouth and the anus.

PYR Sp.1349 addresses the baboon Babi as follows;

"Get back, Babi, red of ear and purple of *rt*."

Baboons are noted for the ruddy hue of their rump and "purple of *rt*" must be referring to this pigmented region. *rt* is mentioned in connection with baboons in two other spells as well. The spells are similar but both are, to varying degrees, corrupt. CT Sp.114:

"I am Neper of the knife, my *rt* is on my back (*s3*),
my buttocks (*hpdwy*)(sic) are at my shoulders (*rmnwy*),
I am a Great One, baboon-shaped,"

CT Sp.421 reads,

"I am the three baboons; see, my *rt* is on my back (*s3*),
my leg(s) (*hnd*) are at my shoulders (*rmnwy*),"

The fact that the pigmented area extends around the base of the baboon's tail and a short distance up onto its back explains the allusion in these texts to the baboon's *rt* being on its back (*s3* lit."top side"). The anus, which is located immediately beneath the tail, is approximately at the centre of the pigmented area on the rump of a baboon.

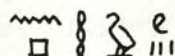
18.5 Conclusion

There is little evidence that *rt* denotes the whole of the buttocks or the hindquarters and such identifications appear to be erroneous. There is quite strong evidence that *rt* includes the anus and Lefebvre is probably correct to identify *rt* as the specific term for this structure. However, strictly speaking, the anus is not an anatomical

structure but merely an anatomical opening. The flesh determinative with 'rt and the several allusions to the 'rt of baboons imply that the term denotes more than just the anal orifice. It is likely to include the surrounds of the orifice as well, that is, 'rt denotes the perianal region. In many animals, but not so much in humans, the perianal region is quite distinctive; it is hairless and can have very distinctive pigmentation. The circle determinative 〇 that accompanies some writings of 'rt may not represent a hole or orifice at all but may simulate the usual circular configuration of this region." Although 'rt really denotes the entire perianal region, for all intents and purposes, the translation "anus" will be entirely appropriate for most contexts in which 'rt occurs.

CHAPTER 19

nphw



Findings :

"inguinal lymph nodes"

"groin" "inguinal region"

19.1 Introduction

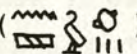
nphw has received a wide variety of translations: for example, inguinal region (i.e. groin), iliac region (i.e. the sides of the pelvis), pelvic cavity, genital region (in particular, the labia).¹ The following discussion will show that *nphw* probably denotes the groin (inguinal region).

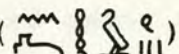
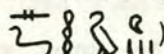
19.2 Lexicographical and etymological considerations

The usual writing of *nphw* is . In Pap. Edwin Smith (21.1) it is written as a dual . This dual form and the fact that, in Ebers 877, *nphw* is accompanied by the dual suffix pronoun , infer that *nphw* designates an anatomical entity which is either paired in the body or is a bipartite structure. Etymologically, *nphw* is related to *phwy*² and so the entity it denotes should be located somewhere in the region of the pelvis.

19.3 *nphw* in non-medical texts

nphw does not appear in any of the inventories of the cuts of meat from a butchered animal. It is cited in only one anatomical list, in the following sequence: , *hp3* (navel), *kns* (suprapubic region), *hnn* (penis), *nphw* (), *i3t* (spine), *s3wt* (?), *phwy* (pelvis), *hpdw* (buttocks), *mnty* (thighs),³ It is significant that *nphw* is clearly distinguished from *phwy*, the pelvis, which casts doubt upon "pelvic cavity" and "iliac region" (the sides of the pelvis) as translations for *nphw*.

The list occurs in a spell for, "Driving out *nšw*-illness upon any bodily part of a child". *nšw* () is a type of discharge, perhaps of a mucousy nature. The verse pertaining to the *nphw* reads, "(*nšw*-illness) do not descend upon his *nphw*, beware of the foul smell (*hw(3)w*)"; the reference to a bad smell may be implying that the *nphw* is particularly subject to or associated with infections.

