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**Contact effects on the technical lexis of Middle English:
A semantic hierarchic approach**

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ABSTRACT

In the context of multilingualism in later medieval Britain, the influx of French terminology into the emerging technical vocabulary of Middle English is likely to have produced synchronous synonyms. For functional reasons, some native terms are expected to be dropped from the language, others to undergo differentiation through semantic shift. A significant proportion of the French borrowings are often seen as having been new technical terms, but earlier historical research on the nature of technical vocabulary in English has not clearly characterised this lexical domain; ways are therefore explored here of identifying technical terminology in this period. Definitions contained in historical dictionaries, principally the *Middle English Dictionary*, provide the main diagnostic, specificity of meaning. As a case study, borrowings in a technical register are examined using the terms contained in the sub-domain 'Instruments' within the Middle English vocabulary for Building (extracted from the *Bilingual Thesaurus of Everyday Life in Medieval England* project) supplemented with lexis from the *Historical Thesaurus*. Utilizing the components of meaning in the *Middle English Dictionary* and the *Oxford English Dictionary* definitions, the lexical items are classified into semantic hierarchies as was done for the *Historical Thesaurus of the Oxford English Dictionary*. In addition to dates of first usage, etymological information about the lexical items is included in the semantic hierarchies, allowing analysis of patterns of replacement by borrowed terms at different levels of the lexicon. It is found that the impact of French on the native lexicon in this dataset is most evident at the superordinate and basic levels of the lexicon, where we find almost equal numbers of native and borrowed terms, while at the hyponymic level native terms are in the vast majority. The study provides an insight into the vocabulary

of speakers of the Middle English period with a high level of experience and expertise in technical fields and the findings suggest a resistance to borrowed vocabulary not at the lowest section of the social stratum, but rather by the class of skilled workers.

KEYWORDS

Middle English; Technical vocabulary; Semantic classification; Lexical borrowing

1 INTRODUCTION

This paper considers the effect of the influx of French vocabulary on the emerging technical lexis of Middle English. The starting point is the still-unanswered question posed by Michael Samuels:

[I]s it the *availability* (for mechanical, extralinguistic or extrasystemic reasons) of new forms that causes the shift, by differentiation from them, of older forms? Or is it the prior shift of the old form to a new meaning (by extension and limitation) which creates the *need* for a new form? (1972: 67)

Samuels was a functionalist. This approach drove his research questions. Functionalism seems to be a particularly useful way to think about a language in contact with another language. It considers a language as a system, but its focus is on speakers and their communicative needs. The ostensible focus of Samuels's formulation is the tension between the multiplication of (near-)synonyms, for maximal precision, and constraints on sense development, for functionality; that is, ease of communication. Implicit in the question is the impact of loanwords on the native vocabulary. A situation of multilingualism is likely to produce synchronous synonyms, which, for functionalist reasons, are likely to undergo differentiation by means of semantic shift (though this may take place over an extended time period: see Molencki, this volume).¹ In the case of English, such a situation was present in the late medieval period. Anglo-French, Latin and English were all languages of record (Schendl & Wright 2011: 19). Richard

¹ As Richard Ingham points out (this volume), synonymous terms may be retained but become differentiated by register, though this possibility seems less likely in the case of the kinds of technical terms with which this paper is concerned.

Ingham (2010, 2012, 2017) has shown that Anglo-French remained a systematically structured dialect employed by bilingual speakers until about the mid-14th century and so the resources of English and Anglo-French were available to educated English speakers, along with Latin, which was still employed in some administrative functions. Samuels's focus on the possible effects of 'old' and 'new' forms points to the importance of lexical borrowing in the chain leading to semantic shift. Manfred Görlach argues for the 'correlation between types of situation, textual functions and conventionalized linguistic features', noting that for the ME period the focus should be on 'the massive borrowing from many languages and the consequences of this process' (2001: 47; cf. Durkin, this volume). Esme Winter-Froemel (2014) focuses on loanwords that undergo semantic change. Winter-Froemel examines only a handful of terms, but she notes that two types of semantic change in borrowing can be seen, semantic specialization and metonymic change, and that the former is quantitatively more significant.

