

“THYS MANNER OF INFIRMYTE THE GRETE LECHYS OF SALERNE CLEPYD OBTALMYAM”: A STUDY OF MEDICAL TERMS IN BENVENUTUS GRASSUS¹

MARÍA JOSÉ ESTEVE RAMOS

Universitat Jaume I

resteve@ang.uji.es

39

1. Introduction

It is a fact that, in recent times, a great deal of attention has been paid to medical and scientific writings from the Middle Ages (Crespo & Moskowich 2006; Jones 2004 or Hunt 2000, among others). The remarkable number of texts available and a certain fascination with the period have paved the way for this increasing interest. My concern in this study is focused on *De Probatissima Arte Oculorum*, a popular late medieval treatise on the study of eye diseases, a discipline which had an almost independent place in the medical studies of the time, and which received specific attention in many writings. In those days, a knowledge of medicine, and especially ophthalmology, was disseminated mostly in Britain through various translations, some of which have been used in the edition of the text referred to in this paper, and some of the specialised terms may have been borrowed in this process. In fact, this high level of a specialised lexicon in English justifies the interest in searching for the specialised terminology of this area in this representative work, which illustrates the use of the terms most of the medical community would have been familiar with. Nowadays, medical terminology is perceived as containing mostly vocabulary of Latin origin, but in earlier periods this would not necessarily have been the case.

Thus, this paper aims at exploring the presence of different languages in the lexicon of this particular work, and how this may help us to understand the evolution and

configuration of the vocabulary in this particular area of medicine. To this end, we have studied the nomenclature concerning diseases and anatomy, and their underlying etymologies. In so doing, we have followed previous works in the area (Norri 1992, 1998; Pahta 2004, Rothwell 1998). The study is structured in different sections. Section 2 contextualises the text and explains some professional details about the author, section 3 briefly explores the multilingual context in the Middle Ages, and sections 4 and 5 specify and discuss the data used in this study.

2. The text and the author

The life and professional status of Benvenutus may have interesting implications when interpreting the final results, and therefore some details concerning his life and work will be outlined in the paragraphs that follow, after which some aspects concerning the nature of the text and its publication are discussed.

It is interesting to note that biographical data about its author can only be traced in his work on diseases of the eye. His work is a treatise explaining the anatomy of the eye and the diseases that can affect it, the section devoted to cataracts and their treatment being the most extensive. According to Eldredge (1999: 149), he seems to have lived in Italy most of his life “though he shows some familiarity with North African medical practices and may have travelled as far north as France or even the Low Countries”. It would be reasonable to think that some Arabic terms may have been incorporated in this period, although there were already close connections between the Salerno school and Arabic science. In the text we find imprecise but interesting references to his travels “[...] and after hys propre experience the wch he had by long continuance of his owne practik yn diuerse parties of the world, boyth in hote regions and colde [...]” (Eldredge (ed.) 1996: 49).

Although there is no conclusive proof of whether Benvenutus belonged to any academic institution or not, several references to what he calls “[...] many boystus leches and ignorant [...]” (Eldredge (ed.) 1996: 83) may give the impression of a certain academic superiority on his part. Nevertheless, this is purely conjectural. It is also noteworthy that at the end of his treatise he seems to put himself forward as a “magister”, as he assumes his teaching role explicitly: “Now fynally drawing to the ende of thys booke, Benuenucius spekyth to hys dyscypilis concluding thus: O ʒe my dyscyples whych wyll be practysers yn cures off sore eyon, lyke as ʒe haue herde me teche, [p. 136] [herde me teche] so werke”. (Eldredge (ed.) 1996: 92).

Focusing on the text, the present study is based on the recent edition by Eldredge, published in 1996. One of its main interests, and the motivation behind this research, is the degree of specialisation; Pahta and Taatvisainen (2004: 15) use the

