THE MORPHOLOGICAL AND SEMANTIC TYPES OF LOST OLD ENGLISH ADJECTIVES

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1. Aims and Scope

While there is agreement among scholars on the fact that most Old English words have disappeared from the lexicon (85% according to Kastovsky 1992 and 60% according to Trask 1996) the characteristics of the lexical items that have not survived in the lexical stock have drawn less attention. For this reason, the aim of this journal article is to deal with lexical loss by focusing on the category of the adjective. More specifically, this research addresses two main questions: first, how to quantify the lexical losses of Old English adjectives and, second, how to classify such losses. While the former question is more descriptive, the latter can be explanatory if considered from two perspectives, namely the morphological aspect of word-formation and the concept of semantic fields and dimensions. Ultimately, the discussion that follows is geared towards finding points of contact between semantic taxonomy and derivational morphology on the one hand, and lexical loss on the other.¹

Put in these terms, this piece of research is a contribution to the fields of Old English word-formation and lexical semantics, which, with the exception of Wang (2009), reviewed in more detail in the following section, have not raised the question of the nature of lexical losses, in spite of its relevance to the structure of the lexicon. With regard to word-formation, Kastovsky (1986, 1989, 1990, 1992,

2005, 2006) deals with the typological shift from variable bases to invariable bases of inflection and derivation, while Martín Arista (2011a, 2011b, 2012a, 2012b, 2012c, 2013, fc.) explains the derivational processes of Old English within the framework of structural-functional morphology, by means of morphological templates displaying word positions and functions. Martín Arista and Cortés Rodríguez (fc.) also adopt a structural-functional perspective to explain the grammaticalisation of directionals in the complex verbs of a number of languages including Old English. Haselow (2011), in the wake of Kastovsky (2006), takes issue with the change from stem-formation to word-formation in English and describes the rise of some analytic tendencies. Finally, Trips (2009) is concerned with the productivity of word-formation processes and its impact on the overall structure of the lexicon. With regard to lexical semantics, Weman (1933) and Ogura (2002) focus their analysis on verbs of motion while Strite (1989) offers a simplified version of the type of lexical organisation based on fields and dimensions found in the Historical Thesaurus of the Oxford English Dictionary. Other works, of a more semantic orientation, carry out an analysis of Old English semantic primes. Martín Arista and Martín de la Rosa (2006), de la Cruz Cabanillas (2007) and Guarddon Anelo (2009a, 2009b) belong in this group.

The relevance of the topic of lexical loss is related to the layout of the Old English lexicon, which is consistently Germanic in two respects. In the first place, it is comprised almost completely of Germanic lexical items, the number of loanwords representing, according to Kastovsky (1992: 294), about 3% only. In the second place, word-formation, which is preferred over borrowing for lexical expansion, inputs native bases to the processes of derivational morphology. Regarding this question, Kastovsky (1992: 308) finds the main reason for the small number of loanwords in Old English in "the astonishing versatility with which the native vocabulary could be used in order to render a foreign concept". A far-reaching consequence of the importance of word-formation in Old English is that the lexicon is characterized by the existence of large morphologically-related word families which hold formally-analysable and semantically-transparent relations (Kastovsky 1992; Lass 1994; Mugglestone 2006), as is the case with the set of derivatives of (ge)springan 'to jump, leap, spring, burst forth, rise; spread, be diffused, grow; want, lack', which includes *āspringan* 'to spring up or forth, break forth, spread; arise, originate, be born; dwindle, diminish, fail, cease', *ūpāspringan* 'to spring up, arise', *ūpspringan* 'to rise up', *tōspringan* 'to spring apart', *onspringan* 'to spring forth', atspringan 'to rush forth', etc. These analysable and transparent morphological relationships, along with the lexical items that bear them, disappear to a large extent as a consequence of the massive lexical borrowing brought about by the Norman Conquest (Burnley 1992: 211), which eventually resulted in a dissociated lexicon (Kastovsky 1992: 293). In a dissociated lexicon, morphological

relationships are replaced by lexical relationships among words of different historical origin, as in *hand* (Germanic) ~ *manual* (Romance). Leaving aside the survival of a small part of the Old English lexical stock, the dissociation of the lexicon of Present-day English cannot be attributed to lexical borrowing only. It is also a consequence of lexical loss. Thus, in a pair like *father* ~ *paternal*, it is important to recognise that the presence of the Romance form *paternal* is mirrored by the absence of the Germanic *faderen* 'paternal'.

Once the discussion has been set in its background, the article can be outlined as follows. Section 2 explains the methodology adopted in the remainder of the article, sections 3 and 4 describe the results of the morphological and semantic analyses respectively, and section 5 draws the conclusions of this research.

2. Research Methodology

In the previous section the point has been made that, in spite of the relevance of the phenomenon of lexical loss, the question of the morphological and semantic nature of lost lexical items remains largely untouched. A remarkable exception in this respect is the work by Wang (2009), who has identified a number of relationships between the old and the modern tongue: (i) an Old English compound disappears, although its components remain, as is the case with $w\bar{v}n$ berige 'grape' ('wine-berry') and heafod-ban 'skull' ('head-bone'); (ii) a Modern English compound contains a component that is no longer used independently, as in *werewolf*, the only word where Old English *wer* 'man' survives; (iii) an Old English word no longer survives, but either its derivative or base does, as is the case with *winsome*, derived from the Old English base *wynn* 'joy', or *wedding*, derived from *wedd* 'pledge'; (iv) an Old English word survives in form, but no longer in conjunction with a meaning it had during the Old English period, as can be seen in the form *gewāde*, 'clothing, raiment, dress, apparel' which, survives as weeds but with the more specific meaning 'mourning clothes'; (v) an Old English word survives only in a limited speech community like Scottish English, which keeps forms like eith 'easy' (Old English eade) and nesh 'soft' (Old English hnesce); and (vi) the process of reanalysis has brought an Old English word into Modern English in an unpredictable altered form, as is the case with guma 'man', which was reanalyzed as groom in bridegroom.

