

Noun Layers in Old English: Mismatches and Asymmetry in Lexical Derivation

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Abstract

The aim of the article is to explain the form-function mismatches that occur in the formation of Old English nouns. The analysis identifies pairs of derived nouns that share a lexemic root and represent instances of near-synonymy. Two types of mismatch are found in the formation of nouns, namely convergent derivation due to the competition of suffixes and convergent derivation resulting from the competition of bases. Four types of asymmetry can be distinguished: on the grounds of process, category, productivity and recursivity. The existence of mismatches and the associated asymmetry indicate two waves of word-formation that configure two layers in the lexicon of Old English.

Keywords: Old English, word-formation, lexical layers, mismatch, asymmetry

1. Introduction

This article deals with lexical layering in Old English in terms of the coexistence of the outcome of different processes of word-formation and the form-function mismatches that arise in paradigmatic analysis.¹ The departure point for this research is the identification of such mismatches in pairs of nominal derivatives that share a lexemic root and convey a similar meaning while showing formal differences attributable to morphological processes of derivation. A mismatch in lexical derivation, therefore, is said to take place when a change in form resulting from a derivational process is not matched by a change in meaning. Two derivational processes are considered, namely affixation and zero derivation. Whereas the former involves the attachment of derivational prefixes or suffixes, as *bēn* ‘prayer’ (< *bannan* ‘to summon, to command’) and *handlung* ‘handling’ (< *hand* ‘hand’) respectively, the latter is characterized by the absence of any explicit morphemic ending, as is the case with *fær* ‘movement’ (< *faran* ‘to go’), or by the only presence of the inflectional morpheme required by the change in lexical

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category and the lack of derivational morpheme, as in *binde* ‘headband’ (< *bindan* ‘to bind’).²

Consider the sets of derived nouns given in (1):

- (1)
- a. *wiðcwedennes* / *wiðercwedolnes* / *wiðercwedung* / *wiðercwidennes* / *wiðercwide* ‘contradiction’
bebyrgung / *byrging* / *bebyrgednes* / *byrignes* / *gebyrgednes* ‘bury’
heald / *healding* / *healdnes* / *healdsumnes* / *hield* ‘keeping’
 - b. *langnes* / *langfērnnes* / *langsumnes* / *leng* / *lengðu* / *lengu* ‘length’
eftlīsing / *līesnes* / *ālīesednes* / *ālīesnes* / *ālīesing* / *ālīesendnes* ‘redemption’

As presented in (1), instances of word-formation with explicit derivational means, as is the case with the suffixed noun *healdnes*, appear side by side with others without derivational morphemes, such as *heald*, a zero derivative of the class VII strong verb *healdan* ‘to hold’. The examples set in (1) also show that, from the point of view of the relative order of derivational processes, contrasts can be final, as in *oncunnes* / *oncunning* ‘accusation’, or non-final, as in *wiðercwedolnes* / *wiðercwidennes* ‘contradiction’. A final contrast, put in another way, opposes two affixes, such as *-nes* and *-ing* in *oncunnes* / *oncunning* (or an affix vs. zero, as in *healding* / *hield* ‘keeping’), whereas a non-final contrast holds between two bases, like *wiðercwedol-* and *wiðercwiden-*.

The phenomenon presented in (1) has drawn little attention in previous research in the lexical variation of Old English, in which three main lines can be identified: the diachronic, the dialectal and the textual.

Of the relevant aspects of the diachronic analysis found in the literature, some early texts favour derivation based on the past participle in distinction to later texts, in which the corresponding derivative is made

² Notice that zero derivation often entails ablaut alternations as in *faran-fær* and that the inflectional status of the suffixes *-a*, *-e*, *-o* and *-u* (homonym with the suffix that derives nouns from adjectives, as in *micel* ‘much’ > *micelu* ‘size’) is clearly appreciated in sets of synonyms inflected for more than one grammatical gender like *woruldlaga* (m.) / *woruldlagu* (f.) ‘civil law’ and *tēona* (m.) / *tēone* (f.) / *tēon* (n.) ‘injury’. See Kastovsky (1968), who gives two arguments against the derivational status of *-a* in *dēma* ‘judge’: firstly, nouns like *forca* ‘fork’ show the ending *-a* and are clearly underived; and, secondly, whereas derivational suffixes appear before the inflection for all cases, the suffix *-a* occurs in the nominative only. The same reasoning can be applied to *-e*, *-o* and *-u*.

on the infinitive. For instance, Bede (Bede 1, Bede 3, Bede 5) has *frætwednes* / *freatwodnes* whereas Ælfric consistently opts for *frætprung* (ÆCHom II, 36.1, ÆCHom II, 36.1, ÆCHom I, 34, ÆCHom I, 20, ChrodR 1, Gen, ChrodR 1, ÆLS (Agnes), ÆLS (Thomas)). Bede also uses *forhogodnes* (Bede 3 (B), Bede 4 (B)) where later texts have *forhogung* (GD 3 (C), HomM 13 (Verc 21), HomS 38 (Verc 20), RegCGI, PsGIB, PsGID (Roeder), PsGIF, LibSc, HIGI, OccGI 29).

Regarding dialectal variation, the literature insists on the fact that dialects differ from one another for reasons of lexical choice rather than contrasting derivational morphology. Schabram (1973) finds some recurrent correspondences between dialectal choices and Wenisch (1979) gathers a list of genuinely Anglian lexemes. The latter author points out that Anglian uses *oferhygd* to convey the meaning ‘arrogant’ where West-Saxon and Kentish prefer *ofermōd*.³ With regard to the kind of contrast in derivational morphology that can be attributed to diatopic reasons, *-estre* does not occur in Anglian while *-icge* does not appear in West-Saxon (von Lindheim 1958), thus pairs like *byrdicge* / *byrdistre* ‘embroideress’. Weyhe (1911: 14) notices that *-ing* is replaced by *-ung* in Late West-Saxon when the stem is short or ends in plosive plus liquid or plosive plus nasal, but Kastovsky (1992: 351) cites diatopic rather than diachronic variation as far as the replacement of *-ing* by *-ung* is concerned because West-Saxon texts contain derivatives of both the stem and the past participle. Weyhe (1911: 14) finds many doublets in nominal derivation with the suffix *-nes* consisting of a derivative based on the past participle and another one based on the stem, the latter being Anglian. For Schreiber (2003: 12), derivations with *-nes* are based on the past participle rather than on the stem in West-Saxon, thus *gielpān*, *gielpen* > *gielpennes* vs. *gielpān* > *gielpne*.

With respect to textual variation, Yerkes (1979) compares the text by Wærferth with its revision and provides pairs of derivatives like the following (the corresponding lemmas follow between brackets):

(2)			
<i>bȳsene</i>	<i>gebisnunga</i>		(<i>bȳsnung</i> ‘example’)
<i>bȳsene</i>	<i>gebysnunge</i>		(<i>bȳsnung</i> ‘example’)
<i>bȳsenum</i>	<i>gebysnunga</i>		(<i>bȳsnung</i> ‘example’)

³ See Kastovsky (1992: 346) on the possible diachronic implications of Schabram’s (1973) findings.

<i>bȳsna</i>	<i>gebisnunga</i>	(<i>bȳsnung</i> ‘example’)
<i>cīginge</i>	<i>gecīgednysse</i>	(<i>gecīgednes</i> ‘summons’)
<i>eorðstyenum</i>	<i>eorðstyrungum</i>	(<i>eorðstyrung</i> ‘earthquake’)
<i>fyrhtu</i>	<i>forhtnys</i>	(<i>forhtnes</i> ‘fear’)
<i>gewitan</i>	<i>gewitnesse</i>	(<i>gewitnes</i> ‘knowledge’)
<i>oferhigdes</i>	<i>oferhogodnysse</i>	(<i>oferhogodnes</i> ‘pride’)
<i>stillan</i>	<i>stillnysse</i>	(<i>stillnes</i> ‘stillness’)
<i>ungelēafan</i>	<i>ungelēaffulnysse</i>	(<i>ungelēaffulnes</i> ‘unbelief’)
<i>unrihtum</i>	<i>unrihtwīsnysse</i>	(<i>unrihtwīsnnes</i> ‘unrighteousness’)
<i>wædle</i>	<i>wædlunge</i>	(<i>wædl</i> ‘poverty’)
<i>wædle</i>	<i>wædlunge</i>	(<i>wædl</i> ‘poverty’)