term 'specialised treatises' for this type of texts, rather than other possible labels such as 'academic treatise', which may be less accurate in describing its real nature. But texts are written for a particular audience, and this is another related issue. A priori, it seems logical to think that medical practitioners like himself, would have been the target (Pahta and Taatvisainen 2004: 17). This group – or community² – would have probably been familiar with Latin terms, but were not necessarily university-trained. The proliferation of these discourse communities around specialised professions is an interesting subject, as it may illustrate the complex network of relations and languages being used by each specific community, as well as the role or effect exerted by the use of the learned languages together with the already widespread use of the vernacular. Jones (2004: 23) explores this issue and points out that the traditional dichotomies *Latin* vs. *English*, *literate* vs. *illiterate* or even *professional* vs. *amateur* are not practical for describing and analysing this complex network that is responsible for producing, disseminating and using a medieval text. Given this idea of community, my interest in this text and its lexicon arises on account of its high degree of specificity. It can be considered an early ESP text that offers us the chance to study early specific terminology together with the process of formation of its specific lexicon in medical English and, more particularly, in ophthalmology, thereby complementing previous studies on the issue (cf Norri 1992, 1998).

3. Some issues concerning multilingualism and science

The presence of various languages in the different discourse communities in Britain in the Middle Ages has been widely attested (Pahta 2004, Rothwell 1998, among others). We also know that the social and linguistic context in which *Benvenutus* and the translators of his work lived was multilingual (cf. Pahta 2004: 73), Latin, English and French being the main languages used at the time. Although translations into the vernacular languages were gaining force, it cannot be denied that one of the most important sources was Latin and/or Greek through Latin. However, previous studies have also found a significant presence of languages other than Latin:

Today, we associate the language of medicine with a lavish sprinkling of Latin and Greek, many of the new terms being put together of components from the two classical languages. In the 33 manuscripts and books studied here, the sources of the terminology are more varied, the lexical inventory including adoptions from a number of foreign languages [...]. (Norri 2004: 137)

In addition, Pahta (2004: 95) mentions that "English and Latin also occur side by side in passages rich in medical terms, although there is a distinct predilection

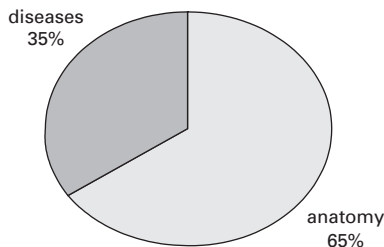
towards Latin in the more specialised terminology [...]”. However, as we will see in the final section, the assumption that Latin was the overwhelmingly predominant source of specialised terminology may be refined by studies focusing on a thorough historical revision of its lexicon, such as that of Norri (2004) and others. This idea does not diminish the importance of Latin in the configuration of specialised discourse in this area, and communication amongst physicians at the time cannot be fully understood without its use. In Pahta’s words: “Although the wish to make contemporary medical knowledge available for an audience that was only literate in English must have been a major incentive for the vernacularisation of medical texts in medieval England, the discourse community of vernacular medicine was clearly not monolingual” Pahta (2004: 97).

Other studies (Crespo & Moskowich 2006) have focused on the presence of Latin in Vernacular Scientific Writing. Thus, once we assume the key role of Latin in the formation of English medical language, we are ready to proceed and explore other etymological sources. This point having been reached, there are a few matters that may pose some problems, such as the question of discerning between an ultimate Latin or French origin, in which the tendency is to consider both sources as valid. Both French-origin terms and terms with a possible Latin and French origin can be found in the lexical stock of Benvenutus Grassus, as the analysis in section 4 will show.

42

4. The data: lexical stock in *De Probatissima Arte Oculorum*

The division between terms related to anatomy and terms related to diseases has proved useful in previous studies (Esteve 2006a, 2006b), since it shows how the different lexical units from different etymologies have been incorporated into the two groups:



GRAPH 1: Division of the lexical stock into disease and anatomy types

Every type occurring in the text was considered to be what have been named “terminological units” (Norri 2004: 106), because as he says: “each represents a separate and specific concept”. Despite the fact that *Graph 1* shows a clear predominance of terms that refer to anatomy, it is interesting to note that terms referring to disease present a more balanced group of etymologies and, although they represent a smaller sample out of the total number of words, it reflects a wider variety of origins. This issue will be considered further in section 5.

4.1. Names for anatomy and diseases: an etymological map

The results obtained are specified below, grouped according to this division (terms for anatomy or disease) and also classified according to the different etymologies. In this respect, the classification proposed here divides the words according to whether they come from Latin and/or (classical) Greek, Arabic, French and Germanic (Old English, Old Norse); there is also a group containing terms with items from different origins, the *mixed* group.