Since Wang (2009) does not focus on absolute losses, this journal article aims at analyzing lexical items that no longer remain in the lexicon. As Wang's methodology demonstrates, semantic analysis goes hand in hand with morphological analysis. Lost Old English adjectives are considered from two perspectives. On the morphological side, the category and inflectional class of the base of derivation as

well as the affixes and the type of derivational process are taken into account, while the semantic analysis yields a classification of these Old English adjectives.

For the reasons given above, the methodological steps of this research include the gathering of the inventory of lost adjectives and their morphological and semantic analysis. In order to identify lexical losses, two lexicographical sources are used: a lexical loss is identified whenever an adjective appears in the Old English lexicographical source but not in the Present-day English one. The Old English data has been retrieved from the lexical database of Old English *Nerthus* (www. nerthusproject.com), which is based mainly on *A Concise Anglo-Saxon Dictionary* and, to a lesser extent, on *An Anglo-Saxon Dictionary* and *The Student's Dictionary of Anglo-Saxon.*² This online database provides meaning definitions and morphological information of a total of 29,992 Old English words, including 16,694 nouns, 5,788 adjectives, 5,618 verbs and 1,892 members of grammatical classes.³

The comparison of the two lexicographical sources yields a figure of 4,825 Old English adjectives listed by *Nerthus* that are not included in the *The Oxford English Dictionary*. Some instances of lost Old English adjectives follow in (1):

(1)

ācāglod 'studded with pegs; locked with a key', *āgimmed* 'set with precious stones', *ānhyrned* 'having one horn', *āhtboren* 'born in bondage', *fēowertījnenihte* 'fourteen nights old', *gesperod* 'armed with a spear', *mylenscearp* 'sharpened on a grindstone', *symbelwlonc* 'elated with feasting', *tæfle* 'given to dice-playing', *twihynde 1* 'having *wergild* of 200 shillings'.

The comparison of these lexicographical sources has also attested the survival of 963 out of the 5,788 Old English adjectives provided by the lexical database *Nerthus.* That is, 16.63% of Old English adjectives have survived without much change, in spite of the foreign influences and generalized lexical loss on which I have commented above. Conversely, a remarkable 83.36% (4,825) have been lost.

Several types of semantic relationship between Old English and Present-day English adjectives have been established, including (a) no meaning change, (b) addition of new senses, (c) loss of some senses, (d) simultaneous addition and loss of senses and (e) meaning change. These categories are illustrated in (2a)-(2e) below:

(2)

- a. No meaning change: *oferfæt* 'too fat', *unlæred*, 'unlearned', *hyrnen* 'of horn', *gelāstful* 'helpful, serviceable'.
- b. Some senses added: *gesweordod* 'provided with a sword' (added senses: 'having some part resembling a sword'), *behöflic* 'necessary' (added senses: 'of use; useful, profitable; needful'), *latsum* 'backward' (added senses: 'slow, sluggish; late'), *dolebyrde* 'patient' (added senses: 'bearing patiently; forbearing, submissive').

- c. Some senses lost: *unforgifen* 'unforgiven; not given in marriage' (lost sense: 'not given in marriage'), *crumb* 'crooked, bent, stooping' (lost senses: 'bent, stooping'), *flæscen* 'of flesh, like flesh' (lost sense: 'like flesh'), *glidder* 'slippery; lustful' (lost sense: 'lustful').
- d. Some senses added and other senses lost: *drēorig* 'bloody, blood-stained; cruel, grievous; sad, sorrowful; headlong?' (added senses: 'full of sadness or melancholy; doleful, melancholy; dismal, gloomy; repulsively dull or uninteresting'; lost senses: 'bloody, blood-stained; cruel, grievous; sorrowful; headlong?), *hlāfordlēas* 'without a lord, leaderless' (added sense: 'of a woman: husbandless'; lost sense: 'leaderless'), *fēre* 'able to go, fit for (military) service' (added senses: 'in health; able, strong; sound, whole'; lost sense: 'fit for military service').
- e. Meaning change: *cnihtlic* 'boyish, childish' (new meaning: 'having the rank or qualities of a knight; noble, chivalrous; of things, actions, etc.: of, belonging to, suitable, or appropriate to a knight; consisting or composed of knights'), *earmsceapen* 'unfortunate, miserable' (new meaning: 'having a shape of the kind specified by the qualifying word; furnished with a definite shape; fashioned, shaped'), *oferranc* 'too luxurious' (new meaning: 'too rank or vigorous in growth; too gross').

Table 1 provides a quantitative overview of the kinds of semantic relationship just distinguished.⁴

Semantic relationship	Number of adjectives
No meaning change	75
Some senses added	225
Some senses lost	58
Some senses added and other senses lost	359
Meaning change	170
Total	887

TABLE 1: Semantic relationships between Old English and Present-day English adjectives.