In a similar vein, Wiesenekker (1991), by comparing three psalters, furnishes evidence of pairs comprised of derivatives like the following:

(3)			
<i>birhtu</i>	(Vespasian) / <i>beorhtness</i> (Regius)	(<i>beorhtnes</i> ‘brightness’)	
<i>milds</i>	(Vespasian) / <i>miltung</i> (Regius)	(<i>miltung</i> ‘mercy’)	
<i>scomu</i>	(Vespasian) / <i>scēamung</i> (Regius)	(<i>scēamung</i> ‘shame’)	
<i>snytru</i>	(Vespasian) / <i>snotornes</i> (Lambeth)	(<i>snotornes</i> ‘sagacity’)	
<i>stren</i>	(Vespasian) / <i>strecednes</i> (Lambeth)	(<i>strecednes</i> ‘couch’)	

This brief review of the state of the art shows that while the written records provide ample evidence of pairs showing a formal difference matched by a coincidence of meaning, so far only partial accounts have been made of a phenomenon that calls for an overall explanation. This article posits that such an explanation has to be sought on the paradigmatic axis because the data show that once the main lexical choice has been made, thus restricting the base of derivation, the derivatives and the resulting paradigm are base-consistent, as in *ofermōd* / *ofermōdnes* / *ofermōdignes* / *ofermōdgung* ‘arrogance’, *ofermōd* / *ofermōdlic* / *ofermōdig* ‘arrogant’ and *ofermōdlīce* / *ofermōdiglīce* ‘arrogantly’. Apart from the choice of the base of derivation, the evidence gathered for this research strongly indicates that the mismatches between the morphology and semantics of word-formation can only be identified through paradigmatic analysis. This is the reason why previous research, which opts for syntagmatic analysis (thus Haselow 2010), leaves this question untouched.

Against this background, the sort of variation with which this article is concerned mainly includes nominal sets like the one comprising the feminine nouns *āwendendlicnes*, *āwendendnes*, *āwendendnes*, *āwendennes*, *āwendennes*, *āwendeng*, *edwenden* and *wendung*, all

attested with the meaning ‘change’. The two issues that arise from these instances, to wit synonymy and morphological relatedness, point to the more general question of how form-function mismatches turn up in the lexicon in such a way that the basic motivation of word-formation (new forms are required to convey new meanings) is, at least partially, lost. Given this initial description of the phenomenon under scrutiny, the aim of the article is to make generalizations regarding the overall structure of the Old English lexicon and, more specifically, to answer the following questions: (i) what types of form-function mismatches can be identified in the lexicon of Old English that can be put down to the formation of nouns? (ii) what differences are there with respect to the mismatches found in the formation of adjectives? and (iii) how can form-function mismatches and the associated asymmetry indicate the coexistence of different waves of word-formation that give rise to lexical layers? The methodology of analysis engages in both descriptive and explanatory aspects. From the descriptive point of view, the focus is on affix distribution and the derivations that display affix or base competition. At the explanatory level, form-function mismatches have general consequences for lexical organization which are gauged in terms of different types of asymmetry, including the asymmetry of process, category, productivity and recursivity. Although the focus is on the synchronic axis of analysis, some instances of recursivity might represent additional evidence in favour of the grammaticalization of certain suffixes on the diachronic axis.

The pre-theoretical foundations of the research include the nature of synonymy -no claim of total synonymy is made regarding the sets of examples discussed in this article in spite of the instances of nearly full synonymy like *eorðstyrung* / *eorðstyren* / *eorðstyrennes* ‘earthquake’- and the temporal axis of analysis, which is mostly synchronic. In synchronic analysis, derivations are considered stepwise, so that a maximum of one morpheme is attached at each derivational step.

This research is based on the type analysis of the data provided by the standard dictionaries of Old English (Bosworth and Toller 1973; Sweet 1976; Clark Hall 1996) as presented by the lexical database of Old English *Nerthus* (www.nerthusproject.com).

The outline of the article is as follows. Section 2 presents the theoretical background and the methodology, and section 3 delimits the scope of the research. Section 4 deals with affix distribution, mismatches

and asymmetry. Section 5 shows the results of the analysis as far as lexical layers and recursivity are concerned. To close the article, section 6 summarizes the main conclusions.

2. *The basis of the paradigmatic analysis of Old English*

The analysis reported in the following sections rests on a hierarchical concept of the lexicon, which constitutes a highly structured inventory of regular and idiosyncratic forms (Booij 2010) entering relations of inheritance. Such relations express different degrees of semantic continuity between hypernyms and their corresponding hyponyms (semantic inheritance) and morphological continuity between simplex and complex words (morphological inheritance). Relations of inheritance arise in lexical paradigms comprised of basic and derived lexemes (both in the semantic and morphological sense). These methodological and theoretical underpinnings are implemented for the study of the lexical layers of Old English below.

The basis of the methodology adopted in this research is that lexical creation resulting from derivational morphology has to be considered in its paradigmatic dimension in order to account for the (dis)continuities that conform semantic and morphological inheritance. Consider, in this respect, the set of partial synonyms *bebyrgung* / *byrging* / *bebyrgednes* / *byrignes* / *gebyrgednes* 'bury'. It turns out that each derivative can be related not only to its base of derivation but also to all the other members of the set. In this case, at least the following morphological relationships are identified: the weak verb *byrgan* 'to raise a mound' is a zero derivative of the noun *beorg* 'mountain, hill, mound'; the verb *byrgan* 'to bury' has two prefixal derivatives, namely *bebyrgan* and *gebyrgan*, which convey a very similar meaning; the past participle forms of these verbs function as bases of derivation of *bebyrgednes* and *gebyrgednes*; and the suffixal nouns *byrging* and *bebyrgung* derive, respectively, from *byrgan* and *bebyrgan*. Regarding meaning, while the derivation of weak verbs from adjectives frequently presents a stative-ingressive alternation, thus *dimnian* 'to be or become dim', *fūlian* 'to be or become foul', *heardian* 'to be or become hard', *hāsian* 'to be or become hoarse', etc., the formation of weak verbs from nouns often conveys the related meanings of creation, as in *byrgan* itself, and induced possession, as in

fiðerian ‘to provide with feathers’, *horsian* ‘to provide with horses’, *wæpnian* ‘to arm’ and the like.

The sort of evidence just considered stresses the relevance of distribution for derivational morphology. Indeed, different affixes obtain in the series *bebyrgung* / *byrging* / *bebyrgednes* / *byrignes* / *gebyrgednes* ‘bury’ while different bases appear in the series *dimmian* / *fūlian* / *heardian* / *hāsian*, in such a way that, in the finest Saussurean tradition, elements are not interpreted by themselves but by contrast with the other elements in the system. Previous studies (notably Kastovsky 1992) highlight the importance of word families like that of (*ge*)*berstan* ‘to burst’, which comprises the zero derived *byrst* ‘loss’, *geberst* ‘bursting’ and *byrstende* ‘roaring’; the prefixed *āberstan* ‘to burst out’, *forberstan* ‘to burst asunder’, *forðberstan* ‘to burst forth’, *fullberstan* ‘to burst completely’, *oðberstan* ‘to break away’, *tōberstan* ‘to (cause to) burst apart’, *ūtberstan* ‘to burst out’, and *wiðerbersta* ‘adversary’; the suffixed *bersting* ‘bursting’, *byrstful* ‘disastrous’ and *byrstig* ‘broken, rugged’; as well as the recursive derivatives *ūtāberstan* ‘to burst out’, *tōberstung* ‘bursting’, *tōborstennes* ‘abscess’ and *ofbyrstig* ‘very broken’.

In this research, the concept of *lexical paradigm* is preferred over *word family*, not only because it is more up-to-date but above all because *word family* suggests a less motivated or structured set of derivatives or, at least, a set based on lexical relations that are not made explicit. A lexical paradigm states the relationships of morphological and lexical inheritance as *the redundant information that characterizes a particular class of derivatives* (Brown and Hippisley 2012: 281). Booij describes the network of hierarchical relations holding in the lexicon by means of inheritance trees, so that *for individual nodes only those properties need to be specified that are not inherited from dominating nodes* (2010: 25). Lexical derivation is gradual or stepwise, in such a way that each step is represented by a new node. That is, more complex items occupy the inferior levels of the hierarchy whereas less complex items take up the superior levels, the top of the hierarchy being reserved for the lexical prime. On the horizontal dimension, a derivational paradigm stems from a node of the lexemic hierarchy, such as the lexical prime *berstan* ‘to burst’ and gathers all the lexemes that inherit morphological and lexical properties from such a node, like *byrst* ‘loss’, while, on the vertical dimension, a derivational paradigm is linked to other paradigms by

derivational schemas or word-formation rules that apply across paradigms, such as the one that derives zero nouns from strong verbs.