One of the most difficult tasks – as mentioned in section 3 – concerns the classification of terms of Romance origin, where the difficulty lies in distinguishing whether a term comes from French or Latin. In some cases, it is impossible to say and even dictionaries give both possibilities as valid. This issue is also addressed by Norri (2004: 113) when he claims that “Terms of possibly dual origin, French and Latin, are the largest single group of foreign adoptions in all three text traditions, i.e. academic treatises, surgical works, and remedybooks”. In this study, when this has been the case, the degree of adaptation to the borrowing language has been considered as an indicator, as in the case of *pupilla*, explained below.

The total number of words in the text is 21, 578 and the total number of different nouns, which have been counted from a list obtained through a concordancer, comes to 143. Hence, the text presents a high lexical density of specialised terms, in which 54.5% of the total number of nouns specifically denote anatomical or disease nomenclature. This high percentage of specialised nouns out of the total number reflects the high level of specialisation of the material used in this study.

In general, the results show a greater number of words related to anatomy (a total of 51 types, see Table 1 below). Knowledge of the anatomy of the eye was much more accessible than that of any other part of the body, due to its being a more external organ, which facilitated its study without explicit dissection. However, the names for diseases are much fewer in number (27) and many have to be explained metaphorically, sometimes by describing their colour, as in the case of a type of cataract: “And for that grete anguisshe of akþe the ey3e wexethe white and apperethe in colour as shynnyng alabaustre” (Eldredge (ed.) 1996: 66). Other ways of naming a disease are by using metonymy, by mentioning the cause of it, as in

blode (Eldredge (ed.) 1996: 59), or a symptom, as in the case of *fleying flies* (Eldredge (ed.) 1996: 73). It is sometimes difficult to distinguish between a symptom and a disease proper, which is a question that has been studied by different authors. Norri refers to this matter:

The modern distinction between disease, on one hand, and its symptoms and signs, on the other, was made only vaguely, if at all, in medieval medical treatises, where “the description of particular diseases often amounted to no more than a list of symptoms with which it was associated (P.M. Jones 1984: 58).” (Norri 2004: 104)

According to Rawcliffe (1995: 46) “little or no distinction was made between the symptoms of a disease and the actual ailment itself, [...]” and it is normally context and modern knowledge of medicine that provide the clues enabling us to understand the specific disease the medieval author was attempting to name and describe.

The results are presented in the following table, which shows the number of items in each case, and also specifies which words belong to each category:

44

ORIGIN	ANATOMY	DISEASES
Classical (Lat+Greek)	16	13
Arabic	0	2
Germanic	21	5
French	7	6
Mixed	7	1

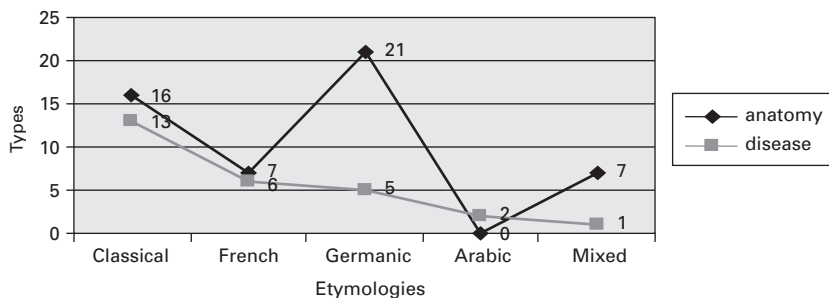
TABLE 1: Types according to origin

For anatomy terms, the following words of Classical origin were found: *albigenius*, *aranea*, *coniunctiva*, *cornea*, *crystallinus*, *discoloratam*, *lacrimal*, *lacrimabili minore*, *neruus opticus*, *pupilla*, *retina*, *scleros*, *secundina*, *saluatricem*, *uitrius*, and *vnea*. Although *pupilla* is identified as having both French and Latin as its possible origins, I have considered this item to be part of the classical stock as it retains the original form. However, spelling variation, such as *pyupil* (Eldredge (ed.) 1996: 58), suggests the Anglicisation of the term. The Germanic component is very important; indeed, the following lexical items were found to have their origins in Germanic languages: *appell of the eye*, *balle of the eye*, *bone*, *brayne*, *browys*, *erewardē*, *eye*, *eyelyddys*, *ouer ylede*, *neper lyd*, *forhede*, *hede*, *berys*, *hollow sinews*, *lyddys*, *ly3t of the eye*, *nose*, *teris*, *water yelwisshe*, *webbe*, and *whitnesse*. The following items deriving from French are in the Benvenutus lexical stock: *humour*, *humour*