Table 1 shows that the most frequent semantic relationship in surviving Old English adjectives is the simultaneous addition of new senses and loss of other senses, followed by the one in which only new senses are added. Additionally, the instances of absolute stability are scarce, but the instances of loss of senses are even harder to find. Although more research is needed, these data indicate that the addition of new senses has contributed to the survival of the adjective in question

and that linguistic evolution entails meaning expansion. Regarding radical meaning changes, they are often the result of changes in the bases of derivation of the adjectives that convey new meanings, as in *cnihtlic* 'boyish, childish' and its Present-day English translation *knightly* (< *knight*).

Among all the possible relationships between Old English and Presentday English adjectives, this article concentrates on instances of absolute loss of adjectives and aims at providing a morphological and semantic analysis of such adjectives. On the morphological side, the category and inflectional class of the base of derivation as well as the affixes and the type of derivational process are taken into account, while the semantic analysis yields a classification of these Old English adjectives in terms of the categories of the *Historical Thesaurus of the Oxford English Dictionary* and the additional ones discussed in section 4.

3. Morphological Analysis

By morphological process, lost adjectives can be broken down as follows in Table 2, which compares the figure of lost adjectives to the total of adjectives formed by means of each process of word-formation that applies in Old English, namely prefixation, suffixation, compounding and zero derivation. The result is called *rate of loss* and is based on the information provided by *Nerthus*. The term *basic* refers to adjectives without derivatives, while *primitive* types are those primary adjectives around which a derivational paradigm can be gathered. An instance of a primitive adjective would be *biter* 'bitter, sharp, cutting; stinging; exasperated, angry, embittered; painful, disastrous, virulent, cruel', with its derivatives (*ge)biterian* 'to be or become bitter; make bitter', *biternes* 'bitterness, grief', *biterlic* 'sad, bitter', *biterlice* 'bitterly', *bitre* 'bitterly, sharply, painfully, severely; very', *bitrum* 'bitterly', *oferbiternes* 'excessive bitterness'.

Status	Losses	Total (type-frequency)	Rate of loss
Basic	172	197	87.3%
Primitive	12	276	4.3%
Prefixed	1,154	1,305	88.4%
Suffixed	1,711	2,081	82.2%
Compound	1,365	1,424	95.8%
Zero derived	411	479	85.8%

TABLE 2: Rate of loss by morphological process.

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While all the other rates of loss in Table 2 are over 80%, primitive adjectives turn out a remarkably lower figure, for which two complementary explanations can be proposed. The first reason why primitive adjectives survive in the lexicon more than the other classes distinguished in Table 2 is to be found in the derivatives of these adjectives: the presence of derivatives anchors the primitive lexical item from which they derive. This is the case with the primitive adjective *great* 'great', which has been preserved together with its derivative greatnes 'greatness', even though other members of the derivational paradigm like gryto 'greatness', greatian 'to become great' and grytan 'to flourish' have been lost. However, it can also be the case that the primitive adjective is preserved despite all its derivatives disappearing. A case in point is *atol* 'dire, terrible, ugly, deformed, repulsive, unchaste', which is found in the OED, although it is marked as obsolete, but all its derivatives, including atol'terror, horror; evil, wretchedness' and atolian 'to deform, disfigure', have disappeared. It is interesting to note, at this stage, the affixed adjective $\bar{\alpha}$ melle 'insipid' which has disappeared together with its derivatives: *āmelnes* 'slackness, slackness, sloth, weariness, disgust', *āmellian* 'to become insipid and *āmellad* 'emptied out, brought to naught'. The second reason for the lower rate of loss of primitive adjectives is related to the nature of these adjectives and, more specifically, to their degree of atomicity and analysability and their formal and semantic contribution to hyponymy as shown by derivational paradigms. As regards analysability, primitive adjectives, such as *bar* 'bare' or *beald* 'bold', cannot be decomposed morphologically, which reflects their unanalysable meaning. An outstanding consequence of morphological and semantic atomicity is that the form and meaning of a primitive adjective are central to lexical organisation because they are kept, with the modifications resulting from subsequent wordformation processes, throughout the derivation. For example, consider the traits of formal and semantic inheritance in the derivational paradigm of $d\bar{e}op l$ 'deep, profound; awful, mysterious; heinous; serious, solemn, earnest', which includes bedī pan 'to dip, immerse', dē op 2 'depth, abyss; the sea', dē ope 'deeply, thoroughly, entirely, earnestly, solemnly, *deoplic* 'deep, profound, thorough, fundamental; grievous', *deoplice* 'deeply; ingeniously', *deopnes* 'depth, abyss; profundity, mystery; subtlety, cunning', $d\bar{y}pan$ 'to make deeper', $(ge)d\bar{e}opian$ 'to deepen', $(ge)d\bar{y}pan$ 'to dip; baptize', *indī pan* 'to dip in, immerse' and *undē op* 'shallow, low'. The existence of derivatives reinforces the primitive term, because its form and meaning are present, to different degrees, in all derivatives of the paradigm, with which the primitive is likely to survive in the lexicon even though some or all of its derivatives have been lost, as is the case with $d\bar{e}op \ 1.^5$

Turning to the relationship between affixation and lexical loss, Table 3 offers the rates of loss by affix. The most type-frequent affixes, according to the data provided by Nerthus, have been selected.

