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# When pain is not a place: Pain and its metaphors in late middle English medical texts

#### **Javier E. Díaz Vera** Universidad de Castilla-La Mancha España

#### Abstract

In this research I will identify and describe the metaphorical expressions for pain recorded in the texts included in the Middle English Medical Texts corpus, a collection of English medical writings from the period 1350-1500. Furthermore, I will propose a comparison between the resulting list of specialised medical metaphors and a list of metaphorical patterns for pain extracted from a multi-genre, late Middle English corpus, the Helsinki Corpus of English Texts (subperiods ME III and ME IV), which I will use here as my reference corpus. In doing so, I will try to show that medieval medical authors borrowed or developed new metaphorical extensions in order to describe pain and its treatments. Through the use of these metaphorical patterns, medieval medical writers tried to refer to pain as a process, with a beginning, a treatment and an end. In fact, pain is frequently conceived of as a living entity of adverse nature (e.g. a soldier, an enemy, a wild animal), and it is the doctor's role to fight it with all the weapons (i.e. treatments) at his disposal. These conceptual choices differ greatly from the conceptualizations of pain found in the multi-genre corpus, where pain is frequently conceived of as a permanent state or as a place.

**Keywords:** figurative language; pain; cognition; medical texts; Middle English; vernacularization.

Afiliación: Departamento de Filología Moderna, Facultad de Letras, Universidad de Castilla-La Mancha. Correo electrónico: javierenrique.diaz@uclm.es

Dirección postal: Avda. de Camilo José Cela s/n, 13071, Ciudad Real, España.

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## 1. Introduction

In this paper I will analyze the most dominant metaphorical tendency for the description of pain experiences, as recorded in medieval English medical texts. More exactly, my research is based on the analysis of the textual data extracted from the Middle English Medical Texts (hence MEMT) corpus, which includes digital editions of a set of medical treatises written in the vernacular between c1375 and c1500, plus a short appendix of texts written around 1330. This corpus, consisting of 495,322 words from 86 texts representing different traditions of medical writing, has proven to be adequate for the study of historical English, as shown by Taavitsainen (2006). My choice of corpus is not casual, but based on the highly specialized character of the MEMT: unlike most other historical corpora of English texts, the MEMT offers a large body of representative and monothematic writings dealing with one single target domain (i.e. medicine), allowing a systematic and highly exhaustive identification of the metaphorical expressions used in early professional writings.

In the final part of this research, I will contrast this analysis with data extracted from a multi-genre corpus of Middle English, the Helsinki Corpus of English Texts, subperiods ME III (1350-1420) and ME IV (1420-1500). With a total of up to 398,080 words, these two subsections of the Helsinki Corpus illustrate a wide variety of genres, from legal documents and religious treatises to travelogues and personal letters (Kytö 1996: 11-13). Through this contrastive analysis, I will try to determine what metaphorical patterns represent more typically the register used by Middle English scientific writers. Much more importantly, my research will try to analyze to what extent the vernacularization of medical writing in English, which started in the fourteenth century (Pahta & Taavitsainen, 2004), is to be understood not only as a linguistic and textual process, but also as a result of the lexical and conceptual choices made by early authors in their writings.

The paper is organized as follows. *Section 2* outlines some particularities of medical metaphors, with special reference to the language of pain associated to disease. *Section 3* outlines the data and methodology used for this research. This is followed by a presentation and description of the ME data in *Sections 4-6*.

## 2. Pain and language

Within the general field of medical language, the domain of PAIN and its conceptualizations show a series of interesting peculiarities. To start with, pain is universal, in the sense that all human beings have experienced it throughout the history of mankind, which allows a perfect ground for diachronic comparison. Furthermore, pain is highly individual and subjective and, consequently, it cannot be directly observed or shared with others. As Bonch-Osmolovskaya *et al.* (2009: 111) put it:

Our access to other people's pain is always mediated through language, i.e. the physiological experience of different people is subject to comparison only on the basis of their verbal descriptions. The verbalization of pain is of crucial importance, since it substantially contributes to healing [...]. This implies that a natural language needs to have means for describing and differentiating a great variety of painful sensations. This, again, renders the pain domain very promising for lexical investigation.

According to Wittgenstein (1953: 89), the verbal expression of pain does not fully describe it, but replaces its primitive, non-verbal expressions (such as crying). Consequently, our access to other people's pain experience is necessarily mediated by language. The ease with which words can be used for the meaningful communication of pain is thus proportional to the extent to which the experience of pain can be mutually understood and shared (Schott 2004: 210). In fact, communicative problems between doctors and their patients related to their descriptions of pain sensations are not infrequent (Kugelmann 1999, Lascaratou 2007: 174-7).

The highly subjective character of pain language implies, among other things, that the lexical domain of PAIN shows a very frequent use of figurative language. Actually, metaphoric and metonymic extensions are very frequently used in descriptions of physical pain. Numerous medical specialists have proposed studies of pain metaphors in English, based on interviews with medical patients (e.g. Aldrich and Eccleston, 2000; de Souza and Frank, 2000; Söderberg and Norberg, 1995). As Lascaratou (2007), Lascaratou & Hatzidaki (2002) and Bonch-Osmolovskaya *et al.* (2009) have demonstrated through their research in a wide variety of languages, many of the lexical units used by medical patients in pain-related discOurse are in fact lexical units drawn from other semantic fields, which are metaphorically applied to the expression of pain. This is the case of, for example, pain metaphors with source domains related to FIRE (cf. English *my head is burning*), SOUND (cf. German *mein Kopf brummt* lit. 'my head drones'), DESTRUCTION (cf. Lithuanian *graužia akis* lit. 'it gnaws my eyes'), MOTION (cf. Hindi *peT kūd rahā hai* lit. 'my stomach is jumping'), or NEGATIVE EMOTIONS (cf. English *my stomach hates me;* Bonch-Osmolovskaya *et al.* 2009).

The analyses provided by these studies on the conceptualization of pain are highly consistent with Kövecses (2008), who states that the most frequent metaphors for pain involve source domains that correspond to the most salient causes of pain. In his list of pain metaphors, Kövecses (2008: 28) includes the following:

PAIN IS A SHARP OBJECT: A **sharp stab** of pain made her sit back down. PAIN IS A TORMENTING ANIMAL: A massive killing pain came over my right eye [...] I clawed at my head trying to uproot the **fiendish talons from their iron grip**.

PAIN IS FIRE: Pain is **fire that can devour** the whole body.

These three formulations are further subsumed by Semino (2010: 4) into a general source domain, labelled as CAUSES OF PHYSICAL DAMAGE, which is recurrently found in a wide variety of English metonymies and metaphors for pain. Semino goes on to define the interaction between metonymy and metaphor in the description of pain experiences; broadly speaking, she argues that "expressions such as "*sharp pain*" function metonymically when they describe pain that directly results from physical damage, and metaphorically when no such damage is involved" (Semino 2010: 2). Physical pain related to disease falls within the second category and illustrate metaphorical uses of the CAUSES OF PHYSICAL DAMAGE source domain.

From a diachronic perspective, the different ways speakers of English have talked about pain throughout the history of their language are mainly determined by the following conceptualizations (adapted from Peters, 2004: 198):

- i. *Cause*: The sensation of pain is the result of either a sanction, an activity, or an emotion affecting the experiencer, e.g. PAIN IS A PUNISHMENT, PAIN IS OPPRESSION, PAIN ARE WOUNDS, PAIN IS WORK.
- ii. *Agent*: The sensation of pain is caused by a hostile agent, as can be seen in PAIN IS AN ENEMY, PAIN IS A WEAPON, PAIN IS A BURDEN, PAIN IS AN ANGRY PERSON.

iii. *Experiencer*: The experiencer of pain is conceptualized in terms of the general THE BODY IS A CONTAINER model, as illustrated by the metaphors PAIN IS A QUANTITY, PAIN IS A FLOOD, PAIN IS A POSSESSION OF PAIN IS A CONTAINER.