albuginoyis, concayutee, face, temples, tunicle, veynes. Terms with mixed origins are: *concayte of hollownesse of the eye, corner of the eye, glassy humour, holowe nerffe, opylate holes, spyrit of sight, watery humors.* Finally, no words borrowed from Arabic were traced, and the roots of the terms *cootis* or *cote* (Eldredge (ed.) 1996: 50) and *toober* (Eldredge (ed.) 1996: 70) could not be established.

The second group of nouns we studied are those referring to diseases. The most productive origin is Latin, together with a few examples from Greek: *aqua putrefacta, cataract, fistule, guttam serenam, humeris benedictus, nexionam, papullam, maledictam, obtalmiam, torturam tenebrosam, panniculus, pannum vitreum, vngula.* Terms from French follow: *coler, flewme, malyncolie, mygreyme, pannycles,* and *nayle.* The Germanic stock is not as abundant as in the group related to anatomy, but we still find interesting examples: *blode* (one of the humours causing the disease), *fleying flies, scab in the eye, water yroted,* and *watry eyon.* There was only one term of mixed origin, *corupte water,* and two from Arabic: *amesarca* (the Arabic name for *cataract*) and *iherafrumaxyn* (*scab in the eye*). Despite the immense influence of Arabic medicine, and especially in the field of ophthalmology (as they were the pioneers in cataract couching), only two terminological units revealing this origin were identified. Further research should be carried out on more texts on the same, or medicine-related, topics in order to obtain more data. Finally, there are certain words whose origin has not been ascertained. Such is the case of *wulgalpus* or *muri* (Eldredge (ed.) 1996: 79). These examples seem to respond to cases in which a denomination is used in just one or two texts, and is then lost in the following centuries. Further comments on these results will be made in section 5.

The following graph shows the number of examples of both anatomical and disease terms according to their origin, and it clearly shows which sources had more impact on the composition of the specialised lexicon in this text:



GRAPH 2: Quantification of terms according to their origin

It is noteworthy that most of this lexicon has survived down to our days, since this shows that, despite the later lexical increase due to the development of medicine, the core vocabulary for contemporary terminology in ophthalmology had already been established.

4.2. An analysis of the lexicon and its etymology

I will now attempt to organise these data in the light of previous considerations. The lexicon of the text, as shown above, provides nouns from Classical, French, Germanic, Mixed and Arabic origins in all cases, with the exception of terms from Arabic in the field of anatomy. Thus, multilingualism is clearly reflected in this text, and sometimes all provenances can be found in a single example, given that – as Norri (2004: 107) suggests – “[...] medieval writers often explain that a sickness or body part is called this or that in Latin, French, Greek or Arabic”. Such behaviour has also been detected in our survey examples such as the following:

(1) Fforwhy thorough accacioun of the forsaid causes, the *humour albuginoyis* ys dissoluid in partye and hit rotith; and that roted is as it were water congelid and crudded And it is putten afore the lyght and afore the ey3e appill, bitwene the tonick and the cristallyne humour; the which the *Sarazyns and the Arabies clepen hit “amesarca,” that is in Latyn “aqua putrefacta,” in Englishhe “water yroted” in the ey3e.* (Eldredge (ed.) 1996: 54)

46

Examples of Latin origin seem to occur with high frequency in the anatomical description, but the terminological units of Germanic origin show an even higher frequency with the highest percentage (41.4%). As suggested above, knowledge of the anatomical structures of the eye, due to its being an external organ, was available to medicine with no need for dissection and therefore names for them could be coined right from the early stages of the development of the language. Terminological units derived from Latin can easily be recognised as some of them still bear the case ending. In this case, according to some authors (Norri 2004: 107; Pahta 2004: 84), they could be considered a switch and would therefore be lost in subsequent centuries, as in the following example from the text:

(2) Thys maner of infirmyte the grete lechys of Salerne clepyd obtalmyam, but I, quod Benuonucius, calle yt *torturam tenebrosam*, ffor so much as it commyth with so greet a torment pat it makyth the eye dymme and derke. (Eldredge (ed.) 1996: 61)

