

## AFFIX COMBINATION IN OLD ENGLISH NOUN FORMATION: DISTRIBUTION AND CONSTRAINTS<sup>1</sup>

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**ABSTRACT.** *This journal article explores the interrelation between affixes in Old English in the formation of complex nouns and discusses the constraints posed on their possible combinations. The research is carried out around a series of pre-analytical questions regarding the morphological nature of the Old English affixes and their combinatorial properties, including their origin, the issue of separability and the existence of affix loops and closing affixes. Old English, being a rich language in its inflection, proves itself a suitable target language for the kind of analysis here developed, as it presents a long range of double-affixed nouns. The most relevant conclusions include the identification of independent selectional restrictions for the processes of prefixation and suffixation, the existence of consistently repeated combinations of affixes and the identification of a closing suffix (-estre), which blocks further derivations.*

**KEY WORDS.** *Old English, morphology, word formation, recursive affixation.*

**RESUMEN.** *Este artículo explora la interacción afijal en la formación de nombres complejos en inglés antiguo y analiza las restricciones que operan en dichas combinaciones. La investigación se estructura en torno a una serie de cuestiones previas sobre la naturaleza morfológica de los afijos del inglés antiguo y sus propiedades de combinación, que incluyen el análisis de su origen, separabilidad, la recursividad de afijos o la existencia de afijos de cierre. El inglés antiguo se muestra como una lengua adecuada para este tipo de análisis dada la riqueza de su sistema flexivo, y nos ofrece un gran abanico de nombres que incorporan dos o más afijos. Las conclusiones más relevantes del análisis incluyen la identificación de restricciones de selección independientes para la prefijación y la sufijación, la existencia de combinaciones de afijos que se repiten de manera estable, y la identificación de un afijo de cierre (-estre), que pone fin a los procesos derivativos.*

**PALABRAS CLAVE.** *Inglés antiguo, morfología, formación de palabras, afijación recursiva.*

## 1. INTRODUCTION

While the derivational morphology of Old English in general and noun affixation in particular have received attention for a long while, the focus of the studies published so far has been syntagmatic, that is, on the units that partake in certain processes of prefixation or suffixation, thus the works by Samuels (1949), Lindemann (1953, 1970), von Lindheim (1958), Schabram (1970), de la Cruz (1975) and Roberts (1980), among others. Other authors, such as Kastovsky (1971, 1992) and Quirk and Wrenn (1994), have offered more comprehensive descriptions of the patterns of noun formation, but their approach is also syntagmatic in dealing with the final step of derivation, thus putting aside the interaction among derivational processes. In spite of the richness and complexity of the lexical relations that hold in the vocabulary of Old English, these authors do not come up with an overall explanation of noun creation in Old English, notwithstanding the wealth of data that they provide. For this reason, this journal article takes steps towards accounting for the paradigmatic dimension of noun formation in Old English by analysing synchronically the interaction among word-formation processes of affixation that produce nouns. Along with descriptive work, this task entails to answer more explanatory questions like the following: (i) Is the distinction between Germanic and Old English nominal affixes comparable to the one between native and non-native holding in Present-Day English? (ii) Is the difference between more separable and less separable nominal affixes in Old English relevant? (iii) Are there closing affixes in Old English noun formation? (iv) Are there affix loops in Old English nouns? And (v) is there a constraint on the number of affixes attached to a nominal base? These questions draw on the current theoretical debate in the field of derivational morphology and its relation to lexical semantics, which revolves around semantic description, the function of affixes and the constraints applying on recursive derivation. In this line, Fabb (1988) has identified a series of selection restrictions on suffixation, including, for example, the ones that stipulate that some suffixes never attach to an already-suffixed word, that some suffixes attach outside another suffix, and that some suffixes are subject to no selectional restrictions at all. Aronoff and Fuhrhop (2002) take a further step in the identification of selection restrictions and point out that English allows only one Germanic suffix per word and that Latinate suffixes are much more susceptible to combination, in such a way that the Germanic and Latinate suffixes usually display complementary patterns. Plag (1999) and Lieber (2004) opt for a semantic study of affix combinations. In this vein, Plag (1999: 157) remarks that “the role of semantic compatibility of suffixes certainly deserves further attention since it seems that in this domain a number of interesting restrictions can be located”. By adopting a similar stance, Martín Arista (2008, 2009, 2011c) has put forward a morphological template for Old English that incorporates constraints on affixation. This author has also contextualized Old English word-formation in a paradigmatic theory of lexical organization (Martín Arista 2010c, fc.-a, fc.-d) and studied the relationship between recursivity, lexicalization and grammaticalization with reference

to given affix combinations in Old English (Martín Arista 2010a, 2010b, 2011a, 2011b, fc.-b, fc-c).

With these aims and theoretical setting, the remainder of the article is organized as follows. Section 2 engages in the description of the aims and the methodological principles underlying this research, whereas the data and the most relevant results obtained after the application of the analytical criteria are presented in turn in section 3. Finally, section 4 sums up the conclusions yielded by this research.

## 2. AIMS AND METHODOLOGY

This section raises some terminological and methodological questions, including: (i) the basics of the paradigmatic approach to word formation, (ii) the relationship between recursivity and process feeding in word-formation, and (iii) the delimitation of the scope of the research conducted here.

