A Bilingual Thesaurus of Everyday Life in Medieval England: Some Issues at the Interface of Semantics and Lexicography

This paper reports on issues at the interface between semantics and lexicography that arose out of the data collection and classification of vocabulary in Anglo-Norman and Middle English in order to create a bilingual thesaurus of everyday life in medieval England. The Bilingual Thesaurus project is based at Birmingham City University and the University of Westminster. Issues to be resolved included the definition of an occupational domain; the creation of a methodology of data collection; the delimitation of domain-specific vocabulary; making distinctions between sense and usage; and the categorisation of the lexical items. Some of these issues are general to thesaurus-making, some are specific to the making of historical thesauruses, while some are unique to the production of a thesaurus of two languages whose use overlapped for several centuries in the late medieval period in England.

1. Introduction

This paper examines issues at the interface between semantics and lexicography. Connections between these two affiliated activities are under-explored in each (Kay 2000: 53-54). This paper discusses issues raised by the project to create a bilingual thesaurus of two languages in use in late medieval Britain and reports on the methodologies used to address them in that project.[1] The Bilingual Thesaurus (BTh) assembles the vocabulary in use in six domains of everyday life in medieval England, classifying the Middle English and Anglo-Norman terms within their conceptual groupings and categorizing them according to semantic roles. The domains selected are (1) Building, (2) Farming, (3) Food Preparation, (4) Manufacture, (5) Trade, and (6) Travel by Water. The BTh is designed to discover to what extent the

penetration of French lexis, or resistance to it, varied depending on the semantic field in question, and to assess how far the knowledge and use of French extended down the layers of later medieval English society. These research aims, and related issues of word replacement and code-switching and borrowing in administrative texts of the period, had a bearing on the decisions and resolutions of the methodological issues.

2. The domains of the Bilingual Thesaurus

Kay and Alexander observe that a thesaurus is designed to include 'prototypicality effects, usage domains, or thematic harmony' (2016: 368). It is the second of these which forms the basis for the BTh. The underlying organizing principle is associative fields, and the macrostructure consists of six semantic domains of everyday life. The guiding principle here was that an occupational domain could be envisaged as a domain of practice; that is, a system of practices that structures people's social and discursive activity in coherent fashion. In terms of the structure of a thesaurus, Kay and Alexander note that making a thesaurus involves devising a macrostructure in which to present the data. Such macrostructures are 'necessarily arbitrary, though ideally logical' (2016: 369). For the BTh, six occupational domains were chosen to test the extent and variation in the penetration of French in everyday life in medieval England. We decided to make use of the category structures of the *Historical Thesaurus of the Oxford English Dictionary* (*HTOED*), since it was devised to encompass both the current state of the language and its entire history, including the medieval period. The *HTOED* categories were occasionally modified, however, as we were assembling associative rather than semantic fields. The *HTOED* category of 'Farming', for example, was extended to include terms for the things on the farm such as plants and animals. These are both categorized in the *HTOED* within 'The External World', under the heading 'The Living World', while 'Farming' is categorized at one level below these subheadings under the

heading ‘Food and Drink’. Our approach to Farming was different from that taken in the *HTOED*, in that we aimed to capture the wider habitus of Animal Husbandry and Cultivation or Tillage (the two sub-categories that with General Farming, make up the BTh category Farming, where the *HTOED*, with its wider scope, places some of these elements in other categories, such as Food and Drink. In making use of the *HTOED* category structures we are, by default, imposing a modern day world view onto the medieval data: the concept of a ‘farm’ in the Middle Ages differed considerably from how we conceive of it now. The ‘concept’ aspect of the BTh is intended to make its classification accessible to users: it is in part a structuring device, in part a gateway to the data. Hüllen (1999: 13) argues that, strictly speaking, onomasiological dictionaries have no headwords, instead employing head-forms as linguistic dummies for their meanings. Hüllen adds that a highly developed linguistic awareness is needed to keep this difference in mind when using an onomasiological dictionary. It is possible that this is easier to do when the categories contain terms from more than one language.