In a lexical paradigm, the relationship between basic and derived lexical items is motivated on the grounds of morphological inheritance (base vs. derivative) and lexical inheritance (hypernym vs. hyponym, among others). As van Marle (1985: 124) puts it, *in order to gain insight into the nature of morphological systems, a theory must be set up which deals with the mutual relationships that can be shown to be in force between the building-blocks which these systems are composed of*. Van Marle (1985: 125) insists on the asymmetry between the less complex and the more complex nodes of a morphological network and, when considering meaning, he remarks that *whereas one pole of the derivational relationship (the so-called ‘base’) cannot be defined in terms of the morphological category, the other pole (the ‘derivatives’) must be defined in terms of this concept* (1985: 127; emphasis as in the original-AUTHOR). Van Marle’s (1985) proposal in favour of an even treatment of the dynamic-creative and the static-relational aspects of word-formation is adopted by Pounder (2000), who draws a distinction between the morphological paradigm, comprising the morphological operations and rules, and the lexical paradigm, which lists the lexical items resulting from the above mentioned operations and rules that can be related to the same lexemic root. Subsequent work has opted for bottom-up analyses in which more complex meanings and forms result from the combinations of less complex meanings and forms that meet selection conditions (thus, for instance Lieber 2004); or for top-down analyses in which, by means of derivational functions and affixal exponents, *the emphasis is on the nature of the relation between derivative lexeme and its base lexeme where the relation is expressed by inheritance* (Brown and Hippisley 2012: 281). In top-down models, information is inherited from the base of a given derivative, like *tōberstung* ‘bursting’ < *tōberstan* ‘to (cause to) burst apart’, as well as from a more abstract construct, a *schema* for Booij (2010) and a *word-formation rule* for Brown and Hippisley (2012), which constitutes a generalization across the possible formations with a certain unit, such as nominalization by means of *-ung* in Old English.

The concept of inheritance implies that the properties of more complex items are extensions or restrictions of the properties of less complex ones or, in other words, that something changes while

something else is kept down the hierarchy. Otherwise, mismatches between form and function arise in lexical paradigms. Such mismatches can be of two types. Convergent derivation holds when two derivational paths of a given lexical paradigm result in the same meaning, as in *flōwan* > *oferoferflōwan* > *oferflōwend* > *oferflōwendlic* ‘excessive’ and *flōwan* > *oferoferflōwan* > *oferflōwed* > *oferflōwedlic* ‘excessive’, both belonging in the lexical paradigm of *flowan* ‘to flow’. The second type of mismatch between form and function, called *redundant derivation*, occurs when a meaning is kept constant throughout two derivational steps, as in *geflitful* / *geflitfullic* ‘contentious’, *canonic* / *canoniclic* ‘canonical’ and *mennisc* / *mennisclic* ‘human’. These mismatches constitute local phenomena whose general counterpart is asymmetry. Both at the local and at the general level, the concepts of mismatch and asymmetry point to the frequent lack of a reversible relationship between linguistic elements. The remainder of this article fleshes out the mismatches as well as the types of asymmetry that arise in derivational morphology. This will allow us to draw conclusions on the layers of noun formation which can be distinguished in the lexicon of Old English.

3. *Scope and method of the research*

This article takes issue with pairs of derived nouns that share a lexemic root and represent instances of near-synonymy in Old English. Such pairs, as a general rule, appear in different texts, but pairs in the same text can also be found, including zero derivatives and suffixed nouns like the ones in (4a) and suffixed nouns such as those in (4b):⁴

- (4)
- | | | |
|----|----------------|--|
| a. | ∅ / -scipe | <i>dōl</i> and <i>dōlscipe</i> ‘folly’ (CP) |
| | ∅ / -ung | <i>blōt</i> and <i>blōtung</i> ‘sacrifice’ (Or) |
| b. | -dōm / -scipe | <i>geongordōm</i> and <i>geongorscipe</i> ‘service’ (GenB) |
| | -ed-nes / -ing | <i>gefēgednes</i> and <i>gefēging</i> ‘compounding’ (ÆGram) |
| | -end / -ere | <i>biddend</i> and <i>biddere</i> ‘one who asks’ (GD) |
| | | <i>ætend</i> and <i>etere</i> ‘one who eats’ (MtGl (Li)) |
| | | <i>foreiernend</i> and <i>foreiernere</i> ‘precursor’ (CIGl 1) |
| | | <i>galdorgalend</i> and <i>galdorgalere</i> ‘wizard’ (CIGl 1) |
| | -ing / -e | <i>bocræding</i> and <i>bocræde</i> ‘reading of books’ (Bede) |

⁴ These data have been drawn from *The Dictionary of Old English Corpus*, after which abbreviations are also used.

-ing / -ol-nes	<i>forgyting</i> and <i>forgytolnes</i> ‘forgetfulness’ (ArPrGl 1)
-ling / -ung	<i>fēorðling</i> and <i>fēorðung</i> ‘fourth’ (ÆGram)
-nes / -ed-nes	<i>frātenes</i> and <i>frātwednes</i> ‘ornament’ (ClGl) <i>ætȳwnes</i> and <i>ætȳwednes</i> ‘revelation’ (GD)
-nes / -lic-nes	<i>earfoðnes</i> and <i>earfoðlicnes</i> ‘difficulty’ (Lch I (Herb) (O)) <i>gneaðnes</i> and <i>gnēalīcnes</i> ‘frugality’ (AldV)
-nes / -scipe	<i>glēawnes</i> and <i>glēawscipe</i> ‘wisdom’ (ByrM 1) <i>druncennes</i> and <i>druncenscipe</i> ‘drunkenness’ (HomS 16)
-nes / -ung	<i>āblāwnes</i> and <i>āblāwnung</i> ‘inflation’ (Lch II (2 Head))
-od-nes / -ung	<i>fortrūwodnes</i> and <i>fortrūwung</i> ‘arrogance’ (CP)
-rāden / -ung	<i>foreðingrāden</i> and <i>foreðingung</i> ‘intercession’ (ArPrGl 1)

In order to to delimit the scope of the research, it is necessary to detail those aspects which are not included in the undertaking. The article is not about morphologically unrelated forms like *flīta* / *wiga* / *wīgbora* / *winnend* ‘fighter’ or forms related by inflection, such as *tēon* (n.) / *tēona* (m.) / *tēone* (f.). Neither does this research address the question of synonymy when it arises in sets like *bōcgestrēon* / *bōchord* / *bōchūs* / *bōcgesamnung* ‘library’, in which different lexemic roots are compounded. Instances like *gebedscipe* / *gesinscipe* ‘cohabitation’ are also put aside because they involve different bases of derivation. Furthermore, different ablaut grades are disregarded, for which reason triplets like the ones in (5) are not discussed:

- (5)
būnes / *byht* / *bȳing* ‘dwelling’
grēp / *grōp* / *grȳpe* ‘ditch’
hlīet / *hlot* / *hlyte* ‘lot’

In general, spelling variants, even though they might reflect diatopic or diachronic variation, fall out of the scope of this research. Relevant instances are *færnes* / *fērnnes* ‘passage’, *ætīng* / *etīng* ‘eating’ and *onsætning* / *onsetnung* ‘plot’, all of them illustrative of the contrast between West-Saxon and Anglian forms.