Lefebvre believes that *nwhw* () in the anatomical list in Pap.Turin Magical is an error and that it should be amended to *nphw*.⁴ As an anatomical term, *nwhw* is otherwise unknown so it probably is a faulty writing of another term. It occurs in the following position: , *hnn* (penis), *mnt wnmy* (right thigh), *mnt smhy* (left thigh), *p3d* (kneecap), *nwhw*, *k3pwy n rdwy* (feet).⁵ *nwhw* seems to be too far displaced from other pelvic structures to be identifiable with *nphw*. It is more plausible that *nwhw* is written in error for *sdhw* () or *sdhwy* "shins"/"calves" which would fit the sequence much better. In support of this deduction is the fact that the text associates *nwhw* with Nefertem who is identified with the *sdhwy* in the anatomical list in Pap.Chester Beatty VII.

19.4 *nphw* in the medical texts

Two cases dealing with illnesses of the uterus mention the *nphw*. Ebers 812 reads;

TITLE: "A remedy for driving out phlegm (*stt*) from the uterus (*idt/hmt*)

INGREDIENTS and PREPARATION: oil of *g3bt* (? leaves) of *ht-ds* tree (? myrtle tree oil) is to be heat-reduced (*swsr* lit. dried out) with *t3ht* (? lees) of excellent beer

DIRECTIONS FOR USE: (the preparation is) to be applied upon her *nphw* and her *kns*.⁶

Smith 20.13 is a more complex treatment regime for, "an

accumulation of blood in her uterus". The woman is to consume a drink remedy as well as smearing her *kns* (see below) frequently with an ointment called "Bringing-out-blood". If infection is found to be present, the following treatment is prescribed;

INSTRUCTIONS 3: "Then you place (the plant called) 'Ears-of-*hdrt*-animal' into ointment. If, afterwards (after the above treatments), she has a bad smell (a smelly discharge), then you wipe her and smear her *nphw* therewith (with the medicated ointment); then you place myrrh oil (*entw*) (mixed) with frankincense (*sntr*) between her thighs (*mnty*) and let the vapours therefrom enter into her vagina (*iwf*)."

kns denotes the suprapubic region of the abdomen. In both cases the *kns* is the region containing the affected organ, the uterus, and a medication to be applied externally to this site is prescribed. The *nphw* too, in both cases, is treated with external applications of medicated oils or ointments. In Smith 20.13 the *nphw* is treated only if there is a smelly discharge (from the vagina).⁸ Such a symptom indicates that the accumulated matter in the uterus has become infected. Because neither the vagina itself nor the external genitalia is the focus of infection, and because the infected uterus is rather inaccessible to an application of ointment, it seems improbable that any of these organs is to be identified as the *nphw*. An infection in the uterus can be accompanied by swollen lymph nodes in the groin since these drain infected lymph from the uterus and pelvis. In all likelihood, the inguinal lymph nodes belong to the *nphw* which is being treated simultaneously with the uterus in Ebers 812 and Smith 20.13.

Ebers 294 = Hearst 35 is, "A remedy for causing *stt*-illness to come out from the *nphw*". It reads,
DIRECTIONS FOR USE: "then it (*snwtt* plant) is fetched and

one rubs its *dg3wy*-part upon the *nphw*. Thereupon its coming out (the exit of *stt* from the *nphw*) is caused immediately."⁹

The exact nature of *stt* is unknown but it is suspected to be mucus or slime, perhaps purulent slime. If the *nphw* is the inguinal region then the lymph nodes in this illness must be swollen and inflamed but whether the remedy is supposed to abolish the inflammation or to "draw" it out through the surface, possibly as a purulent discharge, is in the realm of speculation. As in the other cases discussed so far, the *nphw* here is treated with an external medication.