Rather than classifying the data into semantic hierarchies, as the *HTOED* does, we categorized the terminology of the BTh in terms of semantic roles (Jackendoff 1972; Fillmore 1975). We began with the notion of ‘activity’ as the central concept in a semantic domain, and developed this analytically using the idea of ‘processes’. A process has agents who carry it out, objects on which it is carried out, and instruments with which it is carried out. There may also be a specialised location in which the process is undertaken. The linguistic data in each semantic domain was organized under category headings such as: (1) processes, (2) agents, (3) product(s), (4) instruments, and (5) specialised location(s). The semantic roles approach is easier to follow in some domains than in others. The first level of ‘Manufacture’ in the BTh is a list of processes beginning with 1) Brick and tile making, 2) Pottery-making/ceramics, 3) Soap making, 4) Cask-making and ending with 9) Brewing. These

processes can then be opened up so that Brick and tile making, for example, comprises Processes, Agents, Materials, Effected objects, and Specialised location. The groupings under Trade, however, consist of Agents, Materials, Pecuniary value, Processes, and Specialised location/s; and the groupings under 'Travel by Water' are Agents, Processes, Shipwreck, Specialised location/s, and Vessel/ship/boat.

Further modification of the *HTOED* categories was necessitated by our plan to arrange the data with the concepts in a central column flanked by the relevant terms in Anglo-Norman and Middle English. At issue was the risk of imposing a medieval Anglocentric world-view on the Anglo-Norman vocabulary. This was not based on a sense of cultural differences between the English and the Normans, but a concern not to elide any differences in the ways in which the two languages carved up and construed the world, such as differing levels of specialization in capturing ships or cooking equipment in language. In these cases, we refined the *HTOED* structures by adding a sub-category. For example, the *HTOED* has 19 sub-headings under Cooking vessel or pot (n), but these do not include a sub-group Large pot. It would seem that this is because there is no Middle English term with this meaning. There is, however, an Anglo-Norman term, *mayrmit* with this sense, and so the BTh has an added subcategory with this heading.[2] We were, however, in the fortunate position of being able to turn to the *HTOED*. Where the *HTOED* headings for the relevant categories contained at least one term in use before 1500, we used the sub-group headings as keywords for searches in the two historical dictionaries, the *Middle English Dictionary* (*MED*) and the *Anglo-Norman Dictionary* (*AND*). Despite the existence of importance collections of Middle English occupational terms such as Thuresson (1950), and.the work of Mills (1963) who offers antedatings for the *OED* and *MED* and lists some Middle English occupational terms not included in the dictionaries, constraints of time meant that we were not able to make use

of sources beyond the historical dictionaries. Fransson (1935) is derived from evidence from surnames and so that material was in any case outside our criteria for inclusion.

Our original plan had been to use each element of multi-word sub-group headings in the *HTOED* as look-up terms. While thorough, this initial approach to the data collection was also very time-consuming. Within Agriculture, for example, it required us to search all single-word components of phrases such as 'part fastening share to beam', where 'part', 'fastening', 'share' and 'beam' are general terms yielding a large number of results, many unrelated to 'Agriculture'. Using Anglo-Norman terms for 'Ploughing Equipment' as a pilot category, we tried limiting our searches to single word or root compound sub-group headings. This approach resulted in 13 terms being missed.[3] It was thought that some of these might have been found using keywords from other sub-category and sub-group headings, and decided that searches would be conducted using a known synonym if an expected target term was not found, as long as the known synonym occurred repeatedly in definitions.[4] For the Middle English side, we included terms contained within the *HTOED* categories. Again using the *HTOED* subcategory 'Ploughing Equipment' as a pilot study, we conducted reverse look-up searches of the *MED* using keywords from the sub-group headings and compared the data discovered with that found in *HTOED*. Of the 74 relevant noun senses found in the *MED*, 38 were missed by the *HTOED*.[5] Principally, these were compounds, but a further issue concerned the dating: five of the missed terms are recorded in *HTOED* but with dates after 1500. It was decided that in order to catch all the compounds, and to be sure of including all Middle English terms in use between 1200 and 1450, the *MED* would have to be searched as part of the data gathering process.