These underlying conceptual metaphors indicate the existence of historical processes of polysemy that affected the meaning of many Old English words, so that they developed secondary meanings related to pain. On many occasions, the later historical evolution of these words implied a complete loss of their original meaning, so that their pain-related meanings became more and more central within this category.

## 3. Data and methodology

As indicated above, this research is based on the MEMT corpus. In order to analyse the texts included in this corpus I have used *Wordsmith Tools*, although manual analyses have also been performed at times. The texts included in the MEMT corpus are classified into three broad categories, according to their tradition of writing, contents and audience: surgical texts, specialised texts, and remedies and *materia medica*.

This division was first suggested by Voigts (1982, 1984) and has subsequently become widely accepted. In the first category, *surgical texts*, we have 15 texts belonging to university tradition; some of them represent the highest academic level of writing, being derived from university texts. The second category, *specialized texts*, includes 24 texts representing the academic tradition and treatises dealing with natural philosophy and reproduction, specific illnesses or fields of specialization. The third category, *remedies and materia medica*, contains a series of ME texts belonging to the remedybook tradition and includes recipes, charms and herbals.

In order to extract the relevant metaphorical data from the corpus, I have followed the *metaphorical pattern analysis* (hence MPA) methodology proposed by Stefanowitsch (2004, 2006). This proposal consists in choosing one or more lexical items referring to the target domain under scrutiny (i.e. PHYSICAL PAIN RELATED TO DISEASE) and extracting a sample of their occurrences in the corpus. Thereafter, the metaphorical expressions of which the search word is a part are identified and grouped into coherent sets representing general mappings. Metaphorical patterns provide a basis for target-domain oriented studies of metaphorical mappings, analogous to source-domain oriented methods. In fact, using this method we can retrieve a large number of illustrations of our target domain items (such as *sore*, *ache*, *suffering*, etc) and exhaustively identify the metaphorical patterns they occur with.

Using the online version of the *Historical Thesaurus of the Oxford English Dictionary* (hence HTOED), I have made a full list of all the words included in this domain (see APPENDIX 1) in usage between 1330 and 1500. In order to predetermine patterns of semantic change and polysemy, these 576 lexical items have been analysed etymologically and grouped into semantic categories. Thereafter, I searched all the occurrences of each one of the 23 ME pain-nouns used in the MEMT corpus.

The very high degree of spelling variation of ME texts can cause considerable problems to corpus linguistics tools and methods (Baron *et al.*, 2009: 42). In order to minimize their impact, for each HTOED entry I have made a list of all the written forms used for each lexeme. To each spelling variant used in the MEMT corpus I have added, in brackets, the corresponding lemma (or HTOED entry) and a part-of-speech tag, as in:

(1) For I do you to vndirstonde bat these pannicles were neuer withe none other medecyns that ben violent, but rather they engender *sorowe* [SORROW n.] and *woo* [WOE n.] and *akthe* [ACHE n.] more on anoper *woo* [WOO n.] (benvenutus\_grassus.rtf [32]: 36136).<sup>1</sup>

My search is limited to nouns for two main reasons. To start with nouns, and especially abstract nouns, are not normally used to make metaphors (Hanks, 2006: 20), which guarantees that most, if not all, the *pain*-nouns found in the corpus are being used non-metaphorically and consequently refer to the concept *pain*. Secondly, recent studies suggest that "a very large number of metaphors seem to be of a different part of speech from their literal equivalents" (Deignan, 2005: 148), which implies that the source domain lexis for *pain*-related metaphors is to be found in the adjectives, verbs and adverbs that collocate with *pain*-nouns. By combining both principles, I will argue that most of the metaphorical patterns for PHYSICAL PAIN included in

<sup>&</sup>lt;sup>1</sup> For reference purposes, APPENDIX 2 includes word-by-word translations of the ME examples used in this research.

our corpus are composed of (1) a noun from this domain (i.e. the target domain), and (2) and adjective, verb or adverb from a different domain (i.e. the source domain).

I have then grouped all these sentences into metaphorical and non-metaphorical expressions. Finally, I have analyzed the resulting set of metaphorical patterns and classified them into source domains, trying to determine the specific paradigmatic relations between "lexical items from the target domain and the source domain items that would be expected in their place in a non-metaphorical use" (Stefanowitsch, 2006: 67).

## 4. Metaphorical connections between semantic fields

#### 4.1. Semantic change and polysemy in Middle English

According to the data extracted from the HTOED (which I have represented graphically in *Figure 1*), the late ME lexical domain of PAIN is composed of 57 different lexical items, including 23 nouns, 11 adjectives, 6 adverbs and 17 verbs (three of which are intransitive).

The etymological analysis of the data reveals that only 10 of these 57 items (17.54%) existed already in the corresponding Old English lexical domain: 5 nouns (ME *wrake*, *tray*, *sore*, *soreness* and *ece*), 2 adjectives (ME *sore1* and *sore2*), 1 adverb (ME *sore*) and 2 verbs (ME *grin* and *ail*). As for the remaining 47 items, 21 (36.84% of the total) are the result of processes of semantic change that affected other areas of the English vocabulary, whereas 23 items (40.35%) are borrowings from French and 2 items (3.50%) are Scandinavian borrowings. Finally, only one of the items under scrutiny here (ME *urn*) cannot be properly identified on etymological grounds.

This preliminary data clearly illustrates that the Old English lexical dimension of PAIN went through a thorough process of change and renovation after the Norman Conquest of England in 1066. Much more importantly, it also indicates that this lexical renovation was based not only on massive borrowing from French, but also on the actuation of semantic change (such as metaphorization processes), which played a pervasive role in the evolution of the late ME lexical domain of PHYSICAL PAIN. In order to identify, describe and analyse the underlying processes of semantic change from other domains, I have studied in detail the set of Old English lexemes that came to express PAIN in ME. These lexemes can be grouped into the following source domains, which represent their central meanings in Old English:

- sound: ME *woe* (from OE *wa* 'lament') and ME *sing* (from OE *singan* 'to sing').
- TASTE: ME *bitterly* (from OE *biter* 'bitter') and, possibly, ME *acore* (from OE \**acoran* 'to taste').
- NEGATIVE EMOTION: ME sorrow (from OE sorh 'grief')<sup>2</sup>.
- wEAPON: ME *bale* (from OE *balu* 'blow'), ME *smart* (from OE *smeart* 'stroke').
- wounds: ME teen (from OE teona 'injury').
- OPPRESSION: ME wringing (from OE wringan 'to squeeze'), ME quetch/ quitch (from OE cweccan 'to shake'), ME quinch (also from OE cweccan 'to shake').
- MOTION: ME *snell* (from OE *snel* 'quick') and ME *put* (from late OE *putian* 'to put').
- work: ME *warking* (from OE *wærc* 'pain', etymologically related to OE *weorc* 'work).
- POSSESSION: ME get (from OE gettan 'to get').