Another case of *stt*-illness also mentions the *nphw*. Ebers 192 = Ebers 195 reads;

CLINICAL DESCRIPTION: "If you examine a man suffering in his *r3-ib* while he expectorates (*q3s*) frequently; if you discover that it (the illness) is prominent against his forehead (*h3t*), his eyes are inflamed/bloodshot (*šsm*) and his nostril (*šrt*), it is streaming

DECLARATION: then you should say concerning it, 'It is *šhw3w* (? purulency) of his mucus (*stt*) without descending to his *nphw* in his mucus'."¹⁰


Because *r3-ib* denotes the chest (see Chapter 11), the illness under consideration is very likely to be an acute combined upper and lower respiratory tract infection; that is, the patient suffers with sinusitis as well as bronchitis and he is expectorating purulent mucus. A pungent beer remedy is prepared, and then;

DIRECTIONS FOR USE: "fatty meat (*iwf dd3*) of an ox is to be eaten by the man and washed down with the beer (? in copious quantities) so as to open his eyes and to send away his upper facial illnesses (*hntwt*) which come out with the mucus."

A possible interpretation of the statement about the illness not "descending to his *nphw* in his mucus" is that

the mucus is not being swallowed and thus the illness is not being passed out of the patient's body with his motions.¹¹ This scenario seems incompatible with the procedure adopted in the previous case, Ebers 294 = Hearst 35 (above), in which *stt* is removed from the body by *rubbing* a medication upon the *nphw*; an external medication rubbed onto an area of the pelvis could not stimulate the evacuation of *stt* via the bowels. It is more plausible that in both cases *nphw* has nothing to do with the bowels or the back passage. A simpler interpretation of the statement that the illness does not descend to the *nphw* is that the lymph nodes in the groin are not involved in the disease process. In a severe acute illness the lymph nodes of the body can be palpably enlarged and tender. Here, the author is simply stating that the infection is not manifesting generally throughout the body, as might be reflected in concomitant swelling of the lymph nodes of the groin, but is confined to the head, neck and chest regions.

Finally, Ebers 877 concerns a complaint called "*nwt*-swellings of the slaughtering/violence (*šct*) of Khonsu". It is characterised by superficial abscesses, conjunctivitis, and internal (or muscular) burning pains. It contains the following statement:

CLINICAL DESCRIPTION: "If however, you find in his armpits (*htty=fy*) in his upper arms (*gb3wy=fy*), (and) in his *nphw* () in his upper legs (*mnty=fy*), pus therein, then you are not to do anything concerning it."¹²

The *nphw* here is very closely associated with each thigh. The site in the upper leg most likely to contain swellings in a generalised illness, and to contain pus, is the inguinal region at the upper extremity of the thigh. In this region, the groin, are located the inguinal lymph nodes which become infected and/or swollen in a whole range of body illnesses.

19.5 Conclusion

The authors of *GdM* state that the association of *nphw* with mucus/slime (*stt*) and its etymological connection with *phwy*, which they interpret as "rear" ("Hinterer"), proves that the *nphw* encompasses posterior pelvic structures as well as anterior ones. In support of this statement they cite the fact that the Greeks translated *nphw* as "udder" ("Euter").¹³ The problem with this argument is that it confuses human and animal physiognomy. Like so many Egyptian human anatomical terms, *phwy* originated from an animal referent. In an animal, the *phwy* is the rear end of the torso (i.e. the pelvis) but in a human being it is the lower end of the torso (also the pelvis). Thus, in humans, *phwy* does not necessarily have a definite "rear" connotation at all; the anterior half of the pelvis (the *phwy*) is equally as important as its posterior part. Similarly, "udder" has a stronger association with the underside of a domestic animal's torso and pelvis than with its rear aspect; the position of the udders in an animal corresponds to the anterior aspect of the pelvis in a human being, not to the posterior aspect.

None of the medical cases which mention *nphw* contains any firm evidence that the term designates a posterior or an internal pelvic structure. Most treatments are external and the bulk of the evidence points towards an anterior and superficial location for the *nphw*. Udders of domestic animals are very close to the groins and this region, the inguinal region, is almost certainly the location of the *nphw* in human beings too. The inguinal region (groin) is centred upon the inguinal ligament at the front of either side of the pelvis and it extends into the adjacent part of each thigh. Identification of the *nphw* with the groin is strongly supported by the parallelism drawn in Ebers 877

between the armpit in the upper arm and the *nphw* in the upper leg.