3. Selection of vocabulary items

The major issue in building the BTh concerned the attempt to define the vocabulary that should be included and the lexis that had no place in it. This problem had a number of elements and aspects mostly, though not exclusively, related to the ultimate aims for the BTh; in other words, to the kinds of analyses of the data we intend to do, which has a bearing on decisions about the kinds of data the thesaurus needs to contain.

3.1. *Compositionality*

In deciding which terms should be included, it seemed that many items should be ruled out by applying the principle of compositionality. The principle of compositionality is the idea that '[T]he meaning of a complex expression is a function of the meanings of its constituents and the way they are combined' (Szbó 2012: 64). This suggested that diminutives, for example, would not be included in the BTh. For instance, while A-N *moiloun* (haycock, hayrick) was a candidate for inclusion in Farming, *moulinet* was not, because its meaning is derivable from an understanding of the lexeme *moiloun* and the compositional rule that gives the meaning 'small haycock, hayrick' when it is combined with the suffix *–et* (indicates diminutive size). The argument for the exclusion of terms whose sense was derivable from compositional rules was motivated by one idea about the purpose of the BTh: to record the word forms in use in Middle English denoting processes, agents and objects connected to everyday occupations, and then to analyse the languages of origin (as well as the languages of the citations in which the terms are attested) noting those that entered Middle English from French and conducting quantitative analyses comparing the penetration of French across the different domains. However, the BTh is also intended to record the concepts that were lexicalised in Middle English and how this was achieved so that no lexical item pertinent to the relevant domains should be excluded. For this reason, the idea of lexicalization provided a counter-argument to the exclusion of terms on the grounds of compositionality. Here we refer

to lexicalization in its broadest sense, 'the productive principles enabling a speaker's dynamic, creative language use to produce new words, i.e. form-meaning pairs with some degree of referential or content meaning' (Brinton and Traugott 2005: 33). This seemed particularly pertinent in view of Brinton and Traugott's further comment that such productions 'increase the vocabulary of a language, and at the same time enhance the resources available for any one particular semantic field' (2005: 33). The argument based on lexicalization, and the analyses that inclusion of all semantically relevant terms would enable, meant that lexical items such as A-N *pelette* (little skin/hide) and ME *breueresse* (a female brewer) were included alongside A-N *pelee* (skin/hide) and ME *breuere* (a brewer).

However, with compounds we ran into a problem because compounds in English could not be compounds in French, they would be phrases. One of the purposes of the BTh was to discover how speaker dealt with what they perceived as gaps in the vocabulary. It is, of course, not necessary to borrow foreign language material: existing terms may be extended metaphorically or metonymically to describe a concept, e.g. figurative uses of *mouse* to denote 'type of something timid, weak, small, or insignificant' attested from a. 1382 and then to name a new technological object, in this case the part of a computer that is a 'small hand-held device which is moved over a flat surface to produce a corresponding movement of a pointer on a monitor screen or to delimit an area of the screen', attested from 1965 (*OED* 2003 s.v. *mouse,* n.). Speakers may borrow lexical items, however, if the new object has a name that seems appropriate, the borrowing language is receptive to such strategies, and/or the target language has a special prestige attached to it. Any or all of these conditions pertained in late-medieval England, and it would be difficult to formulate theories about why certain semantic domains contain more borrowed French terms than others, if we exclude some of the evidence about how concepts were named in Middle English. On this basis it was decided to exclude phrases from the Middle English side of the BTh, on the grounds that