Here are some illustrations of these ME words for *pain* and their use in medical texts, extracted from the MEMT corpus:

- (2) For I do you to vndirstonde bat these pannicles were neuer withe none other medecyns that ben violent, but rather they engender *sorowe* and *woo* and *akthe* more on anober *woo* (benvenutus\_grassus.rtf [32]: 36136).
- (3) But nat forthan bere is different causes of teres whych spryng out of the ouer eylede and whych spryng oute of the nether, ffor tho whych come out of the nether eyelyde proceden from the hert, eyther for *sorow*, drede or *smart*, and be caused by a maner of vyolence (benvenutus\_grassus. rtf [32]: 73296).
- (4) If yt be in be furst maner, be womannes veynes ar ben ful of blode in dyuerse places of hyre body, and if it be in be secounde maner, when bey hafe ber floures, bat is to say when bey blede, bey fele hete and *smartynge* in bere priuy membre (sekenesse\_of\_wymmen\_1.rtf [21]: 16833).

<sup>&</sup>lt;sup>2</sup> The polysemic pattern *negative emotion/physical pain* is also found in most of the Old English predicates of PAIN that survived into ME. This is the case of, for example, ME *tray*, *sore*, *ache* and *ail*.

#### 4.2. Metaphor and borrowing

Some of the semantic extensions described in the preceding section are also illustrated by many of the foreign lexemes borrowed by speakers of English during this period. Most of these borrowings had in fact undergone the same type of semantic processes found in native words either before they were borrowed or soon thereafter. This is the case of, for example, the French borrowings ME *dole* and *pain* which, according to the OED, expanded their original meaning of *negative emotion* (ME *dole* c1290, ME *pain* n., 1375, ME *trouble* c1230) to the historically later *physical pain* (ME *dole* c1320, ME *pain* n. 1377, ME *trouble* 1463) in late ME.

- (5) And yf thou doo it nat, there may folowe *doloure* and sterkenesse in the hede, and feuers, with impediment of the tunge and othir diuers seekenesse (secreet\_of\_secreetes.rtf [45]: 27094).
- (6) But when the herys growe ayen, than commyth they to wors astate, for the more bat bei be pullyd, the gretter and the harder they waxen and cause farr more greatter *paine* and sum tyme for oon growyth iij or iiij (benvenutus\_grassus.rtf [32]: 37037).
- (7) For yf thou make taryinge, thy stomac takith his full refeccion of the yll humors that ben in the body, whiche shall *trouble* the brayne, and enwyke the stomac, and the meite shall doo no profite to the body (secreet\_of\_secreetes.rtf [45]: 15432).

Very similarly, ME *anger* (from ON *angr*) and ME *throly* (from ON *þrá*) represent the close semantic connections between the domains of *mental emotions* and *physical pain*:

(8) Tak euerfern bat waxes on be ake with be rute & sethe it wele & tak mynt, of aber ilike mekill, & stamp bam wele & make a playster & lay on be forhede & on be thonwanges. Bot anoynte hym firste with popilion, if he hafe *anger* in his lyuer (liber\_de\_diversis\_medicinis.rtf [62]: 22481).

In the case of ME *grieve* and *gregge*, both words were used to express the different meanings of the French original, polysemic predicates *grever* and *agreger*, i.e. 'to press heavily upon something, to make heavy' and 'to cause/feel pain' (PAIN IS A BURDEN).

(9) And yf ye wil trowe me, I shal yeue to you a exemple. I was *grieuousely* sike in be breste and fulle of viscous humours. And I toke of yerepigra and of euforbe ana oz (rupescissa\_remedies.rtf [65]: 41514).

This is also the case of ME *offence*, which has kept the two meanings of the original Fr *offens*: the central 'strike, hurt' and the secondary 'physical pain' (PAIN IS AN ENEMY).

(10) Also wonde3 persyng to be inwardne3 of membre3 ar demed mortale as oft-tyme3, for als mych as for be aier bat entreb in-to hem withoute alteracion *offendeb* be in-ward membre3 (chauliac\_wounds.rtf [9]: 15818).

In some other instances, speakers of Middle English borrowed only the metaphorized meaning of polysemic French predicates. This is the case of ME *suffer* and *vex*, from to Fr *soffrir* and *vexer*, respectively.

Etymologically speaking, both predicates derive from original verbs of MOTION (cf. Latin *sufferre* 'to bear') and OPPRESSION (cf. Latin *vexāre* 'to shake'), which developed secondary meanings in the domain of PAIN. However, their usage in ME texts is restricted to the domain of PAIN, as in:

- (11) Be yt 3efe properlyche to hym þat *suffereþ* ache of þe reynes; yt prouokeþ lecherye meruyolyche, and swyfynge yloste be any cause yt restoreþ wyþou3t any tarynge (antidotarium\_nicholai.rtf [67]: 22128).
- (12) And witte bou, aftir Bernard of Gordon, bat be synowe3 closyng and openyng be lure habe festnyng with be stomake and wib be ventricule3 of be brayne. And for this cause suche paciente3 ar som tyme *vexed* in be heued and in be stomak (arderne\_fistula.rtf [4]: 28193).

Finally, ME *penalty* (derived from Fr *pénalité*) illustrates the link between *punishment* and *physical pain*, which existed already in the Old English noun *wracu* (> ME *wrake*):

(13) 3if a man haue a brennyng in hys stomake or vnkyndly throst þat wryk hym meche *wrake* take þe floros & þe leuys of rosemayry and sethe hem in welle water wyl (crophill\_rosemary.rtf [88]: 2973).

In sum, the etymological analysis of the set of ME *pain* words listed in the HTOED indicates the existence of numerous semantic connections between the domain of PHYSICAL PAIN and other ME domains. These semantic connections indicate the existence of a series of underlying metaphorical conceptualizations of *pain* in early English.

Furthermore, Middle English shared with Old French and Old Norse very similar metaphoric frameworks, so that the processes of lexical borrowing described above seem natural and straightforward.

## 5. Metaphorical patterns in the MEMT

In the second part of my research, I have extracted from the MEMT corpus all the occurrences of the 23 *pain*-nouns described above and divided them into metaphorical and nonmetaphorical expressions. Thereafter, metaphorical expressions have been classified into coherent sets of metaphors illustrating the same source domain.

There are 145 sentences containing any of these 23 *pain*words in metaphorical patterns in the corpus. Figure 1 shows the mappings instantiated by these metaphorical patterns, together with their total number of occurrences in the corpus:

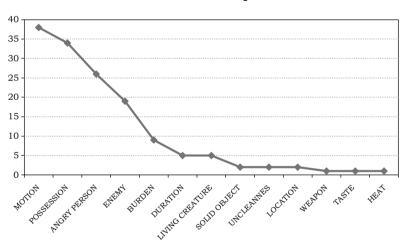


FIGURE 1 Metaphorical patterns manifesting pain metaphors in the MEMT corpus

As can be seen here, many of the semantic extensions identified in our etymological analysis manifest themselves as metaphorical patterns. Furthermore, Figure 1 shows a number of additional metaphorical patterns (e.g. PAIN IS A BURDEN OF PAIN IS A CAPTIVE ANIMAL). I will now describe and illustrate these metaphorical patterns using evidence from the MEMT corpus.

#### 5.1. PAIN IS A SUBSTANCE (AIR) MOVING WITHIN A CONTAINER

According to our data, the preferred mapping in ME medical texts (26.21%) is one where pain is an external substance (frequently described as a gas) that comes into the experiencer's body and moves from one bodily organ to another producing a painful sensation through pressure. This mapping clearly illustrates Lakoff's EVENT STRUCTURE metaphors, i.e. general metaphorical systems for verbalizing "notions like states, changes, processes, actions, causes, purposes, and means" (Lakoff, 1993: 220). More concretely, this mapping illustrates the *location system*, where change is conceptualized as "the motion of the thing-changing to a new location from the old one" (Lakoff, 1993: 225), as can be seen here:

(14) For *akbe entrib into* be part of be senewe bat is kutt or prickid; & bi be partie of be seneve bat is hool akbe *is brou3t to* be brayn & so be crampe *mai come to* be wounde bi oon of bre weies (lanfranc\_chirur-gia\_magna\_1.rtf [11]: 42495).