Beginning with the paradigmatic approach to word formation, I follow Pounder (2000) on the concept of derivational paradigm, which subsumes both the lexical paradigm consisting of the output of lexical creation and the morphological paradigm comprising the units, rules, operations and constraints identified in word-formation processes. Put in another way, the lexical paradigm represents the static part of word-formation whereas the morphological paradigm constitutes the dynamic part of this area of grammar. For example, the morphological paradigm of *(ge)brōþor* turns out the affixal derivative *brōþorlēas* ‘brotherless’ by stating rules that combine the relevant base and affix, determine lexical class change and constrain the maximum degree of affixation. In the lexical paradigm of *(ge)brōþor* we also find the derivations *brōþorscipe* ‘brotherliness’ and *gebrōþru* ‘brothers’.

As for morphological recursivity, it is a defining property of derivational morphology, as opposed to inflectional morphology, which is not recursive. In the area of word-formation, compounding illustrates the concept of recursive process neatly: by root compounding we get *godspell* ‘gospel’ out of *god* and *spell* and, by means of repeated application of the rule of root compounding, we get *godspellbōc* ‘book containing the four gospels’ out of *godspell* and *bōc*. In affixation, *un-* plus *getrēow* turn out *ungetrēow* ‘untrue’, which, by suffixation of *-nes*, produces *ungetrēownes* ‘unbelief’. These examples pose the question of how restrictive the definition of morphological process must be in order to speak of recursivity properly. In other words, does *ungetrēownes* involve some sort of recursivity? If recursivity is understood as repetition of a rule, it is questionable that prefixation and suffixation are governed by the same rules and, therefore, *ungetrēownes* is not recursive. In general, the studies in affix combination focus on prefixation or suffixation, with much more attention paid to the latter process. Level ordering, as pointed out above, has concentrated on suffix combination. When constraints that apply to both prefixation and suffixation have been proposed, they have been formulated indirectly, as in the semantic restrictions advanced by Lieber (2004). The case with *godspellbōc* is

different because the same rule is applied in both steps of root compounding. The position that I adopt in this respect is that the term *morphological recursivity* must be understood in a narrow sense, which requires that a given process (in this case, affixation) feed the same process. It follows from this view that zero derivation and compounding fall out of the scope of this article and that morphological processes are gradual, with affixes attaching in a stepwise way.

Including prefixation and suffixation into the more general process of affixation is justified on the grounds of the bound character of affixes, as opposed to free lexemes. Nevertheless, the distinction between bound and free forms is debatable in functional terms. Mairal Usón and Cortés Rodríguez (2000-2001) have analysed derivational morphemes as predicates, thus doing away with the distinction between free and bound forms because both are listed as predicates in the lexicon. In the same line, Martín Arista (2008, 2009) has demonstrated that the same word-functions can be performed by free and bound morphemes, that is, there is no functional difference between the insertion of a free or a bound form into a given word slot. Although the borderline between derivation and compounding is not always clear, the distinction between both processes is maintained in this analysis in order to perform the gradual study of processes and focus on the constraints that may be imposed on the different combinatory elements. This distinction, however, raises the problem of affixoids (Kastovsky 1992), or borderline cases between derivation and compounding. Affixoids are elements that exist as independent lexemes in the lexicon of the language and which are going through a process of grammaticalization, whereby a lexical item becomes a bound form (Bauer 2007). The Old English inventory of affixoids includes the prefixoids *æfter-* ('after'), *be-* ('by, near'), *fær-* ('calamity, sudden danger, peril, sudden attack'), *for-* ('before, from'), *fore-* ('before'), *forþ-* ('forth, forwards'), *ful-* ('full'), *in-* ('in'), *of-* ('over, above'), *ofer-* ('over'), *on-* ('on'), *tō-* ('to'), *þurh-* ('through'), *under-* ('under'), *up-* ('up'), *ut-* ('out, without'), *wan-* ('lack of'), *wiþ-* ('with, near, against'), *wiþer* ('against') and *ymb(e)-* ('around, about'). The set of affixoids also includes the postposed segments *-bora* ('bearer'), *-dōm* ('doom, condition'), *-hād* ('person, condition, state'), *-lāc* ('play, sacrifice'), *-mæl* ('mark, measure'), *-rāden* ('terms, condition') and *-wist* ('being, existence'). In this article, the question of the separation between affixation and compounding regarding the affixoids has been solved by analysing the predicates in which these elements appear. When the number of lexicalized predicates is relevant, the affixoid has been treated as a pure affix. In the post-field of the word, this treatment does not cause further problems because in Present-day English these affixoids have been fully grammaticalized, as in *frēondscipe* 'friendship' or *wīsdōm* 'wisdom'. In the prefield, however, the question is more complex.<sup>2</sup> By assuming total grammaticalization, I am considering as inseparable some forms which can, nowadays, be detached from the base predicate, as in *incuman* 'to come in, to go into' (providing the zero derived noun *incyme* 'entrance'), or *forþsendan* 'to send forth'.<sup>3</sup> With these considerations, the full inventory of the affixes identified for this research is as follows.<sup>4</sup> Brackets represent