these do not represent lexicalization, they are lexical items that have been strung together to express a concept, though they may be the basis for compounds (which may ultimately become fused so that they form simplex lexical items, in a process known as univerbation). Examples of such compounds include noun compounds with *-ful(l)* as second element. These vary as to the positioning of the plural marker: for *handful*, for example, the *Oxford English Dictionary* (*OED*) gives two plural forms, *handfuls* and *handsful* (2013 s.v. *handful*, n.) Adams (1973: 8-9) observes that the interruptibility by *s* shows doubtful word-status, signalling the progression from phrase to word, as well as a semantic change from the sense 'container' to 'contents' visible in the series (*three*) *bags full - bagful(l) – bagfuls.* A less familiar combination with *-ful(l)* is more likely to have its first element pluralized than a very common one which has had time to become fixed, like *mouthful*, which admits *s* only finally. This process may take centuries, and the BTh, while historical inasmuch as it records a past state of Middle English and French, is synchronic rather than diachronic. To exclude the phrases (representing compounds) in Anglo-French, however, would produce an imbalance in the two languages and skewed data for analysis and so these were retained where they correspond to a noun compound in English, for example, A-N *mestre de la sawe*, ME *chef carpenter.* It seemed that noun root compounds should be included whether we applied the principle of compositionality or lexicalization since the meaning of a noun root compound is generally culturally determined. The same did not appear to be true of affixal compounds, such as *friing(e) pan(ne)* and *rosting(e) panne* in Food preparation, and *pathing(e) tile* in Building. Regardless of whether or not these words are compositional, the principle of lexicalization was held to be the deciding principle on the question of inclusion even in cases where compounds are affixal.

3.2. *Domain-specific vocabulary*

Our aim was to populate our domains with the terms which were used in relation to the occupations selected. 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). This does not in itself present a problem; the difficulty is distinguishing, from the evidence in the dictionaries, whether or not the lexical item in question 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 the object, in the case of a verb). The rules that we applied meant that, for example in the case of the verb *leien*, the senses 'drop (anchor)', etc. were excluded on the grounds that *leien* here was a general term being used in a specific context. This held true too for phrases such as *leien in* (to dip (an oar); haul in (a rope, line); drop (a sounding line)), *leien out* (throw (sb.) overboard), *leien away* (to discard (a tool)), and *leien onward* (pour out (broth over meat)). The rationale runs as follows. The verb *leien*, for example, has 11 major sense divisions in the *MED* encompassing over 40 subdivisions. These include the very general sense 'To put (sb. or sth.)' and extend to the seemingly more particular 'to apply (a salve, medicament, pigment), set (fire), spread (pitch); also, touch (the Gospel-book)', and 'lay (an egg)', and this is just a selection of the meanings listed under 1a. Further senses include 'To place (sb., oneself) in a recumbent posture, lay down; lay (a woman on the ground)'; ' To lay (sth.) away, put away, preserve, store, keep'; 'To place (sth.) in position, set open (a book), set (a trap, net, etc.), place (stones to form a wall, logs for a stockade, twigs for a nest)'; 'To knock (sb. or sth.) down; humble (sb.); do away with (sth.), destroy'; 'To advance (sth.) as security, pawn (sth.); give (hostages)', etc. The difficult task was deciding which of these are specific senses of the verb and which are meanings derived only from the co-texts with which the verb appears. In formulating a policy, we were guided by the approach taken by Möhren, who observes that a particular use of a word 'does not necessitate the establishment of an additional sense-definition [...] as if the word, with each

use, changed its sense' (1997: 137, 130). The 40+ definitions of *leien* do not represent 40 separate senses; most of them are examples of the term in use, rather than the set of meanings represented by the word. In the *AND*, the numbered list of senses is followed by the citations for each sense (as it is in the *MED*). Collocational information thus These lists also include some further definitions, in italics and preceded by a diamond-shaped mark, with citations following. In trying to decide what constituted a separate sense in the *AND*, it seemed to us that meanings shown marked by a diamond, but without a number in the main list, were examples of usage of senses predictable by compositionality; for example, the meaning of *reverser la terre* (turning over the earth) for the A-N verb *reverser*, is understandable from knowing that *reverser* is 'turn upside down' and *terre* is 'earth'. The same goes for all the other usages listed under that sense. However, *reverser les maunches* (turn back the sleeves) is not derivable in that way, so needs (and gets) a separate sense in the *AND*. We decided to apply the principle of compositionality to senses (but not to lexical items which could form part of the data), and so only to include lexical items for which the *AND* gives a separate numbered sense. Senses marked by diamonds or semi-colons, which it seemed should be understood as part of a larger sense (marked by a number), are not included. Thus, we did not include in Farming the verb *reverser* (for which the *AND* includes the sense '(of ground) to turn over') since this sense is essentially a variation of the more general sense 'to turn upside down', which the *AND* numbers as one of seven distinctive meanings for *reverser*. For data taken from the *MED*, which enumerates separately large numbers of uses corresponding to different types of object that the verb can take, which one might or might not want to interpret as senses, we made a rule that distinguished cases where the domain specific search term is in brackets and those where it is not. The issue of collocation was thus vital in our assessment of the senses of the vocabulary we were collecting, and in deciding where the dictionaries were defining new senses and where extensions of usage were