With these premises, the data have been obtained by searching the lexical database of Old English *Nerthus* (accessed in December 2013) for suffixed nouns, of which a total of 3,360 have been found. They have been analyzed semantically and morphologically. On the semantic part, the queries have sought partial meaning matches of morphologically related nouns, as, for instance, in *tōsōcnes* / *tōsōcnung* ‘pursuit’. On the morphological part, the focus has been on non-recursive vs. recursive

formations. A total of 342 nouns derived by recursive suffixation have turned up, mostly from adjectives (215), verbs (77) and other nouns (50). A typical instance of denominal recursive suffixation of noun is *dōm* ‘judgement’ > *dōmfæst* ‘just’ > *dōmfæstnes* ‘righteous judgement’. The next step has been the description of suffix combinations. The inventory of bound forms on which the analysis rests is based on Kastovsky (1992) and Lass (1994) and includes the nominal suffixes *-d / -t / -þ, -ele(e) / -l(a) / -ol, -els, -en, -end, -ere, -estre, -et(t), -incel, -ing, -ling, -nes, -rāden, -scipe, -þ(o) / -t, -ing / -ung* and *-u*; as well as the suffixoids *-bora, -dōm, -hād, -lāc* and *-wist*, as well as the adjectival suffixes that combine with them in recursive formations. A total of 93 combinations of suffixes have been identified, thus *-bāre-nes, -cian-end, -cian-ing/ung... -ung-nes, -weard-nes, -wende-nes, -wīs-dōm, -wīs-end* and *-wīs-nes*. Finally, the suffixes that can appear in the rightmost position of recursive formations have been isolated. The inventory comprises *-dōm* (*wiccungdōm* ‘witchcraft’), *-hād* (*ðēowdōmhād* ‘service’), *-ing* (*dēðing* ‘putting to death’), *-nes* (*gegearwungnes* ‘preparation’), *-scipe* (*ealdordōmscipe* ‘office of alderman’) and *-ung* (*bisceophādung* ‘episcopal ordination’). These analytic steps, except the last one, have also been taken for adjectives. The database has thrown a figure of 2,299 suffixed adjectives, out of which 163 represent recursive formations like *ðearfan* ‘to need’ > *ðearfend* ‘needy’ > *ðearfendlic* ‘needy’. They are mainly based on suffixed nouns and adjectives and overall display 42 combinations of suffixes such as *-an-cund, -ān-isc, -an-weard, -bār-lic... -t-lic, -ð-lic, -tig-lic, -weard-lic, -wend-lic* and *-wīs-lic*.

The data have been organized on the basis of gender for the sake of clarity and also in order to stress the derivational contrast, so that there is no overlapping with inflection. Furthermore, gender is grammatical in Old English and derivation by means of suffixes is gender-consistent as a general rule. For instance, *-ung* and *-nes* produce feminine nouns while *-dom, -scipe* create masculine nouns. Some exceptions arise, though. The suffixes *-ere* and *-estre* are very regular in deriving masculine and feminine nouns respectively (thus *tæppere* m. ‘male tavern-keeper’ and *tæppestre* f. female tavern-keeper), although, for example, *gebisnere* ‘imitator’, *byrðre* ‘mother’ and *fōstre* ‘fosterer’ are feminine whereas *organystre* ‘player of an instrument’ and *bæcestre* ‘baker’ have masculine gender. The organization of the data just described can be illustrated by means of example (6):

- (6)
gecīgung (f.) / *gecīgnes* (f.) / *gecīgednes* ‘calling, summons’
gefēgednes (f.) / *gefēging* (f.) / *gefēgnes* (f.) ‘association’
unscyld (f.) / *unscyldgung* (f.) / *unscyldignes* (f.) ‘innocence’

Even though the data are presented in pairs, there are some morphological contrasts that convey two or even the three genders. Some relevant instances follow in (7):

- (7)
āðswara (m.) / *āðswaru* (f.) / *āðswerung* (f.) / *āðswyrd* (n.) ‘oath’
beorht (n.) / *beorhtnes* (f.) / *beorhtm* (m.) / *bierhtu* (f.) ‘brightness’
dysig (n.) / *dysigdōm* (m.) / *dysignes* (f.) / *dysgung* (f.) ‘folly’

When this is the case, pairs of two nouns of the same gender are preferred over others than combine two genders.

4. Affix distribution and asymmetry

To recapitulate, this article deals with nominal sets of morphologically related derivatives that share a lexemic stem and show partial synonymy, as is the case with *druncen* / *druncennes* / *druncenhād* / *druncenscipe* ‘drunkenness’. With the aim of identifying form-function mismatches in lexical paradigms, this section analyzes affix distribution along two parameters: derivational process, which is restricted to the coexistence of zero derivation and affixation illustrated by pairs of the type *gebroc* / *brocung* ‘affliction’; and the position of the affix causing the mismatch. Two types of competition arise when the analysis is implemented, namely between affixes and between bases. The asymmetry between processes, on the one hand, and categories, on the other, results from the mismatches that appear when prefixation vs. suffixation and the formation of nouns vs. adjectives are compared.

When pairs consisting of a feminine and a masculine noun are examined, it turns out that most contrasts are due to the suffixes *-ness* (vs. *-scipe* or *-dōm*) and *-ung* (vs. *-dōm*, *-hād*, *-or*, *-scipe* and *-ð*), as can be seen, respectively, in (8a) and (8b):

- (8)
 a. *ðwēornes* / *ðwēorscipe* ‘perversity’
hālignes / *hāligdōm* ‘holiness’

- b. *heolstrung* / *heolstor* ‘darkness’
hergung / *hergað* ‘harrying’
metsung / *metscipe* ‘feeding’
nēadung / *nēadhād* ‘compulsion’
wītegun / *wītegdōm* ‘prophecy’

When it comes to scrutinizing pairs containing a feminine and a neuter noun, the suffixes *-nes* and *-ung* partake in most cases, although the neuter noun is usually suffixless, as in the pairs presented in (9a) and (9b):

- (9)
- a. *āgennes* / *āgen* ‘property’
wyrcnes / *weorc* ‘work’
ymbsetennes / *ymbset* ‘siege’
 - b. *blōtung* / *blōt* ‘sacrifice’
frignung / *fregen* ‘question’
hlōwung / *gehlōw* ‘lowing’

If pairs with a masculine and a neuter noun are considered, the suffix that stands out is *-scipe*, usually contrasting with zero in the neuter counterpart, as in *bodscipe* / *bod* ‘command’ and *dolscipe* / *dol* ‘folly’. Apart from the inventory of suffixes involved, the sets of nouns from different genders show that there is a tendency for the zero derived noun to be neuter. Examples include those presented in (10). Notice the difference between the zero proper (*broc*), which presents no derivational or inflectional morpheme, and the class conversion on the verbal form inflected for the past participle (*druncen*), which displays the inflectional morpheme of the corresponding class.

- (10)
- a. *(ge)broc* (n.) / *brocung* (f.) ‘affliction’ (< *(ge)breca* ‘to break’)
 - b. *druncen* (n.) / *druncennes* (f.) / *druncenhād* (m.) / *druncenscipe* (m.)
‘drunkenness’ (< *drincan* ‘to drink’)

Affix distribution can be broken into two types, depending on whether the contrast in question is restricted to the rightmost (final) position or not. The former type involves the suffixes *-a*, *-e*, *-o* and *-u* in feminine nouns, like the ones in (11a), and masculine nouns, such those in (11b).

- (11)
- | | | |
|----|-------------|--|
| a. | ∅ / -e | <i>burn</i> / <i>burne</i> 'brook' |
| | ∅ / -o | <i>gebyld</i> / <i>bieldo</i> 'boldness' |
| | ∅ / -u | <i>bræd</i> / <i>brædu</i> 'breadth' |
| | -a / -ung | <i>cwīða</i> / <i>cwīðung</i> 'complaint' |
| | -e / -en | <i>swīge</i> / <i>swīgen</i> 'silence' |
| | -e / -ing | <i>bōcrēde</i> / <i>bōcræding</i> 'reading of books' |
| | -e / -nes | <i>midde</i> / <i>midnes</i> 'middle' |
| | -e / -ung | <i>æsce</i> / <i>āscung</i> 'asking' |
| | -ing / -u | <i>sciering</i> / <i>scearu</i> 'shearing' |
| | -nes / -u | <i>menniscnes</i> / <i>menniscu</i> 'humanity' |
| | -ð / -u | <i>strengð</i> / <i>strengu</i> 'strength' |
| b. | ∅ / -a | <i>scūr</i> / <i>scūra</i> 'shower' |
| | ∅ / -e | <i>hæf</i> / <i>hæfe</i> 'leaven' |
| | -a / -el | <i>æftergenga</i> / <i>æftergengel</i> 'successor' |
| | -a / -els | <i>wriða</i> / <i>wriðels</i> 'band' |
| | -a / -end | <i>gefylsta</i> / <i>gefylstend</i> 'helper' |
| | -a / -ere | <i>gafolgielda</i> / <i>gafolgyldere</i> 'tributary' |
| | -a / -isc | <i>ūtlenda</i> / <i>ūtlendisc</i> 'stranger' |
| | -a / -ling | <i>hellehæfta</i> / <i>hellehæfiling</i> 'devil' |
| | -a / -ol | <i>begenga</i> / <i>begangol</i> 'cultivator' |
| | -a / -scipe | <i>dwola</i> / <i>dwolscipe</i> 'error' |
| | -e / -ða | <i>spiwe</i> / <i>spiwða</i> 'vomit' |
| | -e / -ð | <i>hæle</i> / <i>hæleð</i> 'hero' |
| | -o / -ung | <i>prȳto</i> / <i>prȳtung</i> 'pride' |
| | -o / -nes | <i>unclæno</i> / <i>unclænnes</i> 'uncleanness' |
| | -u / -nes | <i>dēafu</i> / <i>dēafness</i> 'deafness' |
| | -u / -ung | <i>āðswaru</i> / <i>āðswerung</i> 'oath-swearing' |