Affix	Losses	Total of derivatives (type-frequency)	Rate of loss
ge-	31	37	83.7%
ofer-	31	40	77.5%
twi-	35	36	97.2%
un-	691	819	84.3%
-bære	34	34	100.0%
-ed	43	48	89.5%
-en	99	132	75.0%
-fæst	56	62	90.3%
-ful	85	112	75.8%
-ig	169	231	73.1%
-iht	32	34	94.1%
-lēas	90	122	73.7%
-lic	782	884	88.4%
-ol	48	56	85.7%

TABLE 3: Rate of loss by affix.

As is shown in Table 3, the rates of loss by affix range from 73.1% (-*ig*) to 100% (-*bære*). In general, rates of loss under 85% are shown by affixes still used in Present-day English, including *un-*, *ofer-*, *-ful*, *-ig* and *-læas*. However, the fact that an unproductive suffix like *-en* displays a low loss rate of 75% indicates that there is not a direct relationship between affix productivity and adjective survival. Regarding frequency, rates of loss over 90% occur with less frequent affixes such as the prefix *twi-*, and the suffixes *-fest* and *-iht*. Again, the generalization cannot be pushed too far because the prefix *ge-*, with a low frequency of 36 derivatives has a rate of loss lower than that of the prefix *un-*, which stands out as the most type-frequent. Apart from the two exceptions just mentioned, a clear tendency can be identified in the relationship between lexical loss and affixation pattern: Old English affixation patterns surviving into Present-day English and type-frequent and lost affixation patterns.

To continue with the morphological part of the analysis, lost adjectives are analyzed with respect to their derivational paradigm. Most of them belong to strong verb paradigms: 2,115 lost Old English adjectives have strong verbs as direct or indirect bases of derivation, 43.8% of the total number lost. Table 4 displays the ten derivational paradigms of verbs with the highest rates of adjective loss (all of them belong to the strong class, although *witan* and *cunnan* are traditionally labelled *preterite-present*):

Verb	Losses	Adjectives in paradigm	Rate of loss
BERAN	102	123	82.9%
CUNNAN	28	28	100.0%
ĒADAN	26	35	74.2%
GANGAN	27	27	100.0%
HEALDAN	31	34	91.1%
*LĒOSAN	84	143	58.7%
METAN	27	34	79.4%
WEORÐAN	55	101	54.5%
WINDAN	28	86	32.5%
WITAN	50	65	83.3%

TABLE 4: Rate of loss by derivational paradigm (strong verbs).

2,526 lost Old English adjectives derive from categories other than the strong verb. That is, 52.35% of lost Old English adjectives select a non-verbal base of derivation. The ten derivational paradigms with the highest number of lost adjectives appear in Table 5, together with the corresponding rates of loss.

Other classes	Losses	Adjectives in paradigm	Rate of loss
CYNN 1	18	23	78.2%
EFEN 1	19	23	82.6%
FÆST 1	39	55	70.9%
FULL 1	77	99	77.7%
GOLD	15	24	62.5%
HYGE	27	58	46.5%
LĪC	581	640	90.7%
MŌD	54	59	91.5%
SWĪĐ	18	27	66.6%
WORD 1	16	18	88.8%

TABLE 5: Rate of loss by derivational paradigm (base different from strong verb).

Two aspects of Table 4 and Table 5 deserve some comment. In the first place, the derivative of a strong verb is less likely to be lost than one of another morphological class or lexical category. This fact can be explained in terms of the central role played by the strong verb in the derivational morphology of Old English, not only because it is the starting point of derivation (Hinderling 1967; Kastovsky 1992)

but also because it gives rise to larger derivational paradigms (Novo Urraca fc.), which eventually results in a higher rate of survival of paradigms based on strong verbs. In the second place, the average rates of loss shown by Table 4 and Table 5 are similar (76.2% in strong verbs and 75.6% in other classes). By paradigm, the only instances of total loss correspond to strong verb derivatives (although there are also rates of loss in the region of 90% in Table 4). That is to say, the rate of loss in the class of the adjective depends on the category of the base of the paradigm, but also has a strong idiosyncratic component as even the paradigms based on strong verbs can display rates of 100%.

4. Semantic Analysis

The semantic classification of adjectives follows basically that of *A Thesaurus of Old English* and the *Historical Thesaurus of the Oxford English Dictionary*, which distinguishes the following semantic categories and subcategories:

The external world

The world

- 01.01 The Earth
- 01.02 Life
- 01.03 Physical sensibility
- 01.04 Matter
- 01.05 Existence in time and space
- 01.06 Relative properties
- 01.07 The supernatural

The mental world

The mind

- 02.01 Mental capacity
- 02.02 Emotion
- 02.03 Philosophy
- 02.04 Aesthetics
- 02.05 Will/ faculty of will
- 02.06 Refusal/ denial
- 02.07 Having/ possession
- 02.08 Language

The social world

Society

- 03.01 Society/ the community
- 03.02 Inhabiting/ dwelling
- 03.03 Armed hostility
- 03.04 Authority
- 03.05 Morality
- 03.06 Education

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03.07 Faith 03.08 Communication 03.09 Travel/ travelling 03.10 Occupation/ work 03.11 Leisure

FIGURE 1: Semantic categories and subcategories from the *Historical Thesaurus of the Oxford English Dictionary.*

To the categories given in Figure 1, the following have been added from the taxonomy of semantic categories of *A Thesaurus of Old English*:

- 11. Action and utility
 - 11. Action, operation 11.09 Peril, danger
 - 11.10 Safety, safeness
- Social interaction
 Power, might
 12.06 A province, country, territory
- 13. Peace and war
- 14. Law and order
- 16. Religion

FIGURE 2: Additional semantic categories from A Thesaurus of Old English.