spelling variants, while numbers account for the existence of several morphologically or lexically related predicates, for each of which a different number is added.<sup>5</sup> The prefixes are *ā-* (*ǣ-*), *ǣ-*, *ǣfter-*, and- (*an-*, *on-*, *ond-*), *ante-*, *arce-*, *be-* (*bi-*, *bī-*, *big-*), *ed-* (*ǣd-*, *et-*, *ǣt-*, *ead-*, *ep-*), *el-* (*ǣl-*, *ell-*), *fær-*, *for-* (*fore-*), *forþ-*, *ful-*, *ge-*, *in-*, *med-* (*met-*), *mis-*, *of-* (*ǣf-*, *ef-*), *ofer-*, *on-* (*an-*), *or-*, *sām-*, *sam-*, *sin-1*, *sub-*, *tō-*, *þurh-*, *un-* (*on-*), *under-*, *up-*, *ut-*, *wan-*, *wip-*, *wiper-*, and *ymb-* (*ymbe-*). The suffixes include *-aþ* (*-oþ* 4, *-noþ*, *-uþ*, *-eþ*), *-bora*, *-dōm*, *-el* (*-ol*, *-ul*, *-ele*, *-la*, *-elle*, *-le*, *-l*, *-il*), *-els*, *-en* (*-n*, *-in*), *-en*, *-end*, *-ere* (*-era*), *-estre* (*-ystre*, *-istre*), *-et* (*-ett*), *-hād*, *-icge* (*-ecge*, *-ige*), *-incel*, *-ing* (*-ung*), *-lāc*, *-ling* (*-lung*), *-māel*, *-nes* 2 (*-nes*, *-nis*, *-nyss*, *-nys*), *-rāden*, *-scipe* (*-scype*), *-t* (*-þ*, *-þo*, *-þu*) and *-wist*.

This set of affixes reflects the consistently Germanic character of the Old English lexicon, which, nevertheless, shows certain foreign influences, particularly from Latin, as is the case with the prefixes *arce-* and *sub-*. These affixes are extremely infrequent, as they only appear in the loans *arcebisceop* ‘archbishop’ and *subdtacon* ‘subdean’, which makes them irrelevant for a study of recursive affixation as the one reported in this article.

To finish off with the classification of affixes, it remains to say that the nominal suffixes *-a*, *-e*, *-o*, *-u*, which can be considered derivational (thus González Torres 2010; González Torres *fc.*), are treated as exclusively inflective and, consequently, left out of the inventory of suffixes selected for the analysis.

### 3. DATA AND ANALYSIS

To carry out this study in recursive derivation in the formation of Old English nouns, I have made use of the information filed in the lexical database *Nerthus* ([www.nerthusproject.com](http://www.nerthusproject.com)) which includes over 30,000 entries taken from Clark Hall’s (1996) *A Concise Anglo-Saxon Dictionary*, and, on specific points, Bosworth and Toller’s (1973) *An Anglo-Saxon dictionary* and Sweet’s (1976) *The student’s dictionary of Anglo-Saxon*. Of those 30,000 entries, over 16,000 correspond to nominal predicates (lexemes, or types), of which 1,025 are prefixed nouns and 3,059 qualify as suffixed nouns. The approach adopted in this work requires to process all these data, given that not all affixed words are taken into account. In fact, only those affixed predicates which include double affixation are considered. As a result, the number of predicates subject to analysis is 1,547. Once the corpus of analysis has been established, a distinction must be made between prefixed and suffixed elements. This division renders a total of 1,354 nouns originating in final suffixation (87.5%) whereas only 193 nouns are the result of final prefixation (12.5%).

With the predicates under study classified by final derivational process, I focus on the affixes partaking in these complex derived formations and distinguish the combinations that are displayed in (1):

- (1) Double prefixation: *ingehrif* ‘womb’, *undertōdal* ‘secondary division’  
 Prefixation-suffixation: *bīgyrdel* ‘girdle, purse’, *edcēlnes* ‘refreshment’,  
*forsewestre* ‘female despiser’, *tōhīgung* ‘result, effect’  
 Double suffixation: *crīstennes* ‘Christianity’, *mægenscype* ‘might, power’,  
*wīteleāst* ‘freedom from punishment’

This kind of affixal recursivity represents a vast field of study, in which one step forward must be taken in order to establish the order in which prefixes and suffixes occur when they interact. Consequently, the research is organised around the interaction between final and pre-final derivation, thus rendering a four-fold classification, consisting of the following combinations:

- (i) Final Prefix – Pre-final Prefix
- (ii) Final Prefix – Pre-final Suffix
- (iii) Final Suffix – Pre-final Prefix
- (iv) Final Suffix – Pre-final Suffix

Along with this four-way analysis, the existence of earlier steps of derivation has also been taken into account, to provide a more exhaustive account on the separability of affixes with regard to the base of derivation. Thus, these four combinations have been analysed by paying attention to particular affix combinations. The prefix *ge-* when attached finally has been put aside because, given its frequency and distribution, it constitutes a subject of study on its own, thus falling out of the limitations of space of this article.<sup>6</sup> With these premises in mind, the main results are discussed in the following section.