In this example, the author resorts to the native language to clarify the imported concept. The explanation of the concept is often given in the vernacular, as in this example:

(3) ffor the neruys obtyk be so opylate, that ys such maner of synewes ben so stoppyd and mortified, þat no medycyn may helpe yt. And þerfor thyes cateractys we clepyñ *guttam serenam*, ffor yt ys gendryde of a corrupcion commyng downe from the brayn yn the maner of a drope of water whych corruptyth and dyssol [p. 29] uyth all the humurs of the ey. (Eldredge (ed.) 1996: 58)

Another complementary consideration might be that the author was giving an equivalent which would be better understood. In this respect, Pahta (2004: 81) states that “The writers of Middle English medical texts had to create the terminology for topics that in many cases had not been discussed in vernacular writing before”. She also discusses the different ways in which this problem could be solved. One of the possible solutions is illustrated by the example below:

(4) Also superhabundance of the humor of malencolye is often gendryd yn the ey a dysease callyd *vngula*, a *nayle*, for it ys muche lyke a *fynger nayle*, and begynnnyth comonly to growe in *lacrimabili minore*, þat ys to sey yn the corner of the eye to the ere-ward. And the course of the growyng ys toward the pupil, þat ys to sey to the *sy3te*. (Eldredge (ed.) 1996: 75)

The use of these Latin terms may be explained by the need to endow the style with a learned manner, as with *obtalmie* and *panniclus* in example 5:

47

(5) But often yt ys seyñ pat in pis maner of eyon *obtalmie*, pat is derknes of *sy3t*, and *panniclus*, that is smalle webbys, and oper dyuerse dyseases [...]. (Eldredge (ed.) 1996: 51)

This possibility is supported by Pahta (2004: 83), who thinks that these code-switched terms are a contribution to the highly specialised register of scientific discourse. In this case, the term *obtalmie* certainly gives an air of technicality, but it also narrows the semantic specification of the term in opposition to *derknes of sy3t* – a more general and imprecise word.

All of the Germanic examples found, except *erewarde*, *herys*, *hollow sinews*, *ly3t of the eye*, or *water yelwisse* have reached our days, meaning that they were already part of this specific terminology at the time. The group referring to diseases is less significant³ (34.6%) and clearly suffers from the lack of medical knowledge of the time. A diachronic study might show whether this area incorporated the new stock from classical sources only, or used the native storage to build up the specific terminology. As Norri (2004: 108) indicates: “Etymological study of the names of sicknesses and body parts yields an interesting pattern with respect to the number of lexemes in the different chronological layers”.

The other important source this lexicon is taken from is French, and the reason for this seems obvious given that in the late Middle Ages, French loans would be

entering the language in much larger quantities than in any other period. Coleman (1995: 96) recalls previous studies of French loans and their chronology, which indicate the different methods and procedures followed mainly by Mossé or Dekeyser, among others, which consisted of following the entries of the OED and reckoning up the French words included in them. This posed some problems, as Coleman explains (1995: 96-97), and it is not my purpose here to discuss these procedures. However, it may be of interest to compare their results with data referring to specific fields, in this case medicine, in order to clarify the peaks and the periods in which they are found.

In the case of mixed terminological units, the figures indicate that they are more common in lexicons related to anatomy. A total of 7 examples are found referring to anatomy (eg, *hollowe nerffe* (Eldredge (ed.) 1996: 82)), in contrast with only one example of the mixed type found in the list of examples denoting diseases. Even if it were true that the head of the noun phrase indicates the original source of the borrowing, both words have different etymologies and they have been considered separately in the etymological classification. Some examples of this group, like *watery humors*, refer to very general and imprecise concepts. The presence of this particular example in the text (among others) is justified, as terms necessarily had to refer to the contemporary medical theories, the most popular being the theory of the humours, in which the lack of balance between them had different effects; in this case, shedding tears is interpreted as being one of them:

48

(6) [...], for the abundance of watery humors and teris, the which often yssu [come out] þer bycause sumtyme of sorrow and heuynes of herte, sumtyme of ioye and gladness, and sumtyme for habundance [p. 3] gg of superfluytees of humors caused of cold. (Eldredge (ed.) 1996: 49-50)

Such terminological units were to progressively vanish from this type of text as science and medical knowledge developed.