The evidence gathered in (11a) and (11b) indicates that the suffixes -*a*, -*e*, -*o* and -*u* usually compete with derivational suffixes for the expression of the same function. For instance, to express the agentive derivational function, the suffix -*a* competes with -*ere* and -*estre* in pairs like the ones in (12a). For the expression of nominalization, the suffixes -*a*, -*e*, -*o* and -*u* compete with -*nes*, as is shown by (12b):

- (12)
- | | |
|----|--|
| a. | <i>andetta</i> / <i>andettere</i> 'one who confesses' < <i>andettan</i> 'to confess' |
| b. | <i>cūða</i> / <i>cūðnes</i> 'acquaintance' < (<i>ge</i>) <i>cunnan</i> 'to know' |

The second type of affix distribution occurs when the contrast under scrutiny involves an affix that can occur outside the final position. This contrast usually holds with a zero derivative, like *byrd* (< *beran* 'to bear') and *byrðen* 'burden', or a compound of a zero derivative like

nēdðearf (< *ðurfan* ‘to need’) and *nēdðearfnes* ‘need’. Four subtypes can be distinguished in which there is no coincidence of the affix in the two members of the pair: $\emptyset \sim$ -AFF, $\emptyset \sim$ -AFF-AFF, -AFF \sim -AFF and -AFF \sim -AFF-AFF. They are presented by class, respectively, in (13a)-(13d):

- (13)
- | | | |
|----|-----------------------|--|
| a. | feminine | $\emptyset \sim$ -AFF |
| | \emptyset / -el | <i>wund</i> / <i>wundel</i> ‘wound’ |
| | \emptyset / -en | <i>byrd</i> / <i>byrðen</i> ‘burden’ |
| | \emptyset / -ing | <i>flīemanfeorm</i> / <i>flīemanfeorming</i> ‘sheltering of fugitives’ |
| | \emptyset / -nes | <i>nēdðearf</i> / <i>nēdðearfnes</i> ‘need’ |
| | \emptyset / -ung | <i>æfenglōm</i> / <i>æfenglōmung</i> ‘gloaming’ |
| | masculine | $\emptyset \sim$ -AFF |
| | \emptyset / -eld | <i>framfær</i> / <i>framfæreld</i> ‘departure’ |
| | \emptyset / -ild | <i>nēahgebūr</i> / <i>nēahgebūrild</i> ‘neighbour’ |
| | \emptyset / -t | <i>hwearf</i> / <i>hwearft</i> ‘revolution, circle, lapse of time’ |
| | neuter | $\emptyset \sim$ -AFF |
| | \emptyset / -eld | <i>infær</i> / <i>infæreld</i> ‘admission’ |
| | \emptyset / -t | <i>bū</i> / <i>byht</i> ‘dwelling’ |
| b. | feminine | $\emptyset \sim$ -AFF-AFF |
| | \emptyset / -ol-nes | <i>oferspræc</i> / <i>ofersprecolnes</i> ‘talkativeness’ |
| | \emptyset / -ig-nes | <i>unscyld</i> / <i>unscyldignes</i> ‘innocence’ |
| c. | feminine | $\emptyset \sim$ -AFF-AFF |
| | -en / -ing | <i>tyhten</i> / <i>tyhting</i> ‘incitement’ |
| | -en / -nes | <i>gehealden</i> / <i>gehieldnes</i> ‘observance’ |
| | -en / -ung | <i>eorðstyren</i> / <i>eorðstyrung</i> ‘earthquake’ |
| | -end / -ung | <i>nȳdnimend</i> / <i>nȳdnimung</i> ‘rapine’ |
| | -ing / -nes | <i>flōwing</i> / <i>flōwednes</i> ‘flowing’ |
| | -ing / -ung | <i>sīcing</i> / <i>sīcettung</i> ‘sigh’ |
| | -le / -ung | <i>scendle</i> / <i>scendung</i> ‘reproach’ |
| | -nes / -ræden | <i>heordnes</i> / <i>heordræden</i> ‘custody’ |
| | -nes / -scipe | <i>glēawnes</i> / <i>glēawscipe</i> ‘wisdom’ |
| | -nes / -ð | <i>untrunnes</i> / <i>untrymð</i> ‘weakness’ |
| | -nes / -ung | <i>forsacennes</i> / <i>forsacung</i> ‘denial’ |
| | -ræden / -ung | <i>foreðingræden</i> / <i>foreðingung</i> ‘intercession’ |
| | -ð / -ung | <i>drūgod</i> / <i>drūgung</i> ‘drought’ |
| | -scipe / -ung | <i>weorðscipe</i> / <i>weorðung</i> ‘honour’ |
| | masculine | -AFF \sim -AFF |
| | -el / -els | <i>pricel</i> / <i>pricels</i> ‘prickle’ |
| | -dōm / -hād | <i>cifesdōm</i> / <i>cifeshād</i> ‘fornication’ |
| | -dōm / -oð | <i>hæftedōm</i> / <i>hæftnoð</i> ‘imprisonment’ |
| | -dōm / -scipe | <i>geongordōm</i> / <i>geongorscipe</i> ‘discipleship’ |
| | -el / -ling | <i>bæddel</i> / <i>bædling</i> ‘effeminate person’ |
| | -end / -ere | <i>wræstliend</i> / <i>wraxlere</i> ‘wrestler’ |
| | -end / -ling | <i>gehæftend</i> / <i>hæftling</i> ‘prisoner’ |

	-ere / -ling	<i>feohtere / feohtling</i> ‘fighter’
	-ere / -estre	<i>bæcere / bæcestre</i> ‘baker’
	-ling / -ung	<i>fēorðling / fēorðung</i> ‘fourth part’
d.	feminine	-AFF ~ -AFF-AFF
	-ing / -ed-nes	<i>forðfēring / forðfērednes</i> ‘death’
	-ing / -el-nes	<i>forgiting / forgitelnes</i> ‘forgetfulness’
	-ing / -en-nes	<i>wiðmeting / wiðmetennes</i> ‘comparison’

When a morphological contrast comprises an affix that can occur outside the final position, three subtypes arise in which there is affix coincidence between the two members of the pair, which is represented by means of the subindex *i*: -AFF-AFF_{*i*} ~ -AFF-AFF_{*i*}, -AFF_{*i*} ~ -AFF-AFF_{*i*} and AFF-AFF_{*i*} ~ AFF-AFF-AFF_{*i*}. They are shown, respectively, in (14a)-(14-c). Notice that the final affix is *-nes*, except for *ðrōwerhād / ðrōwiendhād* ‘martyrdom’, and that the contrasts make reference to non-final suffixes.