TD PAIN:	ME akþe
SD MOTION:	to enter into, to bring to, to come to
General mapping:	PAIN IS MOTION
Specific relation:	pain ≈ moving substance (air)

Once within the body, the airstream can flow upwards or downwards, producing pressure and pain in different body parts.

- (15) Ther ys also anoper sekenes causyd of malyncolye and yt ys when the *payne* sodonly *ascendyth* ynto the eyon and so greuously bat it semyth the eyon wolde stert oute of theyr places, and bei aperyn passyngly bollen (benvenutus\_grassus.rtf [32]: 51109).
- (16) In tyme of euyl keepyng and after by *grete peyne fallyng* yn the heede ys causyd the mygreym, wherthrugh the peyne *descendyth* ynto the templys and ynto the browys and makyth the veynes to bete, of whych peynful betyng the eyon arn trowblyd (benvenutus\_grassus.rtf [32]: 26684).

Also, pain can move from one organ to another, especially from the stomach to the head:

- (17) Also *ache* of be y3en *comep* obirwhiles from be stomake (gilbertus\_anglicus\_compendium.rtf [43]: 44286).
- (18) Rede coler with the power that he hath in the stomac he puttith it out sum fumosite of the hede, wherof *comen aches*, that is to say diafragmes, apostemes, and other passiouns (de\_spermate.rtf [25]: 12599).

Finally, medicines can be used in order to stop the airstream (ME *stanche, cese*), as in the following example, which illustrates the extension END OF PAIN IS END OF MOTION:

- (19) With bis oyle wasshe or bathe or oynte wel be hed; so my3t bou both *stanche be ache* and be hete of be hede bat is ouermochill (macer\_de\_viribus\_herbarum.rtf [74]: 46792).
- (20) With bat ius & mele and with eyren make bynne cakys and fry bem with fresche grece and bat *schall cese be ache* & if hir warme wyne to drinke bat comyn habe be soden yn (sekenesse\_of\_wymmen\_2.rtf [22]: 20463).

#### 5.2. PAIN IS A POSSESSION

The next mapping, PAIN IS A POSSESSION (23.45%), illustrates Lakoff's *possession system* (a subcase of his *object system*), where "the object in motion is conceptualized as a possession of the thing-changing as a possessor" (Lakoff, 193: 225). Words refering to ache are frequently accompanied by verbs meaning *to have* (21-22), *to do away* (23) and *to remove* (24) in ME medical texts. However, differently to a typical case of possession where the possessor (or a part of his body) strives to get something, here the possessor acquires an undesired possession and tries to "give it away, or put it back wherever it came from" (Halliday, 1998: 4).

(21) And if a man *haue* be toith *ake* Betayne sothen in wyn he take (medical\_treatise.rtf [86]: 4309).

TD PAIN:	ME ake
SD POSSESSION:	to have
General mapping:	PAIN IS POSSESSION
Specific relation:	pain ≈ physical object

- (22) *membris þat han akþe*, þilke akþe is cause of drawynge from þe oþere placis to þe membre þat akiþ þe worste þing of þe humouris Auicen seiþ (lanfranc\_chirurgia\_magna\_1.rtf [11]: 40107).
- (23) holde be mowbe ouer be ouere ende of be pipe, bat be eir may in to be sore tob; and bat wol sle be wormes and *do awey be ache* (recipes\_2. rtf [69]: 5347).
- (24) So it is iseide in amphorismorum: a greet soore and an ache swagib be sore ache in anobir membre, and *binymmeb moche del of be ache berof* (trevisa\_on\_the\_properties\_of\_things\_1.rtf [3]: 7794).

#### 5.3. PAIN IS A LIVING CREATURE

Three of the mappings identified here refer to pain as a living person or animal: PAIN IS AN ANGRY PERSON (17.93%), PAIN IS AN ENEMY TO BEAT (13.10%), PAIN IS A CREATURE THAT GROWS WITHIN THE BODY (3.45%).

Most of the examples of the first two metaphors found in the corpus illustrate the figurative fight between pain and the remedies proposed. In the first case, the metaphor PAIN IS AN ANGRY PERSON (25-26) is normally activated by the verb ME *aswagen* 'to appease, mitigate'. In fact, this metaphor is especially frequent in medical descriptions of healing processes to indicate end of pain, as in these examples:

- (25) bis oyle, bat is to seie, quinta essencia of gold, hath be mooste *swetnes* and vertu to a-swage and putte awei be ache of woundis, and for to heele woundis, oolde sooris, and manye wondirful yuelis (quinte\_essence.rtf [54]: 20133).
- (26) Feble repercussives ben y-clepid mytigatives, for *bei aswagen* be ache and comforten be membre (gilbertus\_anglicus\_compendium.rtf [43]: 51439).

Similarly, the mapping PAIN IS AN ENEMY TO BEAT (27-28) is normally used in order to refer to the healing power of herbs and medicines, as can be seen in these two sentences:

- (27) In be same wise she wole *destruye* and swage *be ache of be wombe* and be fallyng evill and paralisie also (macer\_de\_viribus\_herbarum. rtf [74]: 30033).
- (28) Now bou hast *medecynes a3en be achis* of be heued (leechbook\_2.rtf [61]: 19216).

As for the PAIN IS A CREATURE THAT GROWS WITHIN THE BODY metaphor, pain is described as a creature that is generated in the body (29) and nourished by the sickness (30) so that it grows (31). The origin and development of pain are thus seen as conception and childbearing in medieval medical texts, as can be seen in the following examples:

(29) Blac coler forsoth hath his power in the reynes, wherof rennyth bi al the body, of whos superfluite bien born passions in reynes, as the stone, and sperme and therof wastith, and *ache in the wombe gendrith* so that sumtyme a man may nat hold his vryne, and sumtyme he may nat sende it out (de\_spermate.rtf [25]: 11838).

- (30) All was gevyn to hym actually colde and therafter he hadde *vii seges of the mater norysyng the paynes* i. e. ache and pokkis (torrella\_tretece\_ of\_the\_pokkis.rtf [37]: 3012).
- (31) The ey wexeth so bolnyn that the pacyent may not opyn hys eye and *the payne growyth* so greueous bat he may have no rest (benvenutus\_grassus.rtf [32]: 77126).

Another possible interpretation of this metaphoric pattern, which runs parallel to the preceeding PAIN IS A SUBSTANCE (AIR) MOVING WITHIN A CONTAINER, could be of pain as wind that is generated and nourished within a container, i.e. the experiencer's body, so that it grows stronger.

## 5.4. Some minor metaphors for pain

The following *pain* metaphors have a very low number of occurrences (less than 10) in the corpus:

-PAIN IS A BURDEN: According to this pattern (6.21%), *pain* is a burden that opresses the body of the experiencer with its weight. Feeling a pain is "being grieved with a burden" (32), whereas end of pain is expressed as "being released from a burden" (33).

- (32) Ach of wombe and gowte Take the Clevyd grasse wild sauge wild tansay columbyne rede mynts of ech v croppes and pound hame small in a mortar and temp~ hem w=t= stalle ale and drynke it *when ther grevyth the any ach* (leechbook\_1.rtf [60]: 12653).
- (33) And ouer this grau~te vs of thy pyte / pease and accorde in the chyrche & realme / and to our founders / faders and moders / frendes / benefactours & to all crysten soules / forgyuenes of theyr synnes wyth *relesse of theyr paynes* & ioye p~petuel (caxton\_ars\_moriendi.rtf [41]: 14371).