After dividing the 1,547 lexemes that give rise to the corpus into the four categories just presented, the quantitative analysis of the distribution of the predicates throws the figures presented in (2):

- (2) a. Final prefixation – Pre-final prefixation: 65 predicates
- b. Final prefixation – Pre-final suffixation: 128 predicates
- c. Final suffixation – Pre-final prefixation: 1,094 predicates
- d. Final suffixation – Pre-final suffixation: 290 predicates

The larger number of suffixed than of prefixed words is relatively predictable, given that the ratio between suffixed and prefixed elements in *Nerthus* is 3:1. However, when taking a closer look at the combination of processes, the ratio in favour of suffixed elements that contain previous derivations is over 10:1.

The figures shown in (2) indicate that recursive derivation in final and pre-final steps occurs in all the scenarios proposed for this research, thus stressing the relevance of studies in Old English recursive word-formation. It is also remarkable that, in spite of the extensive evidence for this phenomenon that the Old English lexicon offers, the

figures vary considerably and show an overwhelming preference for suffixation as a final process occurring after prefixation.

Leaving processes aside, and focusing on the affixes involved, I have been able to identify the set of affixes which, occurring finally, admit previous derivation. They include the prefixes in (3a) and the suffixes in (3b):

- (3) a. *ǣ-*, *æfter-*, *and-*, *be-*, *ed-*, *for(e)-*, *forþ-*, *fram-*, *frēa-*, *full-*, *in-*, *med-*, *mis-*, *of-*, *ofer-*, *on-*, *or-*, *sam-*, *sin-*, *tō-*, *ūp-*, *ūt-*, *un-*, *under-*, *wan-*, *wiþ-*, *wiþer-*, and *ymb(e)*.  
 b. *-dōm*, *-el*, *-en*, *-end*, *-ere*, *-estre*, *-hād*, *-icge*, *-incel*, *-ing/ung*, *-ling*, *-nes*, *-rāden*, *-scipe*, *-t* and *-wist*.

The set of affixes shown in (3) presents divergences when the pre-final derivation is prefixation or suffixation. The sets of final affixes in each of the classifications given above are offered in (4):

- (4) Final prefixes with pre-final prefixation: *æfter-*, *and-*, *for(e)-*, *in-*, *mid-*, *mis-*, *of-*, *ofer-*, *on-*, *or-*, *tō-*, *un-*, *under-*, *ūt-*, *wiþ-*, *wiþer-*, and *ymb(e)-*.  
 Final suffixes with pre-final suffixation: *ǣ-*, *and-*, *be-*, *ed-*, *for(e)-*, *forþ-*, *fram-*, *frēa-*, *full-*, *in-*, *med-*, *mis-*, *of-*, *ofer-*, *on-*, *on-*, *sam-*, *sin-*, *tō-*, *un-*, *under-*, *ūp-*, *ūt-*, *wan-*, *wiþ-*, *wiþer-*, and *ymb(e)-*.  
 Final suffixes with pre-final prefixation: *-dōm*, *-el*, *-en*, *-end*, *-ere*, *-estre*, *-hād*, *-icge*, *-encel*, *-ing/ung*, *-nes*, *-rāden*, *-scipe*, *-t*, and *-wist*.  
 Final suffixes with pre-final suffixation: Final suffixes with pre-final suffixation: *-dōm*, *-en*, *-end*, *-ere*, *-estre*, *-hād*, *-incel*, *-inglung*, *-ling*, *-nes*, *-rāden*, and *-t*.

The tables that follow display the combinatorial properties of affixes both qualitatively and quantitatively. Combinatorial relations have been identified finally and pre-finally. Thus, table 1 summarizes the affix combinations holding when two successive prefixations apply at the final stage of the formation of the word:

Final prefix	Pre-final prefix	Occurrences	Final prefix	Pre-final prefix	Occurrences
<i>æfter</i>	( <i>ge-</i> )	1	<i>tō-</i>	( <i>ge-</i> )	1
<i>and</i>	( <i>ge-</i> )	1	<i>un-</i>	<i>ā-</i>	1
<i>for(e)-</i>	( <i>ge-</i> )	3	<i>un-</i>	<i>for</i>	1
<i>for(e)</i>	<i>ge-</i>	2	<i>un-</i>	<i>ful-</i>	1
<i>in-</i>	( <i>ge-</i> )	4	<i>un-</i>	( <i>ge-</i> )	18
<i>mid-</i>	( <i>ge-</i> )	2	<i>un-</i>	<i>ge-</i>	5
<i>mis-</i>	( <i>ge-</i> )	1	<i>under-</i>	( <i>ge-</i> )	1
<i>of-</i>	( <i>ge-</i> )	3	<i>under-</i>	<i>tō-</i>	1
<i>ofer-</i>	( <i>ge-</i> )	4	<i>ūt-</i>	( <i>ge-</i> )	1
<i>ofer-</i>	<i>ge-</i>	4	<i>wiþ</i>	<i>ge-</i>	1
<i>on-</i>	( <i>ge-</i> )	2	<i>wiþer-</i>	( <i>ge-</i> )	1
<i>on-</i>	<i>ge-</i>	1	<i>ymb(e)-</i>	( <i>ge-</i> )	1
<i>or-</i>	( <i>ge-</i> )	2	<i>ymb(e)-</i>	<i>ge-</i>	1
<i>tō-</i>	<i>ge-</i>	1			