At this stage in its history, English had not yet reached the level of linguistic development characterising an *Ausbau* language; that is, 'an autonomous standard variety together with all the nonstandard varieties from the dialect continuum which are heteronomous with respect to it' (Trudgill 1992: 169). One of the markers of the final level of an *Ausbau* language in order for it to become a standardized tool of literary expression is a technical register (Kloss 1967: 29). The notion of the development of a technical lexis seems of great importance for the examination of semantic shift in Middle English. This is in part because early studies suggested that a significant proportion of the French borrowings were technical terminology (Serjeantson 1935; Prins 1941) but this idea has received little attention in more recent scholarship. In this

paper, vocabulary from the ME period relating to one conceptual field, that of Building, is classified into semantic hierarchies in order to compare the use of native vs. loanword vocabulary in the technical register with that found in the more general vocabulary. We may note here Gábor Györi and Irén Hegedüs's argument that in closed or semi-closed parts of the semantic structure, such as lexical fields, 'the system characteristics of a semantic space will condition the changes' (2012: 316–317). It is still an open question whether changes in lexical fields might condition further changes across the whole vocabulary of a language, as Samuels (1972) seems to suggest. The case study below offers an example of the kind of research (on a much larger scale, of course) that is needed to answer this question.

The first issue concerns the definition of technical language for the medieval period. The single-volume histories of English are reticent on the subject: there is no entry for technical terms in the index in Strang (1970), Baugh & Cable (1993), or Hogg & Denison (2006). Geoffrey Hughes observes that the Normans introduced 'a foreign nomenclature' into the language of the law, suggesting that 'there consequently developed parallel vocabularies of broad, general, native words and specific alien technical terms', citing e.g. *theft* vs. *larceny* (2000: 221) but here, as elsewhere, the domain is specified before the language is analysed. There is some discussion of technical vocabulary in David Burnley's chapter on lexis and semantics in volume 2 of the *Cambridge History of the English Language* (1992). Burnley notes that Chaucer's distinguishing of the terminology of fields such as law, astrology, physics, alchemy, and love help us to define areas of discourse recognized by 14th and early 15th-century writers, though words in technical fields may also be part of the common core of vocabulary in other contexts (Burnley 1992). This is the approach taken by Joanna

Bugaj, who bases her (2006) study on the idea that official documents exhibit a particular range of vocabulary, which distinguishes them from everyday language. Discussions of modern technical language tend to confirm the idea that technicality is manifested most obviously at the level of lexis (Bloor 1979: 137; Sager et al. 1980: 230; Fögen 2011: 448) but these analyses, like the scholarship on the medieval period, rest on the assumption that the criterion for determining technical language is that it is found in technical texts even though, as Fögen notes, earlier periods allowed for ‘a broad spectrum of text types in the technical engagement with a subject’ (2011: 445–446). In the next section, diagnostics for technicality of vocabulary in the medieval period are outlined, before the discussion proceeds to methodology for addressing contact effects on the emerging technical vocabulary of Middle English.

2 METHODOLOGY

I addressed the issue of isolating technical lexis in the medieval period by examining the distribution of terms for dress and textiles in a text base collected for the *Medieval Dress and Textile Vocabulary in Unpublished Sources* project (Sylvester 2016).² My assumption there was that lexical items which appeared within a range of text types were likely to be the most polysemic and general terms and lexical items which were unique to one text type (e.g. wills) were likely to be more specific in their meaning. Distribution was thus one diagnostic. A further, more salient test was derived from Laura Wright’s (1995) study of mixed-language business writing in which she considers the semantic relationships between terms which occur in the base language and lexical items which are in the embedded language; that is, nonce-borrowings or single-word

² I am grateful to the Leverhulme Trust for funding for this project across 2009–2012.

code-switches.³ Wright considers that technicality may be central to the question of code choice, and argues that technicality entails restriction of meaning, categorizing noun phrases in the accounts she examines, which contain a great many lists of items and their costs, according to their superordinate and hyponymic relations.

Rather than beginning with the vocabulary found in documents of a specific text type, as Wright has done in relation to medieval accounts, I take the lexis as my starting point in this paper, arranging terminology from the semantic domain of Building into semantic hierarchies. Historical lexicologists working within a cognitive semantic framework have argued for the salience of approaches to the lexicon based on hierarchical classifications in which features are inherited from superordinate terms (see, for example, Lyons 1977; Geeraerts 1988; Kay 2000; Sylvester 2004a, 2004b). Analysis of the hyponymic relations of the vocabulary of a semantic field into a hierarchy places the most general terms (such as *plant* in a botanical taxonomy) at the top and proceeds downwards, moving to a new level with each new component of meaning. As we move down the hierarchy, the terms become more and more precise in their meanings. In this paper, a small set of data drawn from the *Historical Thesaurus (HT)* and the *Bilingual Thesaurus of Everyday Life in Medieval England* project (*BTh*) is classified into semantic hierarchies, making use of the definitions of the terms in the