-PAIN IS DURATION: *Pain* is seen here (3.45%) as a process with a given duration in time (34) and, consequently, has a beginning (35) and an end (36).

- (34) But *if bat akbe dure ouer longe*, it is not yuel to putte a litil opium to be oile of be rosis & be bole armoniak, bat bou leidist aboute be wounde (lanfranc\_chirurgia\_magna\_1.rtf [11]: 44666).
- (35) And þerfore *in þe begynnyng of þe ache*, thou shalt 3eue confortatiues to comforte þe membre þat akiþ (gilbertus\_anglicus\_compendium. rtf [43]: 48832).
- (36) go not awei from bis cure whanne bat *al be akbe is ceessid* and be swellynge is aswagid (lanfranc\_chirurgia\_magna\_1.rtf [11]: 59949).

-PAIN IS AN OBJECT: In our examples (1.38%), *pain* is described as a hard, solid object (37) within the body, that can be dissolved through the use of the correct treatment (38).

- (37) And yf he decessyd wythout ony other confessyon for lack of a preest as slepyng or sodeyne deth / he sholde be saue *suffryng a fore harde payne* in purgatorye (caxton\_ars\_moriendi.rtf [41]: 11110).
- (38) And if be ache be ful violent, ben vse not only colde bingis, but medle hem with hote bingis so bat be hote bingis mowen sumwhat *dissolue be mater of be ache*, and be colde bingis mowen aswage be violence of be hete of be ache (gilbertus\_anglicus\_compendium.rtf [43]: 53650).

-PAIN IS UNCLEANNES: According to this mapping, *pain* can be identified with dirtiness and, consequently, removed by cleaning (39) or purging (40) of the corresponding organ.

- (39) Then by swetyng I perceyved certen matter remaynyng I inioynid to hym to enter the stew to swete & soo dyd iij days to geder & the iij day remaynid clene of pokkis & payn (torrella\_tretece\_of\_the\_pokkis.rtf [37]: 10719).
- (40) bei bethe yclepud so, for ry3th as gold ys more precious amonge al metelis, ryght so ys be more precious amonge al ober *to purgye be ache of be hed* (antidotarium\_nicholai.rtf [67]: 80584).

Finally, the remaining metaphorical mappings (i.e. PAIN IS A PLACE, PAIN IS A WEAPON, PAIN IS A TASTE and PAIN IS HEAT) have one single occurrence in our corpus.<sup>3</sup>

- (41) Stamp clene lek and do it in be wounde a nyth, and on be morwen do it away and *tac ye of be hache* and al so micul of huni do togedere and do it in be wnde (first\_corpus\_compendium.rtf [90]: 11323).
- (42) But if it is of colere, bese ben be tokenes: grete wille to fi3te and to smyte, drines of be moube, blacknes of be tonge, *myche sharpe and bitter ache*, and moche stering of be hert (gilbertus\_anglicus\_compendium.rtf [43]: 13217).
- (43) And if be ache be ful violent, ben vse not only colde bingis, but medle hem with hote bingis so bat be hote bingis mowen sumwhat dissolue be mater of be ache, and be colde bingis mowen aswage *be violence of be hete of be ache*. (gilbertus\_anglicus\_compendium.rtf [43]: 53733).

<sup>&</sup>lt;sup>3</sup> Example (42) illustrates two of these mappings: PAIN IS A WEAPON ('myche sharpe...ache') and PAIN IS A TASTE ('bitter ache').

## 6. Pain metaphors in two Middle English corpora

As can be seen from the preceeding section, Middle English medical authors made extensive use of a wide series of conceptual metaphors in order to express physical pain related to disease. In the final section of this paper, I will try to determine to what extent these metaphorical uses represent more typically the register used by Middle English scientific writers. In order to do so, I have made a full list of occurrences of the word *pain* and its ortographic variants (*payn, payne, paynes*) in the Helsinki Corpus of English Texts, subperiods ME III (1350-1420) and ME IV (1420-1500). Thereafter, I have divided them into metaphorical and non-metaphorical expressions.

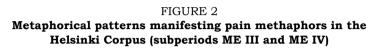
As in the case of the MEMT Corpus, I have made a list of sentences where the noun *pain* is accompanied by an adjective, a verb or an adverb used in a non-literal way. The resulting lists consisted of 50 different sentences; taking into account that the two corpora analysed here have got a very similar number of running words, a preliminary quantitative comparison of the two collections indicates that *pain*-metaphors are much more frequent in the specialised corpus than in the non-specialised, as can be seen in Table 1 below.

#### TABLE 1

#### Total and relative (one part per million) frequency of PAIN metaphors in the two corpora: MEMT Corpus and Helsinki Corpus (subperiods ME III and ME IV)

CORPUS NAME	N° RUNNING WORDS	N <sup>o</sup> pain-metaphors	PPM FREQUENCY
MEMT	495,322	145	292.738
HELSINKI	398,080	50	125.602

The motivations for the recurrent use of metaphors in early medical descriptions of pain are of varied nature, but we can stress out that, as described in *Section 2* above, figurative language is frequently used by doctors and patients in order to describe their subjective experience of physical pain and find a correct diagnosis and treatment. Since non-medical descriptions of pain do not necessarily require the same degree of precision, metaphorical language is less frequently used. The 50 sentences were then divided into metaphorical patterns, which were then classified into coherent sets of metaphors illustrating the same source domain using the MPA methodology described above.



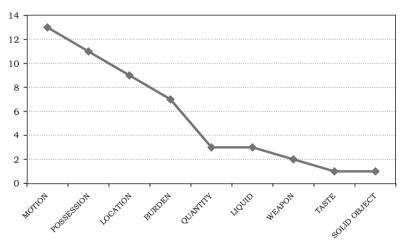


Figure 2 shows the preliminary result of this analysis of *pain* metaphors in two subperiods (ME III and ME IV) of the Helsinki Corpus. As can be seen here, similarly to what has been described for the MEMT Corpus in *Figure 1*, both MOTION (24.00%) and POSSESSION (22.00%) occupy the highest positions in the rank of source domains.

However, all the instances of the PAIN IS MOVEMENT pattern found in the Helsinki Corpus refer to pain as an external place where the experiencer's body is transported (as can be seen in examples 44, 45 and 46), rather than as air that flows within the body (as in examples 14 to 20):

- (44) To dede ar thai dyght, prowdist of pryde, Euerich a wyght that euer was spyde With syn: All ar thai slayn, *And put vnto payn* (M4\_XX\_MYST\_TOWN, 28).
- (45) be thred payn es a maner of exil When be saules here agayn bair wil Er exild fra bis lyf til payn, With-outen any turnyng agayn (M3\_IR\_RELT\_ PRICK, 81).

(46) Pat na man may for gyft ne raunson, *Out of bat hard payn* bam wyn, Until be fire haf wasted bair bandes of syn (M3\_IR\_RELT\_PRICK, 88).

Similarly, the PAIN IS A PLACE locative metaphor, with one single occurrence in the scientific texts included in the MEMT Corpus (see 41 above), occupies the third position (18,00%) in the Helsinki Corpus. The nine examples found here show the preposition *upon* (47) or, less frequently, *in* or *into* (48).

- (47) with-ynne the fraunchise of the same Citee, by nyghte after ix of the clokke be y-smyte, *vp-on payne* of al that hij mowe forfaite a-yens oure lord the kyng and a-yens the Citee in body or in godes (ME3\_STA\_DOC\_LPROCL, 33).
- (48) Pe tane was in blis soverayne, be tother was in endless payne (M3\_IR\_ RELT\_PRICK, 84).