The inventory of semantic categories resulting from Figure 1 and Figure 2 has been adapted to the semantic characteristics of the class of the adjective by adding the categories Size, Auditory qualities, Shape, Tactile, Evaluative, States of living (Givon 1993) and Similarity (Dixon 2006). The category of States and conditions draws on Givon's (1993: 63) Transitory states. Finally, it has also been necessary, in order to be able to account for all shades of meaning involved by the inventory of adjectives of the corpus, to add the following categories: Accession and access, Blood, Cookery, External appearance, Opposition and concord, Pardon and condemnation, Payment and price, Production, Reward and compensation, Variation and change, Truth and falsehood, and Weapons.

Lost Old English adjectives can be classified semantically as shown in (3). The number of lost lexical items follows each class, within parentheses. In those instances in which the semantic category corresponds to that of the *Historical Thesaurus of the Oxford English Dictionary*, the relevant category code is given after the figure of losses. For illustration, one or more lost adjectives are provided by class:⁶

(3)

A province, country, territory (66) Africanisc 'African', Alexandrinesc 'Alexandrian', Arabisc 'Arabian' Accession, access (14) earfoofere 'difficult to pass through', gefere 3 'accessible', orihlidede 'having three openings Blood (11) bloden 'bloody', blodfag 'blood-stained, bloody', blodgeotende 'bloody' Colour (126) 01 The world: 01.04 Matter: 01.04.09 Colour Colour. Brightness (57) āblāce 'lustreless, pale, pallid', āhī we 'pallid; deformed', alfscī ene 'bright as an elf or fairy, beautiful, radiant' Colour. Colour (69) ascgrāg 'ashy-gray', assedun 'dun-coloured like an ass', basu 'purple' Cookery (26) āfigen 'fried', aschacen 'baked on ashes', elebacen 'cooked in oil' Direction (37) 01 The world: 01.01 The earth: 01.01.03 Direction āwegēade 'went away', āwegweard 'coming to a close', andelbar 'reversed' Evaluative (610) āðrotsum 'irksome', āðwyrðe 'worthy of credit', āberendlic 'bearable' External appearance (57) āscāre 'unshorn, untrimmed', āscāre 'unshorn, untrimmed', andfeax 'bald' Festivity (6) bodigendlic 'to be celebrated', freols 2 'free, festive', freolslic 1 'festive, festival' Having/ possession (48) 02 The mind: 02.07 Having/ possession agenlic 'own; owed, due', atgenumen 'taken away', berofon 'despoiled' Hearing, noise and auditory qualities (41) 01 The world: 01.03 Physical sensibility: 01.03.08 Hearing/noise beorhtword 'clear-voiced', clipol 'sounding, vocal; vocalic, vowel', healfclypigende 'semi-vowel' Inhabiting/ dwelling (27) 03 Society: 03.02 Inhabiting/ dwelling ābūrod 'not inhabited', ālāte 2 'desert; empty', ālāten 'desert, empty' Language, literature and communication (153) 02 The mind: 02.08 Language & 03 Society: 03.08 Communication āhvldendlic 'enclitic', ānsprāce 'speaking as one', āsciendlic 'interrogative' Law and order (116) altefedlic 'lawful, permissible', asecendlic 'to be sought', aworpenlic 'worthy of condemnation' Leisure (3) 03 Society: 03.11 Leisure flaniht 'relating to darts', plegende 'playing', tefle 'given to dice-playing' Matter (155) 01 The world: 01.04 Matter Divisibility and indivisibility (19) betwuxgangende 'separating', fedorbyrste 'split into four', fiderdæled 'quadripartite, quartered' Dryness and wetness (14) ðan 1 'moist, irrigated', deawigfeðera 'dewy-feathered', drygsceod 'dry-shod'

Fixation (11) ācāglod 'studded with pegs; locked with a key', ānagled 'nailed down', borhfast 'fast bound', geowinglod 'bound up (of hair)' Freshness and staleness (18) forworen 'decrepit, decayed', geācnosliende 'degenerating', gescrence 'withered, drv' Material (64) ācen 2 'oaken', āren 1 'made of brass, brazen; twinkling', bānen 'made of bone' Purity and impurity (11) fullclane 'very pure', heahhlutor 'very pure', merehwit 'pure, white, sterling (of silver)' States of matter (11) āmolten 'molten', geotenlic 'molten, fluid', geovelic 'densus' Weight (7) gehefed 'weighed down', pīs 'heavy', pīslic 'heavy' Measurement, determination of quantity and amount (99) 01 The world: 01.06: Relative properties: 01.06.05 Measurement & 01.06.06 Quantity/amount flede 'in flood, full, overflowing', fullmannod 'fully peopled', gehwade 'slight, scanty, small, young' Navigation (23) 03 Society: 03.09 Travel/ travelling: 03.09.04 Navigation ānbyme 'made of one trunk, dug-out (ship)', āren 2 'oar-propelled', brandstafn 'high-prowed' Number (6) 01 The world: 01.06 Relative properties: 01.06.04 Number afterlic 'second', endebyrdlic 'ordinal', (ge)talsum 'in numbers, rhythmic' Opposition and concord (46) bīsac 'contested, disputed', cēaslunger 'contentious', cēastful 'contentious' Pardon and condemnation (14) belādiendlic 'apologetic, that can be excused', botwyrðe 'pardonable, that can be atoned for by', *geliefen* 'excused' Payment/ price (14) gafolfreo 'tax-free', gafollic 'fiscal', gildfreo 'free of tax' Peace and war (64) ascrof 'brave in battle', beaducaf 'bold in battle', beaducraftig 'warlike' Peril/ danger (12) bealu 2 'baleful, deadly, dangerous, wicked, evil', cwildbære 'deadly, dangerous, pestiferous; stormy', *cwildrof* 'deadly, savage' Production (6) craftlic 'artificial; skilful', forðbære 'productive', handworht 'made with hands' Religion (160) æbrucol 'sacrilegious', æfremmende 'pious, religious', æswic 2 'apostate' Reward and compensation (8) āngilde 2 'to be compensated for', āgilde 'receiving no wergild as compensation', andergilde 'in repayment, in compensation' Safety/ safeness (9) borhleas 'without a pledge, without security', gefriðsum 'safe, fortified', gehealdfast 'safe'