But does *nphw* denote the inguinal region *per se*, or some structure(s) within it? If it is the region itself then it is curious that Ebers 865, which almost certainly deals with an inguinal hernia, makes no mention of *nphw*. Also, the usual plural writing for this word has not yet been explained. If *nphw* denotes the groin, why is it not written as a simple dual in Ebers 877, as is *htty* "armpits"?

The fact that Ebers 877 deals with a particular species of bodily swellings and the fact that the medical texts associate treatments of the *nphw* with treatments of infectious illnesses in various parts of the body, raises an interesting possibility. *nphw* may denote not only the inguinal region but also the inguinal lymph nodes specifically. If this is so, the usual plural writing of *nphw* ($\overline{\text{m}} \text{p} \text{h} \text{w} \text{ III}$), the dual writing ($\overline{\text{m}} \text{p} \text{h} \text{w} \text{ II}$) and the presence of a dual suffix pronoun ($\overline{\text{m}} \text{p} \text{h} \text{w} \text{ II} \text{ II}$), are all able to be elegantly explained. In each inguinal region there is a small cluster of lymph nodes, hence the plural writings, and in each person there are two inguinal regions, one in each upper thigh, hence the dual writings.

The translations "genital region" "iliac region" "pelvic cavity" and "sacral region" all appear to be incorrect. *nphw* is probably best translated as "inguinal region" or "groin", although the possibility that it specifically denotes a more restricted anatomical entity, the lymph nodes within the groin, should be kept in mind.

CONCLUSIONS

250 different anatomical terms is an impressive technical lexicon for an ancient culture and surely reflects a keen interest in, and a detailed knowledge of, the internal structures of the body.

Almost certainly, they obtained this knowledge from butchery practices, and to a lesser extent, from embalming practices. Many terms which are applied to humans are written or determined with signs which depict the corresponding part of an animal's anatomy. Examples include, *wpt* (crown of the head), *ht* (torso), *idt* (uterus), *msdr* (ear). It is also true that a much higher proportion of Egyptian anatomical terms are equally applicable to animals and humans than is the case in modern western languages.

Egyptian anatomical terms are much more specific and are employed much more carefully and consistently than has generally been believed. There are very few exact synonyms within their repertoire of terms. *nhwy* and *msdrwy* may be one example but, as we have seen, *sm3* and *wf3*, *ib* and *h3ty*, *phwy* and *phwyty*, are not truly synonymous even though each member of the pair is usually given exactly the same translation.

General observations about Egyptian perspectives concerning the human body include the following:

(a) The body was perceived as a corporation of quasi-independent, semi-divine entities/beings/parts.

(b) Conceptual divisions of the body were predominantly regional (i.e. anatomical - head, arm, torso, liver), in preference to fabric divisions (i.e. physiological - bones, muscles, nerves, ligaments) or systemic divisions (i.e. functional - gastro-intestinal, musculo-skeletal,

cardiovascular systems, etc.). In the modern day, the medical profession strongly prefers to view the body in terms of the last of these, that is, as a conglomerate of functional systems.

(c) The basic regional division of the body was termed *ꜥt* and the term covered everything in that region. Thus, "thigh" (*mnt*) included thighbone (femur), quadriceps and hamstring muscles, blood vessels, fat and skin.

(d) There were generic terms for general anatomical/physiological structures such as bones, fat, vessels and viscera but many of the individual bones, blood vessels and muscles in the body do not appear to have been specifically named. Soft internal structures, namely the viscera and muscles, appear to have been very closely linked together conceptually.

(e) Commensurate with their perception of the body as a loose association of independent parts, the Egyptians did not view a joint as a structure which joined two bodily parts together (or joined one part onto the rest of the body) but rather as a space, a dividing line which separated one bodily part from the neighbouring part.

(f) There was a strong tendency to subdivide parts of the body, for example the neck and the torso, into separate ventral (front) and dorsal (back) anatomical units. Unlike modern western thinking, the Egyptians largely ignored the natural division of the torso into chest and abdomen at the diaphragm favouring the whole torso as being conceptually more important. Thus, the medical papyri locate both coughing and intestinal worms in the *ht* (torso) rather than in the chest and abdomen respectively.

Much more information about their perspectives regarding human anatomy remains to be gleaned from the texts.