(14)		
a.	feminine	-AFF-AFF _{<i>i</i>} ~ -AFF-AFF _{<i>i</i>}
	-bær / -fæst	<i>unwæstm bæernes / unwæstm fæstnes</i> ‘barrenness’
	-en / -ung	<i>ðurhwunenes / ðurhwunungnes</i> ‘perseverance’
	-ed / -en	<i>gemengednes / gemangennes</i> ‘mingling’
	-ed / -end	<i>gebīgednes / gebīgendnes</i> ‘inflection’
	-en / -end	<i>gewitennes / gewitendnes</i> ‘departure’
	-fæst / -ful	<i>ungewitfæstnes / ungewitfulnes</i> ‘madness’
	-ful / -lic	<i>weorðfulnes / weorðlicnes</i> ‘dignity’
	-ful / -sum	<i>ungelēaffulnes / ungelēafsumnes</i> ‘unbelief’
	-ig / -lic	<i>gewyrdignes / gewyrdelicnes</i> ‘eloquence’
b.	feminine	-AFF _{<i>i</i>} ~ -AFF-AFF _{<i>i</i>}
	-nes / -ed	<i>tōdælnes / tōdælednes</i> ‘division’
	-nes / -el	<i>wyrgnes / wyrgelnes</i> ‘abuse’
	-nes / -en	<i>forlætnes / forlætennes</i> ‘cessation’
	-nes / -end	<i>swelgnes / swelgendnes</i> ‘whirlpool’
	-nes / -fæst	<i>gemetnes / gemetfæstnes</i> ‘moderation’
	-nes / -ig	<i>ofermōdnes / ofermōdignes</i> ‘pride’
	-nes / -lic	<i>gnēaðnes / gnēaðlicnes</i> ‘frugality’
	-nes / -ræd	<i>hīwcūðnes / hīwcūðrædnes</i> ‘familiarity’
	-nes / -sum	<i>healdnes / healdsumnes</i> ‘observation’
	-nes / -wīs	<i>rihtnes / rihtwīsnes</i> ‘righteousness’
	masculine	-AFF _{<i>i</i>} ~ -AFF-AFF _{<i>i</i>}
	-hād / -iend	<i>ðrōwerhād / ðrōwiendhād</i> ‘martyrdom’
c.	feminine	AFF-AFF _{<i>i</i>} ~ AFF-AFF-AFF _{<i>i</i>}
	-ig / -ol	<i>fæstunstæðdignes / unstaðolfæstnes</i> ‘instability’

As can be seen in (14), the contrast -AFF-AFF_i ~ -AFF-AFF_i is restricted to nominal formations with *-nes* on adjectival bases with competing suffixes, notably *-en*, which competes with *-ed* and *-end*; *-ful*, which competes with *-fæst*, *-lic* and *-sum*; and *-lic*, which competes with *-ful* and *-ig*. The contrast -AFF_i ~ -AFF-AFF_i holds without exception in *-nes* nouns that derive from an underived adjective (*gemet* > *gemetnes*) and a derived one (*gemetfæst* > *gemetfæstnes* ‘moderation’). This reflects, therefore, the contrast \emptyset ~ -AFF obtaining between the bases of derivation, as in *riht* / *rihtwīs* (> *rihtwīsnes* ‘righteousness’). The affixes that appear in this position include *-ed*, *-el*, *-en*, *-end*, *-fæst*, *-ig*, *-lic*, *-ræd*, *-sum* and *-wīs*. It is also noteworthy that there is often a noun and an adjective zero derived from a strong verb like *heald* ‘keeping; bent’ (< *healdan* ‘to keep’). Finally, the contrast AFF-AFF_i ~ AFF-AFF-AFF_i gives an instance in which only the adjectival affixes are opposed, *-ig*, on the one hand, and *ol-* as well as *fæst-*, on the other. To summarize, if a suffix is shared by the two derivatives in contrast, it can only be the final one. Moreover, it turns out that the suffix is always *-nes* except in *ðrōwerhād* / *ðrōwiendhād* ‘martyrdom’.

From the perspective of base competition, a distinction has to be drawn between recursive and non-recursive processes. Regarding non-recursive processes, simplex vs. complex bases of derivation are in competition in the contrasts \emptyset -AFF-AFF (*unscyld* / *unscyldignes* ‘innocence’), -AFF ~ -AFF-AFF (*forgiting* / *forgiternes* ‘forgetfulness’) and -AFF_i ~ -AFF-AFF_i (*ofermōdnes* / *ofermōdignes* ‘pride’), while complex bases compete in the contrast -AFF-AFF_i ~ -AFF-AFF_i (*ungewitfæstnes* / *ungewitfulnes* ‘madness’). As for recursive processes, a non-recursive complex base (non-recursive) and a recursive complex base compete in the contrast AFF-AFF_i ~ AFF-AFF-AFF_i (*unstaððignes* / *unstaððfæstnes* ‘instability’).

By considering the parameters of derivational process and category, significant generalizations can be made that boil down to asymmetry. Indeed, prefixation and suffixation as well as noun formation and adjective formation are asymmetric with respect to form-function mismatches. Beginning with the prefixes of Old English, *ge-* has been extensively discussed by previous research, which concurs on its low semantic content, as illustrated by instances like *brōðorscipe* / *gebrōðorscipe* ‘brotherhood’, *unscæðfulnes* / *ungescæðfulnes*

‘innocence’ and *witness* / *gewitnes* ‘knowledge’.⁵ The same holds, to a certain extent, of the other pure prefixes, in the terminology of de la Cruz (1975), to *wit*, *ā-*, *be-*, *for*, *on* and *tō*. These prefixes, already present in Proto-Germanic, have gone through a process of semantic bleaching and are largely interchangeable, as Hiltunen (1983) and Ogura (1995) among others have shown. This applies to pairs like the ones given in (15), which reflect the alternation in the verbal bases of the derivatives in question. For example, the pairs *swica* / *beswica* ‘deceiver’ and *swīcend* / *beswīcend* ‘deceiver’ are motivated by the alternating pair *swīcan* / *beswīcan* ‘deceive’, on which they are derived. This happens both when the contrast takes place between a simplex and a complex noun, as is the case with (15a), and when a contrast is identified between two complex nouns, as happens in (15b):

- (15)
- a. *blāwung* / *ablāwung* ‘blowing’
clȳsung / *becȳsung* ‘enclosure’
galend / *ongalend* ‘enchanter’
 - b. *behȳring* / *gehȳrung* ‘hiring’
inblāwing / *onblāwing* ‘breathing upon’
āfangennes / *onfangennes* ‘reception’

Other pairs of derived nouns reflect the gradual replacement of the pure prefixes by spatial prepositions and adverbs that has been explained by Brinton and Traugott (2005) as a result of the loss of semantic content of the pure prefixes. Even though Brinton and Traugott (2005) concentrate on the grammaticalization of the markers of the telic internal aspect of verbs, the pairs in (16a) can be accounted for in terms of the substitution of a less meaningful prefix for a more contentful one.⁶ As for those in (16b), they might reflect the same process in a less direct way.

⁵ See the analysis of the prefix presented in Martín Arista (2012).

⁶ In this article, the term *grammaticalization* is used with the sense of a change from lexical status into grammatical status (Hopper and Traugott 2003: 18) causing the desemantization of lexical forms (Givón 2009: 301) and frequently resulting in affixes (Hopper and Traugott 2003: 3).

- (16)
- a. *beclypping / ymbclypping* ‘embracing’
bescēawung / forescēawung ‘contemplation’
forlēornes / oferlēornes ‘transgression’
onsprungennes / ūpsprungennes ‘eclipse’
onhwerfednes / ymbhweorfnes ‘change’
 - b. *cīdung / ofercīdung* ‘chiding’
ðreodung / ymbðreodung ‘deliberation’
fylgend / æfterfylgend ‘follower’
folgere / æfterfolgere ‘follower’

Indeed, grammaticalized spatial adverbs and prepositions take up positions formerly occupied by the pure prefixes. The alternating pair *ðreodung / ymbðreodung* in (16b) inherits the prefixal contrast from *ðreodian / geðreodian / ymbðreodian* ‘deliberate’, which comprises a simplex form, a derivative with a pure prefix and another one with a spatial preposition / adverb. It must be noted that pairs comprising two spatial adverbs / prepositions have also been found, although they are far less frequent (*edlāniend / eftlāniend* ‘rewarder’, *geondlihtend / inlihtend* ‘illuminator’, *ūtlādnēs / wiðlādnēs* ‘abduction’). This is ultimately restricted by the patterns of preverbs found in strong verb formation. Although *āgen*, *eft-*, *fore-*, *forð-*, *fram-*, *in-*, *ofer-*, *under-*, *ūp-* and *ūt-* can be prefixed to already prefixed forms, they are attached only to verbs that display the pure Germanic prefixes (*ā-*, *be-*, *for-*, *ge-*, *of-*, *on-*, *tō-*), with the only exception of *eft-ed-*, which produces one verb, *edlān* ‘to reward’. In summary, pairs of derivatives that combine a given suffix with two prefixes, one of which is more transparent than the other from the semantic point of view, or a given suffix and a prefix that alternates with an unprefixed form, are witnesses to the gradual replacement of the pure prefixes with prepositions and adverbs.⁷

Although suffixation clearly outnumbers prefixation (there are 869 prefixed nouns in the whole lexicon, as opposed to the 3,660 suffixed ones), which can undoubtedly be attributed to the process of semantic bleaching and decay upon prefixes, instances of local competition prefix-suffix arise like those in (17), in which a derivative based on a prefixed verb rivals another derivative that displays a suffix but no prefix:

⁷ Ogura (1995: 91) distinguishes five stages of morphosyntactic development, exemplified, respectively, by *(up)ahebben*, *ahebben (up)*, *(a)hebban (up)*, *hebban (up)* and *hebban up*.