Despite consulting the standard reference works and related literature on the topic, the origin of some words has not been ascertained. This is the case of *wulgalpus* and *muri*, and although the linguistic context helps us to understand the medical concept, the origin of these words remains – to the best of my knowledge – unknown:

(7) And also of the malencolyus humor, quod the autor, ther is gendrid yn many men a sekenes that growyth betwene the nose and the ey, and it apperyth lyke the pece of a long and it < is > grauelous and voydyth allway fylth, and comunly it towchyth withyn the ouer eyeclede and also the neþer. And [p. 93] in many placis thys sore is clepyd *muri* or *wulgalpus*. (Eldredge (ed.) 1996: 79)

It may well be that these terminological units are *hapax legomena*, that is, words that have been attested in only one text (Colon 1969); however, it seems logical that, being translations, the words had reached the text from a previous life.

Finally, to return to the Arabic influence on this particular area of medicine, a priori it would seem that a direct influence on English is very unlikely and we know that the adoption of Arabic lexicon into English is frequently through French or Spanish. In this respect, results prove to be disappointing⁴. Despite the strong probability that Benvenutus had been in contact with Arabic terminology and the fact that Salerno certainly had close links with Arabic science, in our text only two examples referring to diseases, *amesarca* and *iberafrumaxyn*, appear to come from Arabic. Further research would help to give a clear, specific idea of the role of Arabic in specialised terminologies.

5. Special terms in ophthalmology: final remarks

It seems, in the light of the results obtained, quite safe to suppose that a large part of the specialised terminology was already present in this period, and that the Germanic element had a significant presence, especially in anatomy. Disease terms present a more balanced group of etymologies, although they account for fewer words. Some scholars have argued that prior to the sixteenth century, there could have been no development of lexicon in any specialised nomenclature and that only in the sixteenth century and beyond would this have been possible: “Around 1500 English was incapable of providing a linguistic medium for traditional scholarship and for the rapidly developing scientific disciplines since it lacked the necessary terminologies. [...]” Schäfer in Norri (2004: 101).

In this study we have attempted to show the opposite tendency, i.e. that the main core vocabulary of the standard terminology in ophthalmology could have already been present in this treatise, and that it has a high component of words of Germanic origin – a fact which modifies, at least partially, the assumption that Latin and Greek are the only relevant sources of lexicon in medical language. Norri (2004: 137) also points in this direction:

The survival rate of the names of sicknesses and body parts in the material examined may seem low [...]. This, however, does not in any way diminish the importance of especially the late Middle English period for the future development of medical terminology in English, since hundreds of lexemes that did survive were to become the standard designations for particular conditions and anatomical structures. In modern medical dictionaries, such terms often appear as the head word in a multitude of phrases signifying related phenomena.

It may be true that Classical stock has a more significant presence in other areas of science. A thorough diachronic review of the terms related to ophthalmology (contrasting it with other sub-specialties within medicine) would shed some light upon the differences between the varieties of medical fields and would help to shape a better picture of the configuration of the vocabulary in the different ESP from a historical perspective.

Conclusions concerning these issues will remain tentative until further research on specific texts, both contemporary and from different chronological layers, has been carried out. However, the importance of communication in medical matters has always been (both now and in the past) related to a proper transmission of knowledge and to the understanding of the patient and his/her symptoms. In this respect, Marečková (2002: 586) reminds us: “The old doctor spoke Latin, the new doctor speaks English, the good doctor listens to the patient”.

Notes

¹. This research has been funded by *Fundació Caixa Castelló-Bancaixa*, grant number 061003.12 and by *Programa de promoción Xeral de investigación do Plan galego de investigación, desenvolvemento e innovación tecnolóxica* (Incite) (PGIDIT07PXIB104160PR) and red de grupos de investigación *Lingua e Literatura Inglesa e Identidade* (Consellería de Educación e Coordinación Universitaria, 2007/000145-0). These grants are hereby gratefully acknowledged.

². The notion of discourse community in relation to this issue is clearly explained by Jones (2004: 23): “The concept of ‘discourse community’ is in many ways more useful and accurate than ‘audience’ or ‘readership’ when describing the place of texts in medieval society. ‘Audience’ tends to suggest the passive reception of a text and places the producers at a remove once a text

has been disseminated. In a period when many texts were copied by individuals for personal, or at least localised, use this is a misleading picture”.