³ These definitions point to a controversy in code-switching studies over whether single-word switches exist as a separate category, or single-word foreign language items are borrowings immediately on use. Opposing arguments may be found in Myers-Scotton 2002 and Poplack & Dion 2012. Investigations by Richard Ingham, Imogen Marcus and me using the *Bilingual Thesaurus* data for Middle English and Anglo-Norman have produced results that appear to confirm Poplack & Dion's theory that there is no single-word code-switching, only immediate word borrowing.

historical dictionaries, mainly the *Middle English Dictionary (MED)*, to determine the components of meaning for each sense of each lexical item, as was done by the compilers of the *HT* (see Kay 1984, 2010; Samuels 1987; Sylvester 1994; Kay, Wotherspoon & Sylvester 2001; Wotherspoon 2010). The hyponymic semantic relation is used to classify the vocabulary and fine-grainedness of sense is equated with technicality.

3 DATA

The vocabulary relating to the semantic domain of Building assembled for the *BTh* consists of 504 terms (as against the 408 in Domestic activities, 1128 in Farming, 432 in Food preparation, 996 in Manufacture, 816 in Trade, and 540 in Travel by water). Final editing of the *BTh* is still in progress, but the figures are suggestive about the lexicalization of the various concepts in the medieval period. In the *BTh* database, the vocabulary may be viewed according to the sub-domains (for Building these are Metalworking and Woodworking); and/or according to semantic role (Agents, Instruments, Materials, Processes, Specialised locations); and/or according to language (Middle English and/or Anglo-Norman). These are not arrangements of the vocabulary, but ways of filtering the data for more or less specific searches. As a case study, I have chosen Building > Instruments > Middle English. The terms found via this search are as follows:

bem nail · bergog · blokker · bord ax · boune · chip-ax · hauser · lat hamer · lat nail · latthe nail · led · line · masoun hak · plaunche(s) nail · plum · plum reule · plumet · punchoun · rof nail(s) · scaffold nail · scot-sem(e) · scot-sem(e) nail ·

*seuing(e) nail · shelt-bem nail · ston axe · ston barwe · ston brod · ston cart ·
ston hamer · ston hok · verge · wal nail · wough prig nailes*

One issue with this data set is immediately apparent as it arises out of the methodology that was employed to populate the *BTh* domains. The aim of that project was to include the vocabulary items that were used in relation to the occupations selected. It was recognized that terms specific to particular domains may also be part of the vocabulary in general use in other contexts (Sager et al. 1980: 230, Burnley 1992: 454, Fögen 2011: 448), and this presented the problem of distinguishing, from the evidence in the dictionaries, whether a particular lexical item has a special, technical sense, or is simply recorded as having been used in a particular context, the special sense being suggested by the collocation (for example, by the object in the case of a verb). An example is provided by the verb *leien*, which is listed with multiple senses in the *MED*, including ‘drop (anchor)’, a usage which looks as if it belongs with the vocabulary related to Travel by water, one of the semantic domains included in the *BTh*. These senses were excluded from the *BTh* database on the grounds that this was an instance of a general term being used in a particular context, rather than a specific sense of the verb. The outcome of these decisions is that terms with the most general senses, that is, those belonging at the higher levels of the semantic hierarchy, are not included in the *BTh*. In order to examine the contact effects on Middle English at the different levels of the semantic hierarchy in this study, technical lexis assembled for the *BTh* is supplemented by vocabulary at the basic and superordinate levels from the *HT*.

The section of *BTh* data chosen for this study begins with *bem nail*. Checking the relevant *HT* entry shows that there are many types of nail, once we include the later

periods of the language, but there are only three terms at the basic level of the hierarchy that fall within our period. These are:

03.11.11.34.01|01 n Fastenings :: nail

pil OE · nail < *nægl* OE– also fig. · *tacket* 1316– now Scots & northern dial.