Shape (65)

āgrafenlic 'sculptured', *ānecge* 'having one edge', *ānhīwe* 'of one form or colour' Sight (27) 01 The world: 01.03 Physical sensibility: 01.03.07 Sight *ānēage* 'one-eyed, blind in one eye', *ānēagede* 'one-eyed, blind in one eye', *ansīene* 'visible'

Similarity (52)

āncorlic 'like a hermit', allefne 1 'quite equal', besibb 'related'

Size (53)

āclungen 'contracted', *āgrōwen* 'overgrown', *efenbrād* 'as broad as long'

Smell/ odour (11) 01 The world: 01.03 Physical sensibility: 01.03.06 Smell/ odour

fülstincende 'foul-stinking', gestence 'odoriferous', runl 'foul? running?; foul, stinking?'

Social interaction (106)

Friendship and other social relations, conditions and states (29)

cnihtlēas 'without an attendant', frēondīt de 'kind to one's friends', gadrigendlic 'collective'

Kinship, family relationship (23)

ānboren 'only-begotten', bearnlēas 'childless', broðorlēas 'brotherless'

Marriage, state of marriage (19)

ānlegere 'consorting with one man', *beweddendlic* 'relating to marriage', *ceorlās* 'unmarried (of women)'

Sexual relations, sexuality (35)

clængeorn 'yearning after purity, celibate; cleanly', *dyrneforlegen* 'adulterous', *dyrneleger* 'adulterous'

Space, order, arrangement and disposition (75) 01 The world: 01.05 Existence in time and space: 01.05.07 Space & 01.06. Relative properties: 01.06.03 Order

āsynderlic 'remote', *aftanweard* 'behind, in the rear, following', *alsyndrig* 'quite apart, single'

States and conditions (1,228)

External activity (54)

ältesendlic 'loosing, liberating', äsoleen 'sluggish, idle, indifferent, dissolute', äswind 'idle, slothful'

External condition (129)

āblered 'bare, uncovered, bald', *ādeliht* 'filthy', *āgimmed* 'set with precious stones'

Mental-internal (942)

aðegen 'distended (with food)', *āberd* 'crafty, cunning', *ācol* 'affrighted, dismayed'

Motion (54)

arodlic 'quick', *cwiccliende* 'moving rapidly?, tottering?', *duniendlic* 'falling down, tottering'

Temperature (25)

ælceald 'altogether cold, very cold', *brandhāt* 'burning hot, ardent', *brimceald* 'ocean-cold'

Weather (24) <i>blāwende</i> 'blowing hard (wind)', <i>gewinde</i> 'blowing', <i>herfestlic</i> 'autumnal; of harvest'	•
States of living (767)	
Age (90)	
ānhundwintre 'a hundred years old', ānnihte 'one day old', ānwintre 'one	
year old, yearling'	
Animals (46)	
<i>ānhyrnende</i> 'having one horn', <i>byccen</i> 'of a goat, goat's', <i>calcrond</i> 'shod (of horses)'	•
Body (39)	
ānfēte 'one-footed', athyd 'evicerata, deprived of its sinews', beleedswēora 'having an inflated neck'	
Death (44)	
<i>āsprungen</i> 'dead', <i>afterboren</i> 'afterborn, posthumous', <i>beliden</i> 'departed, dead' Existence (7)	
<i>afweard</i> 'absent', <i>edwistlic</i> 'existing, substantive', <i>framwesende</i> 'absent'	
Fertility (39)	
bearnēaca 'pregnant', berende 'fruitful', cildfēdende 'nursing'	
Health (151)	
āblegned 'ulcerated', ādlberende 'disease-bearing', ādlig 'sick, diseased'	
Humankind, people (9)	
mennisclic 'human; humane', nāthmā 'someone', unmennisclic 'inhuman'	
Life (27)	
ærboren 'earlier born, first born', betstboren 'best-born, eldest', būrbyrde 'of	•
pleasant birth'	
Plants (54)	
ānstelede 'one-stalked, having one stem', āsprindlad 'ripped up', alren 'of an alder tree'	
Status, rank and power (180)	
ārcraftig 'respected, honourable', ārful 'respected, venerable; favourable,	
kind, merciful; respectful', <i>ārlēas</i> 'dishonourable, base, impious, wicked; cruel'	
Strength (29)	
byrðenstrang 'strong at carrying burdens', ceorlstrang 'strong as a man', earmstrang 'strong of arm, muscular'	
Wealth (52)	
<i>āhtspēdig</i> 'rich', <i>āhtwelig</i> 'wealthy, rich', <i>almeslic</i> 'charitable; depending on	
alms, poor'	
Tactile (114)	
Firmness (22)	
bt dfest 'firm, forced to stand out', cope I 'unsteady, rocking?', eorôfest 'earthfast, firm in the earth'	
Inclination (19)	
<i>clifig</i> 'steep', <i>forðheald</i> 'bent forward, stooping; inclined, steep', <i>gēandele</i> 'steep'	