Table 1. *Combinations of final and pre-final prefixes.*

As can be seen in table 1, the combination of two prefixes is usually based on the presence of *ge-* as the inner element. That is, affixes tend to combine with *ge-* prefixed bases. For the present quantification, examples have been taken into account even if the prefix *ge-* has not been maintained through the derivation, which constitutes, in fact, the tendency in this kind of predicates formed recursively. Consider (5) as an illustration:

- (5) *andlōman* ‘untensils’ ((*ge*)*lōma* ‘tool’), *forerīm* ‘prologue’ ((*ge*)*rīm* ‘number’), *ofertrūwa* ‘over-confidence’ ((*ge*)*trūwa* ‘fidelity’), *orðanc* ‘intelligence’ ((*ge*)*ðanc* ‘thought’), *unmōd* ‘depression’ ((*ge*)*mōd* ‘heart, mind’)

As for the rest of prefixes, only *un-* combines with affixes different from *ge-*, including *ā-* (1 instance), *for-* (1 instance), and *ful-* (1 instance), as (6) shows:

- (6) *unāblinn* ‘irrepressible state, unceasing presence’  
*unfortredde* ‘the plant which cannot be killed by treading’  
*unfulfremming* ‘imperfection’

Regarding the prefix *ge-*, it cannot be separated from the base by means of the combination with an inner prefix, that is, it can never appear in the outer slot of the base pre-field. Whenever this prefix appears in a recursive formation it occupies the slot closer to the base. Some examples are provided under (7):

- (7) *æfgerēfa* ‘extractor’  
*ingepanc* ‘thought, mind’  
*misgedwiold* ‘error, perversion’  
*ungemaca* ‘not a match, not an equal’



The study on the separability of prefixes, however, is constrained by the limited distribution when two prefixes combine.

Considering prefixed nouns with pre-final suffixation, the data obtained from this part of the research are summarised in table 2:

<b>Final Prefix</b>	<b>Pre-final Suffix</b>	<b>Occurences</b>	<b>Final Prefix</b>	<b>Pre-final Suffix</b>	<b>Occurences</b>
<i>ā-</i>	<i>-t</i>	1	<i>ofer-</i>	<i>-els</i>	1
<i>and-</i>	<i>-en</i>	1	<i>ofer-</i>	<i>-ing/-ung</i>	4
<i>and-</i>	<i>-nes</i>	1	<i>ofer-</i>	<i>-nes</i>	7
<i>and-</i>	<i>-t</i>	1	<i>ofer-</i>	<i>-t</i>	3
<i>be-</i>	<i>-en</i>	1	<i>on-</i>	<i>-ing/-ung</i>	6
<i>be-</i>	<i>-t</i>	1	<i>on-</i>	<i>-nes</i>	2
<i>ed-</i>	<i>-ing/-ung</i>	2	<i>on-</i>	<i>-t</i>	2
<i>ed-</i>	<i>-nes</i>	1	<i>sam-</i>	<i>-en</i>	1
<i>ed-</i>	<i>-t</i>	3	<i>sam-</i>	<i>-t</i>	1
<i>for(e)-</i>	<i>-els</i>	1	<i>sin-</i>	<i>-en</i>	1
<i>for(e)-</i>	<i>-end</i>	1	<i>sin-</i>	<i>-nes</i>	1
<i>for(e)-</i>	<i>-ing/-ung</i>	7	<i>tō-</i>	<i>-end</i>	1
<i>for(e)-</i>	<i>-nes</i>	2	<i>tō-</i>	<i>-ing/-ung</i>	5
<i>for(e)-</i>	<i>-rāden</i>	1	<i>tō-</i>	<i>-nes</i>	4
<i>forþ-</i>	<i>-nes</i>	4	<i>un-</i>	<i>-dōm</i>	1
<i>fram-</i>	<i>-ing/-ung</i>	2	<i>un-</i>	<i>-en</i>	2
<i>fram-</i>	<i>-nes</i>	1	<i>un-</i>	<i>-ere</i>	3
<i>frāa-</i>	<i>-ere</i>	1	<i>un-</i>	<i>-ing/-ung</i>	12
<i>full-</i>	<i>-en</i>	1	<i>un-</i>	<i>-nes</i>	19
<i>in-</i>	<i>-els</i>	1	<i>un-</i>	<i>-scipe</i>	2
<i>in-</i>	<i>-en</i>	2	<i>un-</i>	<i>-t</i>	6
<i>in-</i>	<i>-end</i>	1	<i>under-</i>	<i>-end</i>	1
<i>in-</i>	<i>-ere</i>	2	<i>under-</i>	<i>-ing/-ung</i>	1
<i>in-</i>	<i>-ing/-ung</i>	8	<i>under-</i>	<i>-t</i>	1
<i>in-</i>	<i>-ling</i>	1	<i>ūp-</i>	<i>-ing/-ung</i>	1
<i>in-</i>	<i>-nes</i>	5	<i>ūp-</i>	<i>-nes</i>	1
<i>in-</i>	<i>-t</i>	2	<i>ut-</i>	<i>-ing/-ung</i>	2
<i>med-</i>	<i>-en</i>	1	<i>ūt-</i>	<i>-t</i>	1
<i>med-</i>	<i>-ing/-ung</i>	3	<i>wan-</i>	<i>-t</i>	1
<i>med-</i>	<i>-t</i>	2	<i>wiþ-</i>	<i>-nes</i>	1
<i>mis-</i>	<i>-ere</i>	1	<i>wiper-</i>	<i>-ig</i>	1
<i>mis-</i>	<i>-ing/-ung</i>	1	<i>ymb(e)-</i>	<i>-ing/-ung</i>	2
<i>mis-</i>	<i>-nes</i>	2	<i>ymb(e)-</i>	<i>-nes</i>	1
<i>of-</i>	<i>-ing/-ung</i>	1			

Table 2. Final prefixation - pre-final suffixation.