We may note that the first two terms, *pil* and *nail*, are present in Old English. The first did not continue in use beyond the OE period; the second is the term that has survived into present-day English; it is in common use, it is the word that was chosen as the headword in the *HT* classification, and it had begun to be used figuratively by the beginning of the 15th century. This is indicative for the idea that it is the lower parts of the hierarchy where the more technical terms and more lexical borrowing are found. Of the third term, *tacket*, the *Oxford English Dictionary (OED)* notes indicate that it did not remain in use as a general term for a nail, providing the following definition: ‘A nail; in later use a small nail’ and noting that the term now denotes studs on the sole of a shoe in Scottish and northern dialects (the entry as a whole is labelled ‘Now dial.’). Thus, the term has shifted lower down the semantic hierarchy to a more technical sense, rather than the native term undergoing semantic shift under pressure from the borrowed term, as is the result indicated in textbook accounts. So what we have is two native terms, one derived from Old French with a French suffix and first used in the middle of the 14th century. We see the sidelining of the French term so that *tack* becomes restricted to Scots and northern dialects. It looks as if the borrowed term continued in use as a more technical term (as it appears in the *Anglo-Norman Dictionary (AND)* entry *tache* (peg)), and as a superordinate term, with the sense ‘fastening’, but was not retained in the

language as the basic level term; more semantic domains would need to be compared to discover if this is the common pattern at this level of the semantic hierarchy. This case study will allow us to compare the finding for basic level vocabulary with the ratios of native to borrowed terms at the superordinate and hyponymic levels.

Returning to the subset of data from the *BTh*, we can focus on the sub-group containing terms for nails. We begin with a term (*bem nail*), which means ‘A nail or spike used for fastening a timber’. Although the data is not classified into semantic hierarchies in the *BTh*, there is a rough taxonomy and items may be further grouped together on this basis; for example, *bem nail* is in Building > Instruments > Building and constructing equipment (n.) > Fastenings > Nail > For specific purpose. The part of the taxonomy showing the place of *bem nail* makes it clear how far down a semantic hierarchy this term would be. Employing the methodology that was used in the construction of the semantic hierarchies for the *HT* (see, for example, Sylvester 1994), we can analyse the definitions into their components of meaning and construct a semantic classification of the set of Building terms from the *BTh*. For example, the terms for ‘nails’ should be grouped together, while the shared sense of fastening timber (boards or lathes) with the additional descriptor ‘small’ means that *lat nail* and *lathe nail* have similar but more specific senses and therefore belong one place lower down the semantic hierarchy, below *bem nail*. In this way, we can determine the category (Building) and add subcategories (e.g. Instruments used in building), and sub-groups of terms. Beatrice Warren (1999: 217) argues that the characteristics that make an entity or phenomenon a member of a category become features of meaning, and that is why it is natural to think of word meaning as composed of components. In this classification the components of meaning derived from the definitions in the historical dictionaries

determine the placing of the individual terms within the classification. The classification that forms this case study is based on the idea that categories inherit the properties of their superordinates (see e.g. Miller 1978; Fellbaum 1999) and the lexical items are categorized according to two relations: hyponymy (x is a kind of y) and meronymy (x is a part of y). The analysis that follows the classification examines the effect of language contact at the superordinate, basic and hyponymic levels of the semantic hierarchy.

William Croft and D. A. Cruse argue that basic level categories ideally have rich content and clear differentiation from sisters, and so a term lower down the semantic hierarchy will be a basic level term for a speaker with rich knowledge of the category, but will not be a satisfactory basic level term for one who has limited experience of it (2004: 96–97). It should be noted that this classification includes technical terminology and therefore reflects a high level of knowledge and experience of the Building category in the medieval period.

4 CLASSIFICATION

The core of the case study for this paper is the semantic classification of the Middle English vocabulary for Instruments used in Building. Table 1a shows the superordinate terms for this category; tables 1b and 1c show the basic terms and hyponyms for this category; and tables 2-8 show the vocabulary at the basic and hyponymic levels for the sub-categories below this heading; that is, the terms denoting specific instruments, and the lexis for more precise designations of such instruments with further components of meaning such as ‘large’, ‘small’, etc. or use for a particular purpose. In this classification, unlike those in the *HT*, information about the languages of origin of the lexical items is included, enabling analysis of the influence of contact with French and

other languages at the different levels of the lexis assembled for this case study (see the discussion which follows the classification). The vocabulary at the superordinate and basic levels is taken from the *HT*, the vocabulary at the hyponymic levels is from the *BTh* project. Please note (1) that where a term is recorded as having more than one sense, it appears in more than one place in the classification; and (2) that I have used the symbols &, where the *MED* records more than one language from which a term may have entered English; and +, to separate the languages of origin of the separate elements of compounds.⁴