illustrated. We do not reproduce the collocations, however, within the space of our groupings of lexical items since our goal is to produce a lexicographic resource to help researchers address issues of word replacement and code-switching and borrowing in the medieval period, rather than to provide a resource to assist with language production.

The use of meronymy as a classifying principle in the BTh raised further questions. Meronymy was used in the classification of vocabulary for the *HTOED* (Sylvester 1994: 31-32); unlike the *HTOED* editors, however, we restricted our purview to selected domains, and this led to difficulties in deciding how specific we should be with regard to the (named, and thus lexicalized) parts of relevant objects; that is, far we should include meronyms of objects in the domains. The term *foul-hok* for example, denotes 'a curved timber forming part of the framework of a ship's hull. The question here was whether one timber used to form one part of a vessel was part of the domain of Travel by Water (for discussion of this issue and possible taxonomies of the meronymic relation, see Winston, Chaffin & Hermann 1987; Iris Litowitz & Evens 1988). The term was included in the BTh under Travel by water > Vessel/ship/boat > Parts of > Other parts of body of vessel. The final subdivision of meaning could not be very precisely labelled, and the category contains over 40 lexical items including some which come under Kay and Alexander's description (above) of older terms whose meaning is not fully known; for example, *borolfe* (some part of a ship) alongside lexical items which seem similarly to be meronyms of vessels, for example, *fot-wale* (plank or batten laid over the floor-timbers of a ship), and *lof* (a spar holding out and down the windward tack of a square sail while going into the wind).

4. Categorizing the data

As Kay and Alexander observe, in the making of historical thesauruses the data is usually taken from historical dictionaries. They go on:

> It could be argued that creating thesauruses from dictionaries imposes another editorial layer between the lexicographer and the texts; on the other hand, there is little point in repeating work already done by other lexicographers. Problems can arise if the dictionaries disagree with one another, or the thesaurus maker disagrees with the dictionary, or if, despite everyone's best efforts, the meaning of an older word is not fully known. (2016: 371)

In some form or other, all of these issues arose in the making of the BTh. Whether the dictionary sources agreed with each other (or not) was not a particularly troublesome problem. The dating in the version of *HTOED* that was available to us at the beginning of the project was that of the *OED* before the latest programme of revision and so does not necessarily match that of the *MED*. We made the decision to add the *MED* data and use the *MED*'s dating of the citations.[6] There were occasional questions about whether or not it was desirable (or permissible) to make inferences about Anglo-Norman words based on *MED* definitions, and vice versa. An example is provided by a term which appears in both dictionaries, A-N *hakebot*, ME *hake-bot*, whose definitions in the respective dictionaries are as follows:

> A-N *hakebot*: fishing vessel, kind of small boat

> ME *hake-bot*: a kind of small ship (perhaps originally a boat with a broad stern or counter)

Here the temptation to infer that ME *hake-bot* was a fishing vessel is quite strong, especially as the term is labeled 'M.E.' in the *AND*. More difficult, perhaps is the example of A-N

bargette (of unknown origin but attested in a French citation) and ME *barget* (for which the etymology is Old French and which is attested in an English citation). The two dictionaries define the terms respectively as follows:

A-N *bargette*: (mil. and nav.) small war vessel (usually attending upon a greater ship)