³. Norri (2004: 109) supports this view “The Old English stratum contains a considerably larger number of terms for body parts (11 per cent) than for sicknesses”.

⁴. The interest in learning Arabic in England is explained by Wilson, (2001:1) “Adelard of Bath (c.1080 – c. 1150) travelled to mainland Europe from England in order to study Arabic learning; he translated into Latin the astronomical tables of Al-Khwarizmi. Soon many scholars were in search of Arabic treatises to translate, and ‘Arabum Studia’ became a legitimate pursuit in twelfth century England”.

Works cited

- COLEMAN, Julie. 1995. "The Chronology of French and Latin loan words in English". *Transactions of the Philological Society*, 93, 2: 95-124.
- COLON, Germà. 1969. "Valor del testimonio aislado en lexicología" *Travaux de Linguistique et de Littérature*, 7/1: 161-168.
- CRESPO, Begoña and Isabel MOSKOWICH-SPIEGEL. 2006. "Latin Forms in Vernacular Scientific Writing: Code-Switching or Borrowing?". In McConchie, R. W et al. (ed.) *Selected Proceedings of the 2005 Symposium on New Approaches in English Historical Lexis (HEL-LEX)*. Somerville, MA: Cascadilla Proceedings Project: 51-59.
- ELDRIDGE, Laurence M., (ed.) 1996. *Benvenutus Grassus: The Wonderful Art of the Eye. A critical Edition of the Middle English Translation of his De Probatissima Arte Oculorum*. East Lansing: Michigan State University Press.
- . 1999. "The English vernacular afterlife of Benvenutus Grassus, ophthalmologist". *Early Science and Medicine*, May 4 (2): 149-163.
- ESTEVE RAMOS, María José. 2006. "Medical terminology across the centuries: distinctive features of a chronological study in the field of ophthalmology". *Ibérica*, 12, Fall: 111-126.
- . 2007 "Different aspects of the specialised nomenclature of ophthalmology in Old and Middle English". In Moskowich, I. and B. Crespo (eds.) *Bells Chiming from the past: Cultural and Linguistic Studies on Early English*. Amsterdam: Rodopi.
- JONES, Claire. 2004. "Discourse communities and medical texts". In Taavitsainen, I. and P. Pahta (eds.) *Medical and Scientific Writing in Late Medieval English*. Cambridge: Cambridge University Press: 23-36.
- HUNT, Tony. 2000. "Code-switching in Medical Texts". In Trotter, D. A.(ed.) *Multilingualism in later Medieval Britain*. London: Brewer: 131-148.
- MAREČKNOVÁ, E. et alii. 2002. "Latin as the language of medical terminology: some remarks on its role and prospects". *Swiss Medical Weekly*: 581-587.
- NORRI, Juhani. 1992. *Names of sicknesses in English, 1400-1550: an Exploration of the Lexical Field*. Dissertationes Humanarum Litterarum 63. Helsinki: The Finnish Academy of Science and Letters.
- . 1998. *Names of Body Parts in English, 1400-1550*. Annales academiae scientiarum fennicae Humaniora, 291. Helsinki: The Finnish Academy of Science and Letters.
- . 2004. "Entrances and exits in English medical vocabulary, 1400-1550". In Taavitsainen, I. & P. Pahta (eds.) *Medical and Scientific Writing in Late Medieval English*. Cambridge: Cambridge U.P.: 100-143.
- PAHTA, Päivi. 2004. "Code-switching in medieval medical writing". In Taavitsainen, I. & P. Pahta (eds.) *Medical and Scientific Writing in Late Medieval English*. Cambridge: Cambridge U.P.: 73-99.
- PAHTA, Päivi and Irma TAAVITSAINEN (eds.) 2004. *Medical and Scientific Writing in Late Medieval English*. Cambridge: Cambridge U.P.
- RAWCLIFFE, Carole. 1995. *Medicine and society in later medieval England*. Gloucestershire: Alan Sutton.
- ROTHWELL, William. 1998. "Arrivals and departures: the adoption of French terminology into Middle English". *English studies*, 2: 144-165.
- WILSON, J. 2001. "Arabic in Middle English" in: 7 February 2002. <<http://www.chass.utoronto.ca/~cpercyc/courses/6361Wilson.htm>>