1.1 Classification of instruments used in building

Table 1: *Superordinate terms for instruments used in building*

SUPERORDINATE TERMS	
Equipment	tool < tol [OE] . loom < geloma OE-1641 + 1819- . instrument 1375- [F]. gin a1400-1624 [F] . machinament c1425 [L] . work-loom c1425-1796 [OE+OE] . oustil c1477-1530 [F]

Table 1a: *Basic level terms for instruments used in building*

BASIC LEVEL TERMS	
Instrument used by carpenters	bergog 1352 [uncertain]

Table 1b: *Co-hyponyms for instruments used in building*

⁴ The names of the languages are adapted from those given in the *OED* and are abbreviated as follows: F = French; L= Latin; MDu = Middle Dutch; ME = Middle English; MLG = Middle Low German; OE = Old English.

HYPONYM LEVEL 1	
Tool used in making blocks	blokker 1407 [MDu&F]
HYPONYM LEVEL 2	
Plumb line	boune 1340 [F] · line 1340 [OE] · plumet a.1398 [F] · plum reule c.1400 [F&L+L] · plum 1400 [F&L]
HYPONYM LEVEL 3	
Lead weight at the end of a builder's plumb line	led 1340 [OE] · plumet a.1398 [F] · plum 1400 [F&L]

Table 2a: *Basic level terms denoting piercing tools*

BASIC LEVEL TERMS	
Piercing/boring tools	piercer 1404– [F]

Table 2b: *Hyponym denoting piercing tool*

HYPONYM LEVEL 1	
Piercing tool used in building	punchoun 1367–8 [F]

Table 3a: *Basic level terms for ropes*

BASIC LEVEL TERMS	
Rope/cord/line	sole < sal OE–1345/6 . string < streng OE–1840 . rope < rap OE– . funel a1300 [F]

Table 3b: *Co-hyponyms denoting ropes*

HYPONYM LEVEL 1	
Cord used by a builder	boune 1340 [F]
HYPONYM LEVEL 2	

Large rope for hauling or hoisting	hauser 1294 [F]
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Table 4a: *Basic level terms for nails*

BASIC LEVEL TERMS	
Nails	pil OE-- · nail < næg OE– also fig. · tacket 1316– [F]

Table 4b: *Co-hyponyms denoting nails*

HYPONYM LEVEL 1	
Nail(s) used in the construction of a wall or partition	wal nail 1344–5 [OE+OE]
Nail used in constructing a scaffold	scaffold nail 1349 [L+OE]
Nail(s) for securing roof tiles or shingles	rof nail(s) 1284 [OE+OE] · ston brod 1450 [OE+ON]
Nail or spike used for fastening timber	nail c. 1312 [OE] · paunche(s) nail 1344 [F+OE] · bem nail 1352 [OE+OE] · shelt-bem nail 1336 [MDu&MLG+ME+OE]
Hook for attaching a hinge to stonework	ston hok 1396–7 [OE+OE]
HYPONYM LEVEL 2	
Small nails used in wall construction	wough prig nailes 1367 [OE+?OE+OE]
Small nail(s) used for fastening lathes	seuing(e) nail [OE+OE] · lat nail 1272–3 [OE+OE] · scot-sem(e) 1273 [MDu&MLG+OE] · scot-sem(e) nail 1273 [MDu&MLG +OE+OE] · latthe nail 1323–4 [OE+OE]

Table 5a: *Basic level terms for axes*

BASIC LEVEL TERMS	
Axe	axe < æcs OE– · belt a1300 + 1499–c1500 [OE] · ex a1400–c1440 [OE]

Table 5b: *Co-hyponyms denoting axes*

HYPONYM LEVEL 1	
Axe used in splitting timber into boards	bord ax 1400 [OE+OE]
Axe for cutting and shaping stones	ston axe ?c. 1357 [OE+OE]
HYPONYM LEVEL 2	
Small axe for shaping timbers	ston axe ?c. 1357 [OE+OE]

Table 6a: *Basic level terms for hammers*

BASIC LEVEL TERMS	
Hammer	hammer < hamor OE-

Table 6b: *Co-hyponyms denoting hammers*

HYPONYM LEVEL 1	
Hammer used for nailing lathes	lat hamer 1362 [OE+OE]
Hammer for breaking or shaping stone	ston hamer 1389 [OE+OE]