ME *barget*: a small barge or boat

We made a policy decision that we would not attempt to problematise definitions given in the dictionaries and so the position of each term in the BTh classification accords with the terms of its definition in the relevant dictionary. In the first example, A-N *hakebot* appears in the BTh under Travel by water > Vessel/ship/boat > Type of > Fishing vessel, while the ME *hake-bot* is in the category Travel by water > Vessel/ship/boat > Type of > Small boat. In the second example, the Anglo-Norman term *bargette* is classified in Travel by water > Vessel/ship/boat > Type of > War vessel, while the Middle English term appears in the category Travel by water > Vessel/ship/boat > Type of > Small boat. It is a difficult and recurring problem because projects making use of databases to rearrange and explore the vocabulary are using the historical dictionaries in way that their editors did not intend and could not have anticipated (Sylvester 1994: 29). The data in historical dictionaries is increasingly being used to create corpora, especially in historical linguistics, but the definitions and layout were not designed to be used in this way and problems of the kind described here are not uncommon (for extended discussion in relation to the *OED*, see Allan 2012).

Some methodological issues are general to the making of any thesaurus. These include the decisions about a macrostructure for the classification and then the decisions about how to categorise particular words, where to put items that seem as if they ought to be

included but do not have an obvious place within the macrostructure. For the BTh these included terms such as A-N *moiloun* (haycock, hayrick) or ME *cok* (a cock of hay). Possible categories for these items include Product (if seen as a product of haymaking) and Specialized location (if understood as a place where hay is kept).

A further set of issues arose because we were dealing with two languages in use at the same time and with some overlap of lexis, though not necessarily of semantics. With regard to examples such as A-N *coge* 'cog, merchant ship' and ME *cogge* 'a ship of some kind (apparently of medium size and used for military expeditions)', it became clear that once these terms were assigned to different categories, users would be unlikely to be able to see them side-by-side to track shifts in word meaning. We wondered if it would be possible design the database in such a way that users will be able to find information about the development of word meanings over time but ultimately we had to keep in mind that we were recording senses rather than word forms.

5. Conclusion

The BTh is a unique resource, the creation of which has raised some intriguing issues at the interface of semantics and lexicography. The paper elucidates both what these issues are and how they have been addressed by the project team. It begins by outlining how the six occupational domains of everyday life contained with the thesaurus were defined, describing how each domain was organized associatively and conceived of as a domain of practice comparable to Bourdieu's notion of habitus. It goes on to describe how, although we made use of the category structures in the *HTOED*, we did occasionally modify them because we were creating associative rather than semantic fields, and using semantic roles rather than classifying the categories into semantic hierarchies. The paper also outlines how, by modifying the existing *HTOED* structures, we were able to address the particular challenges

associated with creating a bilingual thesaurus that seeks to capture the characteristics of two different languages in overlapping use during the same period.

After outlining the primary method of data collection, involving reverse look-up searches of the *MED* and the *AND* (online versions), the paper describes the selection of vocabulary items as ultimately driven by the project's research aims. It is suggested that both compositionality and the lexicalization are principles which have a place in the principles on which decisions about which lexical items to include and which to exclude were made. Ultimately, lexicalization was deemed to be the more important principle, since wider inclusion would enable certain avenues of analysis which would otherwise be foreclosed. The inclusion of data in the BTh structure does not, of course, dictate its inclusion in the analysis of the penetration of French-origin vocabulary in Middle English. By contrast, the paper argues that it is crucial to distinguish between sense and usage when using lexical evidence found in historical dictionaries to populate a historical thesaurus. Due to the fact that we are primarily interested in whether particular lexical items had specific, technical senses during this period, we prioritized sense over usage and tailored the methodology accordingly. This required the application of slightly varying policies to the *AND* and *MED* data, as the two dictionaries employed differing policies on this question. Further discrepancies between dictionary sources include the dating of individual words in the *HTOED* and *MED* and between definitions for what look like the same words in the *AND* and the *MED*. Our intention was not to over-rule the dictionaries' editors as far as possible, so that the position of each term in the BTh classification matches up with the definition given in the relevant dictionary.

Overall, the paper demonstrates that practical lexicography provides useful tests for theories in historical semantics. Equally, careful thought about which semantic principles it is most appropriate to apply in the creation of innovative lexicographical resources is required,

since these decisions will have a direct impact on the kinds of analyses that are possible with such resources. It is the affordances and limitations of the lexicographical resources which will determine future directions of inquiry in the field of historical lexical semantics.