- (17)
onstyrednes / styrung ‘movement’
āhredding / hreddung ‘salvation’
onwunung / wunenes ‘dwelling’

Such instances of competition are sometimes motivated by pairs of suffixal and suffixal / prefixal bases, as is the case with *birgnes / birging* ‘taste’ along with *onbyrignes / onbyrging* ‘tasting’, but this is not always the case. When it comes to assessing asymmetry between prefixation and suffixation, it must be noted that the units involved in recursive prefixation enjoy a different status from those taking part in recursive suffixation. Furthermore, recursive prefixation is largely inherited from the strong verb whereas recursive suffixation results from further derivation. Consider, in this respect, the nominal derivatives in (18):

- (18)
ūpāfangnes ‘reception’
ūpāhafennes ‘exultation’
ūpārisnes ‘resurrection’
ūpāspringnes ‘uprising’
ūpāstigennes ‘ascent’

In recursive prefixation, a free form can occupy the first position (even though the grammaticalization directional > telic is underway, as, for instance, in *ūpāfangnes*) and the order free + bound form cannot be reversed. In recursive suffixation, on the other hand, both attached segments qualify as bound forms. As for the order of the suffixes, some differences arise between the formation of nouns and adjectives. In the recursive formation of adjectives, with a few exceptions like *wlit-ig-fæst* ‘of enduring beauty’, *frēc-en-ful* ‘dangerous’ and *hygeð-ih-tig* ‘courageous’, the rightmost suffix is *-lic*, as in the suffixal sequences *-bærlic*, *-cundlic*, *-edlic*, *-endlic*, *-enlic*, *-fæstlic*, *-fealdlic*, *-fullic*, *-iclic*, *-iendlic*, *-iglic*, *-isclic*, *-lēaslic*, *-odlic*, *-ollic*, *-sumlic*, *-sumod* and *-wīsllic*. In the recursive formation of nouns, suffix combination is far less restricted considering that a given affix can be final and non-final, as in *mā-ð-ere* ‘mower’ and *ðrōw-er-hād* ‘martyrdom’, and a sequence can be reversed, as in *æðel-ing-hād* ‘princely state’ and *bisceop-hād-ung* ‘episcopal ordination’.

If form-function mismatches are taken into account, the formation of nouns and adjectives is asymmetric. Firstly, derived nouns do not display

redundant derivation and, secondly, derived nouns are not based on recursive adjectives that display redundant derivation. These questions are discussed in turn. The formation of adjectives presents both convergent derivation and redundant derivation, as illustrated, respectively, by (19a) and (19b):

(19)		
a.	-fæst / -ful	<i>þrymfæst / þrymful</i> 'glorious'
	-fæst / -ig	<i>mægenfæst / mægenig</i> 'strong'
	-ful / -ig	<i>sorgful / sorig</i> 'sorry'
	-ful / -iht	<i>sandful / sandiht</i> 'sandy'
	-ful / -lic	<i>wundorful / wundorlic</i> 'wonderful'
	-ful / -ol	<i>geðancful / geðancol</i> 'thoughtful'
	-ful / -sum	<i>genyhthful / genyhthsum</i> 'abundant'
	-ig / -iht	<i>þornig / þorniht</i> 'thorny'
	-ig / -isc	<i>elðēodig / elðēodisc</i> 'foreign'
	-ig / -lic	<i>egesig / egelic</i> 'terrible'
	-ig / -ol	<i>unwittig / unwittol</i> 'ignorant'
	-iht / -lic	<i>sceadiht / sceadlic</i> 'shady'
	-isc / -lic	<i>heofonisc / heofonlic</i> 'heavenly'
	-lic / -fæst	<i>sigelic / sigefæst</i> 'victorious'
	-lic / -ol	<i>foreðanclic / foreðancol</i> 'prudent'
	-lic / -sum	<i>luflic / lufsum</i> 'lovable'
b.	-feald / -fealdlic	<i>hundfeald / hundfealdlic</i> 'hundred-fold'
	-ful / -fullic	<i>geflitful / geflitfullic</i> 'contentious'
	-ic / -iclic	<i>canonic / canoniclic</i> 'canonical'
	-ig / -iglic	<i>unmihtig / unmihtiglic</i> 'weak'
	-isc / -isclic	<i>mennisc / mennisclic</i> 'human'
	-lēas / -lēaslic	<i>scamlēas / scamlēaslic</i> 'shameless'
	-ol / -ollic	<i>smēaðancol / smēaðancollic</i> 'subtle'
	-sum / -sumlic	<i>langsum / langsumlic</i> 'tedious'

As can be seen in (19a), pairs of partially synonymous derivatives like *þrymfæst / þrymful* 'glorious' display two different suffixes and consist of derivatives not directly related to each other by a derivational relationship. Therefore, convergent derivation occurs. The pairs in (19b), such as *hundfeald / hundfealdlic* 'hundred-fold', comprise derivatives that share one affix in such a way that the less complex derivative is the base of derivation of the more complex one. In other words, redundant derivation arises.

Derived nouns reflect the alternations present in adjectival bases, but cannot be based on recursive adjectives that display redundant derivation. The alternation \emptyset / suffix in intermediate position reflects the

convergent derivation of adjectival bases of the type AFF / AFF-AFF illustrated by (20a) and of the type AFF / AFF given in (20b):

(20)		
a.	AFF / AFF-AFF	
	∅ / -ed	<i>ungelēaflic / ungelīfedlic</i> ‘incredible’
	∅ / -end	<i>geornlic / giernendlic</i> ‘desirable’
	∅ / -fæst	<i>sōðlic / sōðfæstlic</i> ‘true’
	∅ / -ig	<i>gesundlic / gesundiglic</i> ‘prosperous’
	∅ / -sum	<i>wynlic / wynsumlic</i> ‘pleasant’
	∅ / -wis	<i>rihtlic / rihtwīslīc</i> ‘righteous’
b.	AFF / AFF	
	-bære / -fæst	<i>legerbære / legerfæst</i> ‘sick’
	-ed / -en	<i>mishweorfed / mishworfen</i> ‘perverted’
	-fæst / -ful	<i>þrymfæst / þrymful</i> ‘glorious’
	-ful / -lic	<i>wundorful / wundorlic</i> ‘wonderful’
	-ful / -sum	<i>genyhthful / genyhthsum</i> ‘abundant’
	-ig / -lic	<i>egesig / egelic</i> ‘terrible’

As can be seen in (20), recursive formation for the sake of meaning differentiation is not the motivation for these sets of derivatives. The recursive formation of nouns on adjectival bases does not explain these pairs of derivatives either. The derivatives with *-nes* based on *-cund* and *-cundlic* adjectives, as in *godcund* ‘divine’ > *godcundnes* ‘divinity’ and *godcund* ‘divine’ > *godcundlic* ‘divine’ > *godcundlicnes* ‘divinity’ are clearly exceptional. Apart from *godcundnes* ‘divinity’ only two such derivatives have been found in the data of analysis: *æðelcundnes* ‘divine nature’ and *incundnes* ‘feeling that comes from the heart’. Overall, redundant derivation holds in pairs of adjectives and, particularly, in sets involving a *-ful* and a *-fullic* derivative like *egesig / egelic / esesful / esesfullic* ‘terrible’.

5. Lexical layers and recursivity

This section discusses the proposal for lexical layers with respect to the more general question of grammaticalization. Lexical layers in noun formation, considering the evidence gathered above, are motivated by the coexistence of the output of different processes of word-formation, the coexistence of affixes with different degrees of productivity and the coexistence of processes with different degrees of recursivity. Ultimately, these phenomena produce asymmetry in morphology and

have consequences for lexical organization. Therefore, to the asymmetry of process and category discussed in the previous section, the asymmetry caused by different degrees of productivity and recursivity can be added. There is, however, an important difference with respect to asymmetry as presented in section 4. Whereas the previous section has insisted on the distribution of affixes, thus dealing with the dynamic or processual dimension of word-formation, the term *coexistence* makes reference to the static part of this phenomenon, comprised of the outcome of the relevant processes of derivation.