Pointedness (14) ecged 'edged', ecghwas 'keen-edged', feowergærede 'four-pointed' Pressure (5) gebered 'crushed, kneaded; harassed, oppressed', onāslagen 'beaten (of metal)', abygendlic 'bending, flexible ' Resistance (25) *āhierding* 'hardening', *āstrenged* '(made strong) malleable', *brēað* 'brittle' Texture (14) anhealfrah 'having one side rough', anbrucol 'rugged', byrstig 'broken, rugged' Taste and flavour (15) 01 The world: 01. 03 Physical sensibility: 01.03.05 Taste/flavour āfor 'bitter, acid, sour, sharp; dire', āmelle 'insipid', ātlic 'eatable' Textiles (14) 01 The world: 01.02 Life: 01.02.09 Textiles gegierelic 'of clothes', geglofed 'gloved', goldgewefen 'woven with gold' The earth (105) 01 The world: 01.01 The earth Air surrounding earth, atmosphere (8) *orosmig* 'vaporous, smoky', lyften 'of the air, aerial', lyftgeswenced 'driven by the wind' Fire (28) *āblāst* 'inspired, furious; blowing fiercely (of flame)', *brynig* 'fiery, burning', fyrbære 'fire-bearing, fiery' Firmament (14) āstyrred 'starry', eahtanihte 'eight days' old (moon)', gelēomod 'having rays of light' Planet (3) eorolic 'earthly, worldly', middangearden 'worldly', middangeardlic 'earthly' Surface of the earth (24)beorhtte 'mountainous', dunlendisc 'mountainous', dunlic 'of a mountain, mountain-dwelling' Water (28) cwicwelle 'living (of water)', deawigendlic 'dewy', ealic 1 'or a river' The supernatural (15) 01 The world: 01.07 The supernatural cicropise 'cyclopean'; Cecropean', drycraftig 'skilled in magic', drylic 'magic, magical' Time (123) 01 The world: 01.05 Existence in time and space: 01.05.06 Time andage 'for one day, lasting a day', ateorigendlic 'transitory, perishable; failing; defective', āwunigende 'continual' Transport (2) 03 Society: 03. 09 Travel/ travelling: 03.09.01 Transport feowerhweolod 'four-wheeled', twihweole 'two-wheeled' Travel/ travelling (11) 03 Society: 03.09 Travel/ travelling ēaðfēre 'easy for travelling over', ellorfūs 'ready to depart', felageonge 'much-travelled' Truth and falsehood (11) lēasferho 'false', lēaslic 'false, deceitful, sham, empty', lygen 2 'lying, false ' Use of drugs, poison (8) 01 The world: 01.03 Physical sensibility: 01.03.03 Use of drugs, poison

ātorbāre 'poisonous', *bewēled* 'poisoned, polluted', *geolstrig* 'secreting poison, purulent'

Variation and change (27)

āwendedlic 1 'that can be changed, changeable', *āwendendlic* 'that can be changed, changeable', *fasthydig* 'constant, steadfast'

Weapons (37)

ærgled 'bright in armour', beaduscearp 'keen in battle (sword)', bordhæbbende 'shield-bearing'

Work (5) 03 Society: 03.10 Occupation/ work: 03.10.01 Work

esnecund 'of a labourer', (ge)swincleas 'without toil', geweorclic 'pertaining to work'

As can be seen in (3), categories leak. For example, *heofonhēah* 'reaching to heaven' could have been included within Direction or Firmament and *āmyrce* 'excellent' within Evaluative or Status, rank and power. It seems to be the case that even well defined semantic categories are surrounded by areas of indeterminacy in such a way that overlapping and continuity among such categories are to a certain extent inevitable. Another issue arising from this semantic analysis has to do with the different senses conveyed by adjectives. For instance, swīð means 'strong, mighty, powerful', but also 'active', 'severe' and 'violent'. A special case of this phenomenon arises when literal and figurative meanings overlap in the definition of a lexical item. For example, *frēorig* conveys the literal meaning of 'freezing, frozen, cold, chilly' and the figurative meaning 'blanched with fear, sad, mournful', thus being classifiable under Temperature as well as Peril and danger. The general solution that has been adopted is to classify adjectives under a single category according to the meaning that prevails above any other specific sense.