The combination of an outer prefix and an attached-to-base suffix is richer than the combination of two prefixes. Firstly, the number of affixes that admit suffixed bases is higher, and, secondly, the variety of suffixes occurring in pre-final position is wider than that of prefixes, where, as I have remarked above, *ge-* occurs in the vast majority of cases. As for the suffixes, *-ing/-ung* and *-nes* combine with 15 different prefixes each, followed by *-t*, with 12 combinations, and *-en* with 10. On a second level we find *-end* (4) and *-els* (3), and on a third and final level we must include *-dōm*, *-ling*, and *-scipe*, the three of which appear as pre-final in just one case, combining with the prefixes *un-*, *in-*, and *un-* respectively. Consider (8) as illustration:

- (8) *-nes*: *andcȳþnes* ‘evidence’; *forþlædnes* ‘bringing forth’; *unmægnes* ‘weariness’; *ybbbīgnes* ‘bending round’  
*-ing*: *foremearcung* ‘title, chapter’; *framierning* ‘outflowing’; *inēþung* ‘inspiration, breathing’; *miscenning* ‘a mistake or variation in pleading before a court’; *onēhting* ‘persecution’  
*-t*: *edsihþ* ‘looking again, respect’; *insiht* ‘narrative’; *onēht* ‘possession’; *unmyrþ* ‘sadness’; *wanēht* ‘want, poverty’  
*-en*: *andleofen* ‘nourishment, food’; *fullmægen* ‘great power’; *inseten* ‘an institution’; *ungȳmen* ‘carelessness’  
*-end*: *forefrēfrend* ‘proconsul’; *inbūend* ‘inhabitant’; *tōhlystend* ‘listener’; *underandfōnd* ‘receiver’  
*-els*: *forescyttels* ‘bolt, bar’; *inrēcels* ‘incense’; *oferwrigels* ‘covering’  
*-dōm*: *unwīsdōm* ‘unwisdom, imprudence’  
*-ling*: *inbyrdling* ‘slave born in a master’s house; native’  
*-scipe*: *unarodscipe* ‘remissness, cowardice’

The small range of distribution of these suffixes as pre-final is indicative of their mainly final character, as well as of their tendency to occupy slots further away from the base. That should be confirmed when analysing the combinatorial properties of suffixes with respect to prefixes and other suffixes. To finish off the analysis of the prefixation of suffixed bases, I focus on the range of combinations that prefixes admit and which vary from the single combinations of *ā-*, *frēa-*, *forþ-*, *ful-*, *of-*, *wan-*, and *wiþ-* to the multiple combinations admitted by *for(e)-* (5 instances), *in-* (8), *ofer-* (4), or *un-* (7) which are displayed in (9a) and (9b):

- (9) a. Final prefixes occurring with an only pre-final suffix  
*ā-*: *āfyrmþa* ‘sweepings, rubbish’  
*frēa-*: *frēareccere* ‘prince’  
*forþ-*: *forþspōwnes* ‘prosperity’  
*ful-*: *fullmægen* ‘great power’  
*of-*: *oftrahtung* ‘a pulling out’  
*wan-*: *wanēht* ‘want, poverty’  
*wiþ-*: *wiþmētednes* ‘invention, device’

b. Final prefixes with different pre-final suffixes

for(e)-: *forefrēfrend* ‘proconsul’; *foregīmnnes* ‘observation’; *foremearcung* ‘title, chapter’; *forescyttels* bolt, ‘bar’; *foreþingræden* ‘intercession’

in-: *inbūend* ‘inhabitant’; *inbyrdling* ‘slave born in a master’s house; native’; *indtegelnes* ‘hiding-place’; *indryhto* ‘honour, glory’; *inrēcelles* ‘incense’; *inscēawere* ‘inspector’; *inseten* ‘an institution’; *intrahtnung* ‘interpretation’

ofer-: *oferbiternes* ‘excessive bitterness’; *ofercostung* ‘great tribulation’; *ofersælþ* ‘excessive pleasure’; *oferwrigels* ‘covering’

un-: *unarodscipe* ‘remissness, cowardice’; *unmægnnes* ‘weariness’; *unmeltung* ‘indigestion’; *unmyrhþ* ‘sadness’; *unswefn* ‘bad dream’; *unwītsdōm* ‘unwisdom, imprudence’; *unwritere* ‘incorrect copyist’

The third group in this affix classification includes the final suffixes combined with pre-final prefixes. Table 3 renders the qualitative and quantitative analysis of these combinations:

Suffix	Prefix	Occurences	Suffix	Prefix	Occurences	Suffix	Prefix	Occurences
-dōm	arce-	1	-inzel	ge-	1	-nes	ge-	138
-dōm	ge-	3	-ing/ung	ā-	35	-nes	in-	4
-dōm	un-	1	-ing/ung	æfter-	1	-nes	med-	3
-el	æfter-	1	-ing/ung	æt-	2	-nes	of-	5
-el	be-	1	-ing/ung	and-	3	-nes	ofer-	19
-el	for(e)-	1	-ing/ung	be-	22	-nes	on-	44
-el	ge-	17	-ing/ung	ed-	5	-nes	onweg-	1
-el	ofer-	1	-ing/ung	el-	1	-nes	or-	8
-el	on-	1	-ing/ung	for(e)-	26	-nes	op-	1
-en	ed-	1	-ing/ung	forþ-	4	-nes	sin-	2
-en	ge-	13	-ing/ung	ge-	247	-nes	tō-	32
-en	on-	1	-ing/ung	in-	1	-nes	twi-	3
-end	ed-	2	-ing/ung	mis-	1	-nes	þurh-	3
-end	for(e)-	2	-ing/ung	ō-	2	-nes	un-	84
-end	ge-	12	-ing/ung	of-	2	-nes	under-	2
-end	ofer-	1	-ing/ung	ofer-	4	-nes	ūp-	3
-end	tō-	1	-ing/ung	on-	23	-nes	ūt-	1
-end	un-	1	-ing/ung	or-	1	-nes	wan-	1
-end	ymb-	1	-ing/ung	op-	1	-nes	wiþ-	6
-ere	æfter-	1	-ing/ung	tō-	9	-nes	wiþer-	5
-ere	be-	2	-ing/ung	þurh-	2	-nes	ymb-	4
-ere	for(e)-	6	-ing/ung	un-	4	-ræden	ge-	6
-ere	ful-	1	-ing/ung	under-	3	-scipe	ed-	1
-ere	ge-	63	-ing/ung	ūp-	1	-scipe	ge-	13
-ere	ō-	1	-ing/ung	wan-	1	-scipe	or-	2
-ere	ofer-	1	-ing/ung	wiþ-	1	-scipe	sin-	1
-estre	be-	1	-ing/ung	wiþer-	2	-t	be-	1
-estre	for(e)-	3	-ing/ung	ymb-	9	-t	ed-	1
-estre	ful-	1	-nes	ā-	49	-t	ge-	32
-estre	ge-	11	-nes	æfter-	3	-t	on-	1

Suffix	Prefix	Occurences	Suffix	Prefix	Occurences	Suffix	Prefix	Occurences
-estre	ofer-	1	-nes	æt-	5	-t	or-	1
-hād	arce-	1	-nes	and-	7	-t	un-	2
-hād	ful-	1	-nes	be-	13	-t	wan-	1
-hād	ge-	2	-nes	for(e)-	39	-wist	ge-	1
-hād	un-	1	-nes	forþ-	6			
-icge	ā-	1	-nes	ful-	1			

Table 3. *Final suffixation – pre-final prefixation.*

As can be seen in table 3, *-ing/ung* and *-nes* are the most productive suffixes in suffix-prefix combinations, if both the number of affixes they can combine with and the number of predicates they give rise to are taken into account. A third aspect in which *-ing/ung* and *-nes* stick out has to do with the productivity of combinations. Of all the possible suffix-prefix combinations with suffixes different from *-ing/ung* and *-nes*, only the pattern *for(e)-ere* is responsible for more than 5 predicates. More specifically, the instances in which this combination shows up is 6, the resulting predicates being *foreþingere* ‘intercessor’, *foreiernere* ‘forerunner’, *forescāwere* ‘a foreshewer’, *forlētere* ‘a forsaker’, *forliger 1* ‘adultery, fornication’ and *forliger 2* ‘adulterer, adulteress’.

To close the analysis of the affix combinations in the two final steps of derivation, the attachment of two final bound morphemes is considered. Table 4 offers the figures thrown by these combinations.

Final Suffix	Pre-final Suffix	Occurences	Final Suffix	Pre-final Suffix	Occurences
-dōm	-en	2	-ing/ung	-ol	1
-dōm	-ere	1	-ing/ung	-sum	4
-dōm	-ig	2	-ing/ung	-t	7
-dōm	-ing/ung	1	-ling	-t	3
-dōm	-or	1	-nes	-bāre	4
-dōm	-t	3	-nes	-cund	3
-en	-t	1	-nes	-dōm	1
-end	-t	1	-nes	-ed	4
-end	-wīts	1	-nes	-el	5
-ere	-en	2	-nes	-en	9
-ere	-ig	1	-nes	-end	2
-ere	-t	1	-nes	-er	7
-estre	-icge	1	-nes	-ere	1
-estre	-lāc	2	-nes	-fæst	12
-hād	-dōm	1	-nes	-feald	3
-hād	-ed	1	-nes	-ful	18
-hād	-en	2	-nes	-hād	1
-hād	-ere	1	-nes	-ig	30