Most of the instances of these prepositional phrases found in the Helsinki Corpus come from religious treatises, and illustrate the place-for-event relation between physical pain and hell, i.e. the place where sinners, according to Christian tradition and beliefs, shall suffer everlasting pain

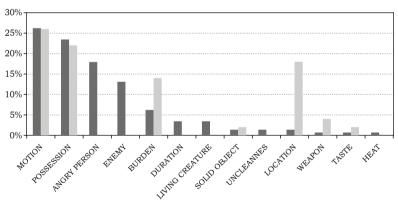
Another major difference between the two corpora has to do with the general PAIN IS A LIVING CREATURE metaphor and its variants (see 5.3 above), all of which are completely absent from these two subsections of the Helsinki Corpus (as illustrated in *Figure 3*). In fact, the metaphorical patterns extracted from the Helsinki Corpus refer to *pain* as a static, external entity, which is both timeless and uncontrollable. This is in clear contrast with the metaphor PAIN IS DURATION IN TIME as analysed in the analysis of the MEMT, where pain is described as a physical estate with a limited duration.

- (49) Þat es þe fode me falles to haue fra *endless paine* man-saul to saue (MS\_IR-HOM\_NHOM, II, 84).
- (50) Sal haf ful sorowe and *parfite payne, with-outen ende* for bair wikked lyfe (M3\_IR\_RELT\_ PRICK, 252).

Other pain metaphors that are not recorded in the Helsinki Corpus are PAIN IS UNCLEANNESS and PAIN IS HEAT, both of which show a very limited number of occurrences in the MEMT (2 and 1 occurrences, respectively). Interestingly, the metaphorical connections represented by these mappings are also absent from the ME lexicon, as has been seen in *Section 4*. In our view, this absence can be interpreted as an indicator of the novelty of these associations between pain and the corresponding source domains, which are exclusive of medical texts. The need for new conceptualizations of issues like the relation between pain and diagnosis, or between pain and medical treatment, is one of the reasons that led to the development of these new, emerging metaphors, as well as to the reformulation of already existing ones (as in the case of PAIN IS A LOCATION described above).

Finally, it should be mentioned here that only the metaphorical mappings PAIN IS A BURDEN, PAIN IS A SOLID OBJECT, PAIN IS A WEAPON and PAIN IS A TASTE are used more frequently in the Helsinki Corpus than in the medical corpus. The results of this comparison are graphically represented in *Figure 3*, which illustrates the relative frequency of each metaphorical mapping in the two corpora under scrutiny here.

#### FIGURE 3 Metaphorical patterns manifesting pain metaphors in the two corpora: MEMT Corpus and Helsinki Corpus (subperiods ME III and ME IV)



■ MEMT Corpus ■ Helsinki Corpus (ME III & ME IV)

## 7. Conclusions

This research has looked at the metaphorical patterns for *pain* in two different late Middle English corpora: the specialized MEMT Corpus and the late Middle English subperiods of the multi-genre Helsinki Corpus of English Texts

Data have been presented which firmly establish that the authors of specialized texts borrowed or developed new metaphorical extensions in order to describe pain and its treatments. Through the use of these metaphorical patterns, medieval writers would try to refer to pain as a process, rather than a state or a place. As such, pain is described as a gas that enters the body and affects different bodily organs (PAIN IS MOTION) or as a living entity that attacks the body, either from the inside (PAIN IS A LIVING CREATURE THAT GROWS WITHIN THE BODY) or from the outside (PAIN IS AN ENEMY, PAIN IS AN ANGRY PERSON) of the organism. Consequently, pain has a beginning and an end (PAIN IS DURATION), which is normally the result of the application of the correct medical treatment. In consequence, medical descriptions of pain differ greatly from non-medical ones and, very especially, from religious treatises and homilies, which frequently describe pain as a place where the experiencer's body is confined for the rest of his life. According to this view, only once this place is left behind and one enters heaven, pain can be brought to an end.

## 8. Bibliographic references

## A. Early English Corpora and Dictionaries

- Helsinki Corpus = The Helsinki Corpus of English Texts: Diachronic and Dialectal (1991). Rissanen, M. & Ihalainen, O. (compilers). Helsinki: University of Helsinki.
- MEMT = *Middle English Medical Texts* (2005) Taavitsainen, I., Pahta, P. & Mäkinen, M. (compilers) CD-ROM. Amsterdam and Philadelphia: John Benjamins.
- OED = Oxford English Dictionary, The (2000–) Second edition, online version. Simpson, John (ed.). Available http://www.oed.com

## **B. Secondary References**

- ALDRICH, Sarah & Chris Eccleston, 2000: "Making sense of everyday pain", Social Science and Medicine 50 (11), 1631-41.
- BARON, Alistair, Paul RAYSON & Dawn ARCHER, 2009: "Word frequency and key word statistics in historical corpus linguistics", *Anglistik: International Journal of English Studies* 20 (1), 41-67.
- BONCH-OSMOLOVSKAYA, Anastassia, Ekaterina RAKHILINA & Tatiana REZNIKOVA, 2009: "Conceptualization of *pain*: A database for lexical typology", in Bosch, Peter, David Gabelaia, & Jérôme Lang (eds.): *Logic*,

Language, and Computation. Berlin, Heidelberg: Springer-Verlag, 110-123.

- DE SOUZA, Lorraine H. & Andrew O. FRANK, 2000: "Subjective pain experience of people with chronic back pain". *Physiotherapy Research International* 5, (4), 207-19.
- DEIGNAN, Alice, 2005: *Metaphor and Corpus Linguistics*. Amsterdam: John Benjamins.
- HALLIDAY, M.A.K., 1998: "On the grammar of Pain." *Functions of Language* 5 (1), 1-32.
- HANKS, Patrick, 2006: "Metaphoricity is gradable", in STEFANOWITSCH, Anatol & Stefan Thomas GRIES (eds): *Corpus-based Approches to Metaphor and Metonymy.* Berlin and New York: Mouton de Gruyter, 17-35.
- Kövecses, Zoltan, 2008: "The conceptual structure of happiness and pain", in Lascaratou, Chrysoula, Anna Despotopoulou & Elly IFANTIDOU (eds.): *Reconstructing Pain and Joy: Linguistic, Literary and Cultural Perspectives*. Cambridge: Cambridge Scholars Publishing, 17-33.
- KUGELMANN, Robert, 1999: "Complaining about chronic pain", Social Science and Medicine 49, 1663-76.
- Kytö, Merja, 1996: Manual to the Diachronic Part of The Helsinki Corpus of English Texts: Coding Conventions and Lists of Source Texts. Helsinki: University of Helsinki.
- LAKOFF, George, 1993: "The contemporary theory of metaphor", in ORTONY, Andrew (ed.): *Metaphor and Thought*. Cambridge: Cambridge University Press, 202-251.
- LASCARATOU, Chrysoula, 2007: The Language of Pain: Expression or Description. Amsterdam and Philadelphia: John Benjamins.
- Lascaratou, Chrysoula & Ourania Hatzidaki, 2002: "Pain as a process in Modern Greek". *Journal of Greek Linguisics* 3 (1), 53-82.
- PAHTA, Päivi & Irma TAAVITSAINEN, 2004: "Vernacularisation of scientific and medical writing in its sociohistorical context", in TAAVITSAINEN, Irma & Päivi PAHTA (eds.): *Medical and Scientific Writing in Late Medieval English.* Cambridge: Cambridge University Press, 1-18.
- PETERS, Hans, 2004: "The vocabulary of *pain*", in KAY, Christian & Jeremy SMITH (eds.): *Categorization in the History of English*. Amsterdam and Philadelphia: John Benjamins, 193-220.
- SCHOTT. G.D., 2004: "Communicating the experience of pain: The role of analogy". *Pain* 108, 209-212.
- SEMINO, Elena, 2010: "Descriptions of pain, metaphor and embodied simulation". *Metaphor and Symbol* 25 (4), 205-226.
- Söderberg, Siv & Astrid Norberg, 1995: "Metaphorical pain language among fybromyalgia patients". Scandinavian Journal of Caring Sciences 9, 55-9.
- STEFANOWITSCH, Anatol, 2004: "HAPPINESS in English and German: A metaphorical-pattern analysis", in Achard, Michel & Suzanne KEMMER (eds.): *Language, Culture, and Mind.* Stanford: CSLI, 137-149.