In spite of the limits of the semantic analysis that has been carried out, some generalizations can be made. If we concentrate on those categories with one hundred or more adjectives, it turns out that lexical losses of the adjectival class often consist of adjectives denoting abstract qualities, thus: Mental-internal (942), Evaluative (610), Status, rank and power (180), Religion (160), Language, literature and communication (153), Time (123), Law and order (116), Social interaction (106). The importance of categories like States of living (587), Colour (126) and The Earth (105) notwithstanding, lost adjectives express abstract qualities rather than concrete ones. In other words, we are dealing with nonprototypical adjectives coding non-permanent, abstract properties such as bedul 'suppliant', edlesendlic 'relative, reciprocal', ferhtlic 'just, honest', gecorenlic 'elegant', hlifend 'threatening', ofgangende 'derivative', unwitod 'uncertain', and the like. The higher rate of loss of abstract adjectives may have several causes. The first is to be found in textual frequency. Abstract adjectives are used less frequently than concrete ones and, consequently, they are less resistant to replacement than concrete adjectives. Secondly, abstract adjectives seldom convey nuclear meanings,

by means of which their evolution can be traced back to the more nuclear lexical items to which they are linked through relations of inheritance. This is the case with *edlesendlic* 'relative, reciprocal' with respect to the strong verb *lesan* 'to collect, pick, select', which has disappeared along with the strong verb. Thirdly, abstract adjectives are, as a general rule, more analysable than concrete adjectives, which often convey meanings that cannot be decomposed lexically. Adjectives of colour represent a paramount example of this aspect, but even in sets like $r\bar{e}od 1/wyrmbaso/wrater\bar{e}ad$ 'red' the unanalysable $r\bar{e}od 1$ has been preserved while the analysable *wyrmbaso* and *wraterēad* count as losses.

Apart from the relevance of the type of adjective (concrete vs. abstract) for the rate of lexical loss, this analysis sheds new light on the evolution of the English lexicon. Histories of the English language link lexical loss to language contact and consider it as either random or based to a certain extent on textual frequency. The semantic analysis of adjectives shows that, at least in this lexical class, adjective type plays a role in survival or loss. Moreover, a point of contact has been found with morphological analysis, namely analysability. In a paradigmatic analysis of form and meaning that seeks paths of formal and semantic inheritance in lexical paradigms, nuclear meanings and unanalysable forms converge in adjectives more resistant to loss than semantically derived and formally analysable ones.

5. Conclusion

This article has analyzed 4,825 instances of lexical loss in the class of the adjective. Such lexical losses have been characterized from a morphological and semantic point of view in order to find points of contact between this phenomenon and derivational morphology as well as semantic taxonomy.

The data examined throughout the morphological analysis demonstrates that the presence of derivatives in the lexicon anchors the primitive lexical item from which they derive in such a way that the primitive lexical item often survives even though its derivatives do not. It has also been found that affixation patterns surviving into Present-day English and more type-frequent affixation patterns show lower rates of lexical loss than less type-frequent and lost affixation patterns.

The semantic analysis carried out has shown that lexical loss takes place mainly in the area of less prototypical adjectives with evaluative function or referring to transitory mental states. In general, more abstract adjectives than concrete ones are counted among the losses. Groups of abstract adjectives relating to time, language and communication, law and order and religion are the ones that have suffered more than one hundred losses. However, significant groups of concrete adjectives have also suffered loss: those of colour, tactile properties and states of matter. Finally, this research has insisted on the importance of lexical primitives and semantic nuclei when it comes to accounting for lower rates of loss in the English lexicon. Moreover, it has been shown that inheritance, as reflected by word-formation and semantic organisation, can be linked to lexical loss and survival. Throughout linguistic evolution, more analysable forms (and therefore those resulting from more steps of formal inheritance) are more likely to be lost than less analysable forms. Conversely, adjectives with less nuclear meanings (those therefore resulting from more steps of semantic inheritance) are lost more easily than those with more nuclear meanings. All in all, analysability stands out as a fundamental notion for finding points of contact between the inheritance of form and meaning.

To conclude, it remains for future research to determine the extent to which the addition of new senses contributes to the survival of a given adjective.

Notes

¹. This research has been funded through the project FFI2011-29532.

2. This article follows the convention of numbered predicates adopted by Nerthus in order to distinguish homonymous lexical entries. Thus, regarding lexical category, ābūtan 1 'on, about, around, on the outside, round about' may be considered an adposition and abūtan 2'about, nearly', an adverb. As for morphological class, beseon 1 'to see, look, look round', for example, is a Class V strong verb, whereas beseon 2 'to suffuse' qualifies as a Class I strong verb. Turning to the question of variants, two or more predicates are also numbered if they have different spellings, as is the case with fodder 1 'fodder, food; darnel, tares' with variants foddor 1, foddur 1, foter and fodor: fodder 2 'case, sheath' with variants foddor 2 and foddur 2; and fodder 3 'hatchet', with variants foddor 3 and foddur 3.

³. Consulted on May 25, 2010.

⁴. The quantitative data exclude sets involving two or more Present-day English adjectives that can be traced back to the same Old English adjective. There are 76 instances of such sets.

⁵. It is hard to find instances of the loss of a lexical prime whose derivatives have been preserved. This has happened to *enge 1* 'narrow, close, straitened, constrained; vexed, troubled, anxious; oppressive, severe, painful, cruel', which has been lost together with its derivatives *enge 2* 'sadly, anxiously', *geencgd* 'anxious, careful', *engu* 'narrowness, confinement', etc., even though the *OED* has the obsolete *geng* (*geengan* 'to constrain, distress, vex, trouble').

⁶. Although the figure is nearly negligible, 12 out of the 4,825 lost Old English adjectives have not been classified because the only translation available is into Latin or because no translation is available in the major lexicographical sources. This is the case with *æreldo*, *ūt 2*, and *eftdrægend*.

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