Notes

[1] We are grateful to the Leverhulme Trust for funding this research from 2013-2016. The project is based at Birmingham City University and University of Westminster. Our thanks are also due to Jaclyn Rajsic, who was the Postdoctoral Research Assistant on the project from 2013-2014.

[2] The editors of the AND are considering putting in place a thesaurus arrangement derived from the labels but this is a project for the future This idea was part of the vision for the dictionary of its late, and much missed, editor, David Trotter. It was communicated to us at a meeting of the advisory board of the BTh.

[3] The A-N terms missed were: *bature* (harrowing, breaking up the soil), *bil* (bill, implement with a long, concave blade), *blester* (to turn over, break (ground)), *blesture* (harrowing, breaking ground for clearing), *botoner* (to be in, break into bud), *debrisure* (breaking of ground, harrowing), *estreitesce* (narrow part (of a cart)), *glebe* (clod of earth), *largesce* (wide part (of a cart)), *marre* (implement for cutting, digging or weeding), *mattok* (mattock, two-headed pick used for breaking up hard ground, etc.), *turbeie* (clod (of earth)), *turbeye* (clod (of earth)).

[4] The missing terms were included in the data when the following search terms were used: 'part', 'iron', 'draught', 'attach', 'prevent', 'wear', 'other', 'hammer', 'break', 'implement' and 'clod'. The phrases from which these terms were taken were: 'parts of [mould-board]'; 'iron parts of plough', 'part to which draught attached', 'parts to prevent wear', 'other parts of plough', 'and 'hammer/implement for breaking clods'.

[5] The missed terms were as follows: *aker-staf* (plow staff (for removing earth from the moldboard)); *aker-staf* (an implement for cleaning the coulter and moldboard of a plough); *cart-plough* (a wheeled plow); *chippe* (share-beam (of a plow)); *clivie* (a fastening device on the front of a plow beam, ?a clevis); *culter* (a plowshare); *fot of plough* (a device attached to the beam of a plow to regulate the depth of the plowing, a plow-foot); *gere* (the harness or equipment for pulling a cart, chariot, or plow); *gret-staf* (an implement for cleaning the coulter and moldboard of a plough); *kir-staf* (an implement for cleaning the coulter and moldboard of a plough); *hed-strake* (?a piece of iron affixed to the share beam of a plow); *hors-chippe* (?a share beam for a horse-drawn plow); *molle-plough* (a kind of plow); *plough* (a plow with its draft animal(s)); *plough-betel* (a mallet carried on

a plow, probably used for breaking up clods of earth); *plough-bondes* (?part of the harness of a plow animal); *plough-fot* (a device attached to the beam of a plow to regulate the depth of plowing; *plouing-irenes* (any iron parts of a plough); *plough-irenes* (?the colter and the plowshare); *plough-rest(e* (?part of the moldboard of a plow); *plough-sok* (plowshare); *plough-strenges* (?part of the harness of a plow animal); *shaft(e* (?a plow beam); *sheld-bred-clout* (a metal plate fixed on the moldboard of a plow to prevent wear); *shelfe-rest(e* (?part of the moldboard of a plow); *shelfe-rest(e* (?the moldboard of a plow); *soume* (?a plough trace, often of iron); *midel-somes* (traces connecting the first team on a plow to the last team); *stere-tre* (the handle of the plough); *sul* (a plow); *sul-staf* (a staff or stick probably used for removing earth adhering to the plowshare); *sulou* (a plowshare); *sulou* (?a yoke by which a plow is drawn); *sulou-al* ? (an adjustable piece of wood or iron, attached to the front of the beam, regulating the depth of plowing); *sulou-betel* (a mallet carried on the plow, prob. for rightening the pegs and wedges); *sulou-bord*? (?the moldboard of a plow); *sulou-hondel* (the handle for guiding a plow); *sulou-share* (a plowshare); *sulou-staf* (an implement for cleaning the coulter and moldboard of a plough). Not all of these were included in the final version of the BTh because of policies decided upon subsequently <check>.

[6] *OED3* is adopting the *MED*'s dating.

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