Table 7a: *Basic level terms for cutting tools*

BASIC LEVEL TERMS	
Cutting tool	steel < style OE- . edge-tool c1350- [OE+OE]

Table 7b: *Hyponym denoting a cutting tool*

HYPONYM LEVEL 1	
Cutting tool used in masonry	masoun hak 1416-7 [F+OE]

Table 8a: *Basic level terms for carts*

BASIC LEVEL TERMS	
Cart/carriage	char a1300–1677 [F] · car 1382–1750 [F] · charotte c1400 [F] · charet/charette c1400–1654 [F]

Table 8b: *Co-hyponyms denoting carts*

HYPONYM LEVEL 1	
Vehicle for moving stone	ston cart ?c.1357 [OE+OE] · ston barwe 1416 [OE+OE]

In the next section, the semantic classification and what it shows us about the impact of the contact with French on this area of the ME lexis is discussed.

5 ANALYSIS

This paper aimed to test the suggestion that vocabulary at the level of greatest specificity within the semantic hierarchy, thus the most technical terminology, is more or less likely to be more heavily weighted towards loanwords than terminology higher up the semantic hierarchy where lexical items with more general meaning are found. There are cases, an example is provided by *plum*, where we need to decide if we are counting senses or lexical items, since the term occurs more than once in the classification, with the same date of first usage given in the *MED*. The term *plum* occurs three times: once as part of an incipient compound (*plum reule*), and twice as a simplex term, first with the same sense as *plum reule*, and once with a slightly narrower sense.

The dates of first usage suggest that the term was borrowed into English in the different senses, but the definitions in the *Anglo-Norman Dictionary (AND)*, *Dictionnaire Étymologique de l'Ancien Français*, and the *Dictionnaire du Moyen Français (DMF)* do not match those of the *MED*. Six senses are given in the *AND*, but although clearly related to the ME senses, they are not exact matches, and appear to be unrelated to the semantic field of Building, even when the senses are close, e.g. sense 2 '(as a heavy object) leaden weights, designed to increase the weight of an object'; and sense 6 'plumb, leaden ball on a weapon' (s.v. *AND plum*¹); and the senses in the *DMF* do not match either; beyond the metal itself, they pertain to fishing and clocks. The French senses are thus more general than the senses in which the term appears in English, and they do not relate to a specific semantic domain, as the senses of the term in Middle English do. This further suggests a pattern (seen with *tack* above) in which French terms with quite general senses are borrowed into the language, but over time their senses become more specialized in the borrowing language, where the terms remain in use.

The classification shown here includes only a small amount of data. Nevertheless, we can make a number of observations. At the superordinate level in this classification, that is, those items whose definitions are the most general, there are seven lexical items denoting instruments or tools in use in our period, of which three are native (*tool*, *loom* and *work-loom*), three are borrowed from French (*instrument*, *gin*, and *oustil*), and 1 is borrowed from Latin (*machinament*).

The next level down in the classification, the basic level terms for instruments in Building, contains fifteen lexical items. One of these (*bergog*) is of uncertain origin: the remaining terms are equally divided between Old English (*string*, *rope*, *nail*, *axe*, *belt*, *hammer*, *edge-tool*) and French (*piercer*, *funnel*, *tacket*, *car*, *char*, *charotte*,

charet/charette). The first dates of usage as well as variations in the etymologies given in the *OED* indicate that these terms were borrowed into English at different times.

These findings are summarized in Table 9:

Table 9: *Languages of origin of lexical items at the superordinate and basic levels of the semantic hierarchy*

	Old English	French	Latin	Old Norse	Germanic	Uncertain
Superordinate level	3	3	1	0	0	0
Basic level	7	7	0	0	0	1

At the hyponymic level, many of the terms are compounds, suggesting attempts at greater precision as the terms for the concepts contain modifiers describing what they are used for, e.g. *bord ax*, *lat hamer*, *ston axe*, *ston hammer* and *ston cart*. What we see here is the use of mostly native resources to create these word forms, and it is tempting to ascribe this to the idea that the workers themselves needed to understand the texts in which the terms appear.⁵ Of the items at this level, six are French borrowings; three are