- —, 2006: "Corpus-based approaches to metaphor and metonymy", in STEFANOWITSCH, Anatol & Stefan Thomas GRIES (eds): Corpus-based Approches to Metaphor and Metonymy. Berlin and New York: Mouton de Gruyter, 1-17.
- TAAVITSAINEN, Irma, 2006: "Thought-styles and Metadiscourse in Six Hundred Years of Medical Writing", in GOTTI, Maurizio & Francoise SALAGER-MEYER (eds.): *Medical Writing*. Bern: Peter Lang, 431-456.
- VOIGTS, Linda E., 1982: "Editing Middle English medical texts: Needs and issues", in LEVERE, Trevor H. (ed.): *Editing Texts in the History* of Science and Medicine. New York: Garland, 39-68.
- —, 1984: "Medical prose", in Edwards, A. S.G. (ed.): Middle English Medical Prose: A Critical Guide to Major Authors and Genres. New Jersey: Rutgers University Press, 315-335.
- WITTGENSTEIN, Ludwig, 1953: Philosophical Investigations. Oxford: Blackwell.

## 9. Appendixes

HEADING	ITEM	POS	OE			DATE1			DATE2	PDE
Pain	wrake < wracu	n	OE	-	с	1450				
Pain	tray < trega	n	OE	-		1560				
Pain	sore < sar	n	OE	-		1583				
Pain	ache < ece	n	OE							-
Pain	woe	n			a	1225	-	с	1425	
Pain	bale	n			с	1250	-		1834	
Pain	dole	n			с	1320	+	с	1350	
Pain	warking	n			с	1340	-	с	1440	
Pain	dolour	n			с	1370	-		1715	
Pain	sorrow	n				1377	-		1398	
Pain	anger	n				1377	-	a	1698	
Pain	pain	n				1377				-
Pain	suffering	n			с	1392	+	a	1771	-
Pain	teen	n			с	1400	-	a	1500	
Pain	grievousness	n			с	1400	-		1526	
Pain	offence	n			с	1400	-		1674	_
Pain	sufferance	n				1422	-		1861	
Pain	penality	n			с	1495	-		1513	
(.painfulness)	soreness < sarnes	n	OE							-
(.painfulness)	painfulness	n			с	1485				-
(.person suffering)	sufferer	n			с	1450				-
(.action of causing)	paining	n			с	1440	-		1812	
(.expression of pain)	wringing	n			с	1350	+		1656	-
Suffering pain	sore	aj				1297				-

#### APPENDIX 1: The late ME vocabulary of PAIN in the HTOE

Suffering painpainedajO1340III(of parts of body)sore < sarajOEIII		I		·			, ,		<u> </u>		,
Image: constraint of bodysore < sarajOEImage: constraint of bodyImage: constraint of body(.through morbid condition)soreajImage: constraint of bodya1400Image: constraint of bodyImage: constraint of body(.causing pain)sore < (ge)sar	HEADING	ITEM	POS	OE			DATE1			DATE2	PDE
body)         sore < sar         aj         OE         I <thi< th=""> <thi< th=""> <thi< th=""></thi<></thi<></thi<>	Suffering pain	pained	aj				1340				-
morbid condition)soreajajCEa1400IIII(.causing pain)sore < (ge)sar		sore < sar	aj	OE							_
pain       sore < (ge)sar       aj       OE       I <thi< th="">       I</thi<>	morbid	sore	aj			a	1400				-
pain       smart       aj       a       1300       -       I       1688         (causing pain)       snell       aj       aj       a       1300       a       1300       a       1		sore < (ge)sar	aj	OE							-
painsnellaja1300aaa1300aaaa(causing pain)throlyajajc1350c1350c1c1350cc1350ccc1350ccc <t< td=""><td></td><td>smart</td><td>aj</td><td></td><td></td><td>a</td><td>1300</td><td>-</td><td></td><td>1688</td><td></td></t<>		smart	aj			a	1300	-		1688	
painthrolyajc1350cc1350cc <td></td> <td>snell</td> <td>aj</td> <td></td> <td></td> <td>a</td> <td>1300</td> <td></td> <td></td> <td></td> <td>-</td>		snell	aj			a	1300				-
pain       dolorous       aj       c       1400       c       I400       c       Ia0       c       Ia00       c       Ia010       c       Ia00       c       Ia010       c       Ia011       c <td></td> <td>throly</td> <td>aj</td> <td></td> <td></td> <td>с</td> <td>1350</td> <td></td> <td></td> <td></td> <td></td>		throly	aj			с	1350				
weapon)smartajcl200clcl611(of a blow/ weapon)soreajajaal300-kl611Painfullybitterlyavavcl250+c1440Painfullyuneasilyavccl290+c1440Painfullysoreavccl290+cl400cPainfullyginouslyavccl290+cl533cPainfullyginouslyavcc1450cccl533cPainfullyginouslyavcc1450+al533cPainfullyginouslyavccl4402tal533c(suffering pain)sore < sar		dolorous	aj			с	1400				-
weapon)soreajaja1300-a1611Painfullybitterlyavavc1250+c1440Painfullyuneasilyavavc1290+J1535Painfullysoreavavc1290+J1535Painfullypinouslyavcc1450c1290Painfullypinouslyavcfc1450ta.Painfullydolourouslyavcffa1533.Sore < sar		smart	aj			с	1200				-
Painfullyuneasilyavavavc1290+I1535Painfullysoreavavavc1290+I1535		sore	aj			а	1300	-		1611	
Painfully       sore       av $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$ $<$	Painfully	bitterly	av			с	1250	+	с	1440	
Painfully         pinously         av         I         c         I450         I         I         I           Painfully         dolourously         av         I         c         1450         I         a         1533           Painfully         dolourously         av         I         I         c         1450         I         a         1533           (suffering pain)         sore < sar	Painfully	uneasily	av			с	1290	+		1535	
Painfully       dolourously       av       I       c       1402       +       a       1533         (.suffering pain)       sore < sar	Painfully	sore	av			с	1290				_
(.suffering pain)sore < saravOE-1402III(.express pain)grin < grennian	Painfully	pinously	av			с	1450				
pain)     sore < sar     av     OE     -     1402     I     I       (.express pain)     grin < grennian	Painfully	dolourously	av			с	1450	+	a	1533	
(.express pain) quetch/quitch vi c 1205 – 1685		sore < sar	av	OE	-		1402				
	(.express pain)	grin < grennian	vi	OE							_
(average pain) aing	(.express pain)	quetch/quitch	vi			с	1205	-		1685	
(.express pain) sing vi c 1300	(.express pain)	sing	vi			с	1386				
Suffer pain acore vt 1200 – 1330	Suffer pain	acore	vt				1200	-		1330	
Suffer pain suffer vt a 1225	Suffer pain	suffer	vt			а	1225				_

(Continuation Appendix 1)