Beginning with the processes of word-formation, the evidence strongly suggests that a layer of zero derivation characterized by the absence of explicit derivational morphemes has to be distinguished. Indeed, in pairs like those in (21) zero proper coexists with an inflectional suffix:

- (21)
- | | |
|--------|-----------------------------------|
| ∅ / -a | <i>scūr / scūra</i> ‘shower’ |
| ∅ / -e | <i>burn / burne</i> ‘brook’ |
| ∅ / -o | <i>gebyld / bieldo</i> ‘boldness’ |
| ∅ / -u | <i>bræd / brædu</i> ‘breadth’ |

In the same manner, zero coexists with fully derivational suffixes in the pairs in (22):

- (22)
- | | |
|-------------|---|
| ∅ / -el | <i>wund / wundel</i> ‘wound’ |
| ∅ / -en | <i>byrd / byrden</i> ‘burden’ |
| ∅ / -ing | <i>flīemanfeorm / flīemanfeorming</i> ‘sheltering of fugitives’ |
| ∅ / -nes | <i>nīedðearf / nīedðearfnes</i> ‘need’ |
| ∅ / -ung | <i>æfenglōm / æfenglōmung</i> ‘gloaming’ |
| ∅ / -eld | <i>framfær / framfærel</i> ‘departure’ |
| ∅ / -ild | <i>nēahgebūr / nēahgebūrild</i> ‘neighbour’ |
| ∅ / -t | <i>hwearf / hwearft</i> ‘revolution’ |
| ∅ / -eld | <i>infær / infærel</i> ‘admission’ |
| ∅ / -t | <i>bū / byht</i> ‘dwelling’ |
| ∅ / -ol-nes | <i>oferspræc / ofersprecolnes</i> ‘talkativeness’ |
| ∅ / -ig-nes | <i>unscyld / unscyldignes</i> ‘innocence’ |

In what can be considered as another manifestation of the same phenomenon, inflectional suffixes coexist with derivational suffixes proper in the instances in (23):

- (23)
- | | | |
|----|-------------|--|
| a. | -a / -el | <i>æftergenga / æftergengel</i> ‘successor’ |
| | -a / -els | <i>wriða / wriðels</i> ‘band’ |
| | -a / -end | <i>gefylsta / gefylstend</i> ‘helper’ |
| | -a / -ere | <i>gafolgielda / gafolgyldere</i> ‘tributary’ |
| | -a / -isc | <i>ūtlenda / ūtlendisc</i> ‘stranger’ |
| | -a / -ling | <i>hellehæfta / hellehæfiling</i> ‘prisoner of hell’ |
| | -a / -ol | <i>begenga / begangol</i> ‘cultivator’ |
| | -a / -scipe | <i>dwola / dwolscipe</i> ‘error’ |
| | -a / -ung | <i>cwīða / cwīðung</i> ‘complaint’ |
| b. | -e / -en | <i>swīge / swīgen</i> ‘silence’ |
| | -e / -ing | <i>bōcrēde / bōcrēding</i> ‘reading of books’ |
| | -e / -nes | <i>midde / midnes</i> ‘middle’ |
| | -e / -ð | <i>hæle / hæleð</i> ‘hero’ |
| | -e / -ung | <i>āsce / āscung</i> ‘asking’ |
| | -o / -nes | <i>unclāno / unclāennes</i> ‘uncleanness’ |
| | -o / -ung | <i>prȳto / prȳtung</i> ‘pride’ |
| c. | -u / -ing | <i>scearu / sciering</i> ‘shearing’ |
| | -u / -nes | <i>menniscu / menniscnes</i> ‘humanity’ |
| | -u / -ð | <i>strengu / strengð</i> ‘strength’ |
| | -u / -ung | <i>āðswaru / āðswerung</i> ‘oath-swearing’ |

The layer of affixation consists of two types of processes, depending on the degree of recursivity. Among non-recursive formations, less productive and more productive suffixes give rise to pairs like the ones presented in (24a). It is noteworthy in this respect that very productive suffixes like *-nes* and *-ung* (1,231 and 762 derivatives in type analysis, respectively), illustrated in (24b), also coexist.

- (24)
- | | | |
|----|---------------|---|
| a. | -ð / -nes | <i>untrymð / untrumnes</i> ‘weakness’ |
| | -ð / -ung | <i>drūgodð / drūgung</i> ‘drought’ |
| | -en / -nes | <i>gehealden / gehieldnes</i> ‘observance’ |
| | -en / -ung | <i>eorðstyren / eorðstyrung</i> ‘earthquake’ |
| | -ling / -ere | <i>feohtling / feohtere</i> ‘fighter’ |
| | -ling / -ung | <i>fēorðling / fēorðung</i> ‘fourth part’ |
| | -rāden / -nes | <i>heordrāden / heordnes</i> ‘custody’ |
| | -rāden / -ung | <i>foreðingrāden / foreðingung</i> ‘intercession’ |
| b. | -nes / -ung | <i>forsacennes / forsacung</i> ‘denial’ |

As regards recursive formations, less and more recursive formations can coexist, as can be seen in (25a), in which the first member of the pair displays two suffixes and the second has three (*unstað-ol-fæst-nes*). It is far more frequent, though, that recursive formations coexist with non-

recursive ones, as is shown in (25b). As has been remarked above, out of 3,360 suffixed nouns, 342 nouns are derived by recursive suffixation.

- (25)
- | | | |
|----|-----------------------|---|
| a. | -ig-nes / ol-fæst-nes | <i>fæstunstæððignes / unstaðolfæstnes</i> ‘instability’ |
| b. | -ing / -ed-nes | <i>forðfēring / forðfērednes</i> ‘death’ |
| | -ing / -el-nes | <i>forġiting / forġitelnes</i> ‘forgetfulness’ |
| | -ing / -en-nes | <i>wiðmeting / wiðmetennes</i> ‘comparison’ |

When recursivity arises in the layer of affixation, it turns out that it involves the very productive suffix *-nes*, as shown in (26):

- (26)
- | | |
|----------------------|--|
| -bær-nes / -fæst-nes | <i>unwæstmbærnes / unwæstmfæstnes</i> ‘barrenness’ |
| -en-nes / -ung-nes | <i>ðurhwunenes / ðurhwunungnes</i> ‘perseverance’ |
| -ed-nes / -en-nes | <i>gemengednes / gemangennes</i> ‘mingling’ |
| -ed-nes / -end-nes | <i>gebīgednes / gebīgendnes</i> ‘inflection’ |
| -en-nes / -end-nes | <i>gewitennes / gewitendnes</i> ‘departure’ |
| -fæst-nes / -ful-nes | <i>ungewitfæstnes / ungewitfulnes</i> ‘madness’ |
| -ful-nes / -lic-nes | <i>weorðfulnes / weorðlicnes</i> ‘dignity’ |
| -ful-nes / -sum-nes | <i>ungelēaffulnes / ungelēafsumnes</i> ‘unbelief’ |
| -ig-nes / -lic-nes | <i>gewyrdignes / gewyrdelicnes</i> ‘eloquence’ |

To summarize, convergent derivation in noun formation motivates two lexical layers, in such a way that one does not use derivational affixes while the other resorts exclusively to such affixes. When mismatches in noun formation occur in pairs of suffixal derivatives, they involve a more productive affix and a less productive one or a more recursive formation and a less recursive (or non-recursive) one.

6. Conclusion

This article has identified pairs of derived nouns that share a lexemic root and represent instances of near-synonymy in Old English. Such pairs typically consist of (i) a zero derivative and an affixal derivative; or (ii) a derivative with a more productive affix and another derivative with a less productive one; or (iii) a more recursive formation and a less recursive (or non-recursive) one. All in all, four types of asymmetry have been found, on the grounds of process, category, productivity and recursivity. Affix distribution clearly reflects the coexistence of the output of at least

two waves of word-formation that configure two lexical layers, zero derivation and affixation, including recursive affixation.

On the question of the types of form-function mismatches that arise in the formation of Old English nouns, two major phenomena have been found, namely convergent derivation due to the competition of suffixes and convergent derivation due to the competition of bases. Overall, convergent derivation is associated with the formation of feminine nouns by means of the suffix *-nes*. Redundant derivation, on the other hand, holds in pairs of adjectives and, particularly, in sets involving a *-ful* and a *-fullic* derivative.

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