⁵ Note, however, that evidence which runs counter to this suggestion was adduced by Trotter (2011a: 53) in his analyses of the accounts of the repairs to the Exe Bridge, which were drawn up after the work had been completed. Trotter (2011b: 157) proposed that the distinctions between Middle English and Anglo-French were not salient for writers in the later ME period.

compounds made up of French and Latin or possibly only Latin (it is not always possible to distinguish borrowings directly from Latin and those whose etymology is Latin but came into English via French); two are compounds composed of native and French terms; one is a compound made up of one native term and one borrowed from Latin; eighteen are native (including compounds in which both elements are native); one is a compound made up of one native term and one borrowed from Old Norse; three are compounds of one (or more) native terms and one term borrowed from Germanic languages; one came into English from Middle Dutch and French. Thus, the vast majority of items at this level (74.2%) are either fully native terms or are compounds containing native elements. These findings are summarized in Table 10:

Table 10: *Languages of origin of the lexical items at the hyponymic level of the semantic hierarchy*

F	F+L	OE	OE+ON	OE+Ger.	OE+F	OE+L	MDu&F	F&L+L
6	2	18	1	3	2	1	1	1

What this study shows is that at the higher levels, where meanings are more general, the vocabulary is almost equally divided between native and borrowed items, but at the technical level, native terms predominate and there seems to be resistance to borrowing lexis.

6 CONCLUDING REMARKS

Samuels's (1972) question about whether it is the availability of new forms that causes semantic shift, or prior shifts of old forms to new meanings that creates the need for a

new form prompted the establishment of the *Historical Thesaurus* project. That project, however, did not investigate the sources of the new forms. Nor, despite its classification of the lexicon of English into semantic hierarchies, did it concern itself with whether the impact of borrowed terms was felt more at particular levels of the semantic hierarchy. Nor did it question whether lexical borrowing following particular kinds of contact resulted in movement of native terms up or down the semantic hierarchy or prompted similar shifts in meaning in the borrowed items. Samuels was interested in the language as a whole, and so did not examine particular periods in which those pressures have been felt most forcibly, such as the contact with Norse in the Old English period, and with French following the Norman Conquest. The case study presented here cannot offer an answer to the question Samuels posed, but it provides an example of how the question might be more effectively addressed by beginning with a focus on a particular period in the language's history; utilizing the methodology of classification into semantic hierarchies so that the levels of the language are made visible; and including the languages of origin of all the terms at the different levels.

This classification of a small subset of the Middle English lexis for Building suggests that it is worthwhile thinking specifically about contact effects on the technical terminology in terms of the different strata of the vocabulary, as one way of getting at the question of why sections of the lexis were replaced by borrowed terms, while elsewhere the native terms continued in use. The difficulties of addressing this question are, of course, compounded by the medieval period being so far removed from us in time; the fact that we have little or no record of the spoken language of the period; and that it is not until quite late in the Middle English period that we have evidence of a

consciousness about their language on the part of speakers, or any reflection on the varieties of language encountered by speakers.

One finding of this case study suggests that where terms are borrowed from French in quite general senses, these tend to become more specialized within English, a development not echoed in the source language, while the native terms at the same level drop out of use or retain their general senses. A diachronic study tracking the semantic shifts of terms at the superordinate and basic levels of the semantic hierarchy is needed to confirm that this is a pattern across the language. Further findings, summarized in Table 9, show that at the superordinate and basic levels of the semantic hierarchy, there are almost equal numbers of native and borrowed terms. Table 10 shows that at the hyponymic level, we find that the vast majority of terms are native. It is difficult to know if this finding is suggestive more of a drive towards retention of the native terminology for the most technical vocabulary as a way of making sure that the terms for the most precise instruments (in this case) are intelligible to those working with them; or perhaps out of a sense of national pride in the precision tools of the trade; or perhaps a resistance to the imported French vocabulary not at the lowest section of the social stratum, but rather by the class of skilled workers. There does not appear to be any evidence of a drive in the opposite direction, which would shift the native terms upwards towards more general senses, leaving a space to be filled by the borrowed terminology. This paper paves the way for future work focusing on the outcomes for the native lexis at the different levels of the semantic hierarchy across a broader range of semantic domains. We know that semantic hierarchies differ according to the level of the speaker's knowledge about the field. The *BTh* data allows us to see the semantic hierarchies of speakers in the Middle English period with the technical knowledge that

comes from extensive experience of a semantic domain. This offers a unique window into the vocabulary of the everyday lives of speakers in the multilingual context of medieval Britain.⁶

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