HEADING	ITEM	POS	OE			DATE1			DATE2	PDE
Suffer pain	get	vt			с	1375				-
Suffer pain	insuffer	vt			с	1470	+		1536	
(.cause pain)	ail < eglan	vt	OE	-		1352				
(.cause pain)	grieve	vt			а	1225	-		1591	
(.cause pain)	put	vt			а	1300				-
(.cause pain)	pain	vt				1377				-
(.cause pain)	sore	vt			а	1400				-
(.cause pain)	trouble	vt			с	1400				-
(.cause pain)	urn	vt			с	1470	-	а	1614	
(.cause pain)	vex	vt				1489	-	а	1614	-
(.cause pain)	suffer	vt			с	1500	-		1593	
(.make more painful)	gregge	vt				1340				

(Continuation Appendix	1)	
contantaation 1 ppenaat	-1	

#### APPENDIX 2: Literal translation of ME examples used in this paper

- (1-2)For I make you understand that these pannicles were never [cured] with other medicines that are caustic, but rather they generate more sorrow and woe and ache into another woe.
- (3) Nevertheless thare are different causes for tears that spring out either from the upper eyelid or from the lower one, as those coming out from the lower eyelid proceed from the heart, either for sorrow, dread or pain, and are caused by a form of violence.
- (4) If it is in the first manner, the woman's veins are full of blood in different places of her body, and if it is in the second manner, when they have their flowers, that is to say when they are menstruating, they feel heat and pain in their private parts.
- (5) If you do not do it, there may follow pain and pressure in the head, and fever, with impediment of the tongue and other diverse sicknesses.

- (6) But when the hairs grow again, they come to a worse state, for the more they are pulled, the greater and they harder they grow and cause much more pain and sometimes for each one [hair] there grow three or four new ones.
- (7) For if you make a delay, your stomach takes its full refection and the ill humours that are in the body, which shall pain the brain, and weaken the stomach, and the food shall do no profit to the body.
- (8) Take oak-fern that grows besides the rue and boil it well and take mint, and stamp them well and make a plaster and apply it on the forehead and on the temples of the head. But first perfum it with populium, if he has anger in his liver.
- (9) And if you want to trust me, I shall give you an example. I was grievously sick in the breast and full of viscuous humours. And I took an ounce of hiera picra and of euphorbium.
- (10) Also wounds piercing to the inwards of members are deemed mortal as often, for as much as for the air that enters into them whithout alteration offends the inner members.
- (11) Be it given properly to him who suffers pain of the kidneys, it cures sicknesses marvelously, and restores loss of intercourse by any cause without delay.
- (12) And you know, after Bernard of Gordon, that the sinews closing and opening the anus are fastened to the stomach and to the ventricles of the brain. And for this reason such patients are sometimes vexed in the head and in the stomach.
- (13) If a man has a burning in his stomach or is abnormally thirsty, that produces much pain to him, take the petals and the leaves of rosemary and boil them for a while in well water.
- (14) For ache enters into the part of the sinew that is cut and pricked ; and by the part of the sinew that is hollow, pain is brought to the brain and so the tetanus may come into the wound by one of three ways.
- (15) There is also another sickness caused by melancholia and it is when the pain suddenly ascends into the eyes so grievously that it seems the eyes will start out of their places, and there appear many bladders.
- (16) In time of bad condition and thereafter, great pain falling in the head is caused the migrain, wherethrough the pain

descends into the temples and into the brows and makes the veins beat, of which painful beating the eyes are troubled.

- (17) Also pain of the eyes comes other times from the stomach.
- (18) Red bile with the power that he has in the stomach he puts it out some exhalation of the head, whereof pains come, that is to say diaphragms, inflamations, and other sufferings.
- (19) With this oil wash or bathe or oint well the head; so might you both quench the pain and the heat of the head that is excessive.
- (20) With that juice and with wheat meal and with eggs make thin cakes and fry them with fresh fat and that will cease the pain and if give her warm wine to drink in which cumin has been boiled.
- (21) And if a man has toothache he should take betony boiled in wine.
- (22) Members that are in pain, that ache is caused by drawing from the other places to the member that aches, the worst thing of the humours Avicene says.
- (23) Hold the mouth over the upper end of the tube, so that the air may go into the sore tooth; and that will kill the worms and do away the pain.
- (24) So it is said in Amphosimorum: a great sore and a pain alleviate the sore ache in another member, and remove much of the ache of it.
- (25) This oil, that is to say, quintessence of gold, has the most sweetness and virtue to relieve and put away the pain of wounds, and to heal wounds, old sores, and many strange evils.
- (26) Feeble repercussions are called mitigations, for they relieve the ache and comfort the member.
- (27) In the same way she will destroy and relieve the pain in the womb and the falling evil and also the paralysis.
- (28) Now you have medicines against the pains of the head.
- (29) Black bile truly has its power in the kidneys, from where it runs to all the body, of whose excess of humours are born sufferings in the kidneys, such as the stone, and sperm thereof is wasted, and pain in the womb generates so that sometimes a man may not hold his urine, and sometimes he may not send it out.

- (30) All was given to him actually cold and thereafter he had seven pots of the matter nourishing the pains, i.e. ache and pustules.
- (31) The eye grows so swollen that the patient may not open his eye and the pain grows so grievously that he may not rest.
- (32) Pain in the womb and gout: take the grass, wild sage, wild tansy, columbine and red mints, of each five crops and grind them small in a mortar and mix them with strong ale and drink it when you are grieved by any pain.
- (33) And over this grant us of your mercy, peace and consent in the church and realm and to our founders, father and mothers, friends, benefactors and to all Christian souls forgiveness of their sins and release of their pains and perpetual joy.
- (34) But if that pain lasts long, it is not evil to put a little opium to the oil of the roses and the Armenian bole, that you put around the wound.
- (35) And therefore in the beginning of the pain, you shall give medicines to comfort the member that aches.
- (36) Do not go away from this cure when all the pain is ceased and the swelling is finished.
- (37) And if he dies without any other confession for lack of a priest when sleeping or sudden death, he should be saved from suffering hard pains in purgatory.
- (38) And if the ache is very violent, then use not only cold things, but mix them with hot things so that the hot things may somehow dissolve the matter of pain, and the cold things may cease the violence of the heat of the pain.
- (39) Then by sweating I perceived certain substance remaining I joined him to enter the heated room to sweat and so did three days together and the third day he remained clean of pustules and pain.
- (40) They applied both so, for right as gold is more precious among all metals, right so is the more precious among all other to purge the pain of the head.
- (41) Stamp clean garlic and put it in the wound a night, and in the morning take it away and take the pain away from you and also some honey mix together and put in in the wound.

- (42) But if it is of bile, these are the signals: great will to fight and to strike, dryness of the mouth, blackness of the tongue, much sharp and bitter pain, and much stiring of the heart.
- (43) And if the ache is very violent, then use not only cold things, but mix them with hot things so that the hot things may somehow dissolve the matter of pain, and the cold things may cease the violence of the heat of the pain.
- (44) To death are they put, proudest of pride, every being that ever was detected with sin: all are they slain, and put unto pain.
- (45) The third pain is a manner of exile. When the soul here again their will is exiled from this life to pain, without any turning back.
- (46) That no one may receive neither forgiveness nor redemption, out of that hard pain, until the fire has destroyed the bounds of sin.
- (47) Within the corporate limits of the same city, by night after nine o'clock is striken, upon pain of all that he may commit an offence against our lord the king and against the city in body or in goods.
- (48) The first one was in bliss sovereign, the second one was in endless pain.
- (49) That is the offspring that I need to have from endless pain to save the souls of men.
- (50) Shall have full sorrow and flawless pain, without end for their wicked life.