Final Suffix	Pre-final Suffix	Occurences	Final Suffix	Pre-final Suffix	Occurences
-hād	-ing/ung	1	-nes	-ing/ung	4
-hād	-lāc	1	-nes	-isc	2
-hād	-t	1	-nes	-lāc	2
-in cel	-en	1	-nes	-leas	11
-in cel	-t	1	-nes	-lic	48
-ing/ung	-el	4	-nes	-mōd	9
-ing/ung	-en	3	-nes	-ol	18
-ing/ung	-er	2	-nes	-rāden	1
-ing/ung	-ful	1	-nes	-sum	18
-ing/ung	-hād	1	-nes	-t	2
-ing/ung	-ig	2	-nes	-wende	1
-ing/ung	-lāc	6	-nes	-wīs	4
-ing/ung	-lēas	1	-rāden	-ol	1
-ing/ung	-lic	1	-rāden	-t	1
-ing/ung	-mōd	1	-t	-lēas	29

 Table 4. *Final suffixation – pre-final suffixation.*

The conclusion that can be drawn from the analysis of the data in table 4 is that, again, the suffixes *-ing/ung* and *-nes* play the most relevant role in these affix combinations. As regards *-hād* and *-dōm*, they may be combined with a high number of pre-final suffixes, 6 in the case of *-dōm* (*-en*, *-ere*, *-ig*, *-ing*, *-or* and *-t*) and 7 in the case of *-hād* (*-dōm*, *-ed*, *-en*, *-ere*, *-ing*, *-lāc* and *-t*), but the patterns are not very productive, as it is the combination *-t* *-dōm* the one that displays the maximal number of double suffixed predicates, with a total of 3 instances (*dryhdōm* ‘noble judgement’, *hæftedōm* ‘slavery, captivity’ and *þēowtdōm* ‘service’). Other instances are shown in (10):

- (10) *-dōm*: *crīstendōm* ‘Christendom, the church, Christianity’; *dysigdōm* ‘folly, ignorance’; *hāligdōm* ‘holiness’; *wiccungdōm* ‘witchcraft’  
*-hād*: *druncenhād* ‘drunkenness’; *geoguphād* ‘state of youth’; *þēowtdōmhād* ‘service’; *þrōwerhād* ‘martyrdom’; *wāpnedhād* ‘male sex’

So far, I have summarised the situation of double final suffixation, but the analysis of the recursivity of morphological processes has also revealed the existence of complex structures in which the derivational processes of prefixation and suffixation feed each other alternatively. However, it is possible to widen the limited distribution of double prefixation by considering those cases in which the two prefixes occur immediately before and after a process of suffixation. Thus defined, the picture of the separability of prefixes is as follows in table 5.

Outer prefix	Inner prefix	Occurrences	Outer prefix	Inner prefix	Occurrences
<i>æfter</i>	( <i>ge-</i> )	1	<i>tō-</i>	<i>æt</i>	1
<i>æt</i>	( <i>ge-</i> )	3	<i>tō-</i>	<i>ge-</i>	2
<i>and</i>	( <i>ge-</i> )	1	<i>tō-</i>	( <i>ge-</i> )	2
<i>for(e)-</i>	( <i>ge-</i> )	4	<i>un-</i>	<i>ā-</i>	1
<i>for(e)</i>	<i>ge-</i>	1	<i>un-</i>	<i>and-</i>	1
<i>in-</i>	( <i>ge-</i> )	4	<i>un-</i>	<i>wiþ-</i>	1
<i>mid-</i>	( <i>ge-</i> )	2	<i>un-</i>	<i>for</i>	1
<i>mis-</i>	( <i>ge-</i> )	1	<i>un-</i>	<i>ful-</i>	1
<i>of-</i>	( <i>ge-</i> )	2	<i>un-</i>	( <i>ge-</i> )	18
<i>ofer-</i>	( <i>ge-</i> )	4	<i>un-</i>	<i>ge-</i>	5
<i>ofer-</i>	<i>ge-</i>	4	<i>un-</i>	<i>tō</i>	1
<i>on-</i>	<i>ā-</i>	1	<i>ūp-</i>	<i>ā</i>	3
<i>on-</i>	<i>be-</i>	1	<i>ūt-</i>	( <i>ge-</i> )	1
<i>on-</i>	( <i>ge-</i> )	2	<i>wiþ</i>	<i>ge-</i>	1
<i>on-</i>	<i>ge-</i>	1	<i>wiþer-</i>	( <i>ge-</i> )	1
<i>onweg-</i>	<i>ā-</i>	1	<i>ymb(e)-</i>	( <i>ge-</i> )	1
<i>or-</i>	( <i>ge-</i> )	2	<i>ymb(e)</i>	<i>ge-</i>	1

Table 5. *Separable prefixes and inner prefixes.*

Table 5 includes the data offered in table 1, with the addition of the affixal combinations of more complex morphological structures. Thus, we find an increase in the combinatorial possibilities of *un-*, which comes to be final with respect to *and-*, *tō-* and *wiþ-* (apart from *ā-*, *for-* and *ful-*, as indicated in table 1). It is also relevant to notice the combination of final *on-* with respect to inner prefixes different from *ge-*, as is the case with *ā-* and *be-*, or the presence of final *ūp-* with respect to *ā-*. Some instances of these combinations are presented in (11):

- (11) *untōdælednes* ‘undividedness’; *unwiþmetenes* ‘incomparability’; *onāsetednes* ‘a lying on (of hands)’; *onāscunung* ‘excretion, abomibation’; *ūpārisnes* ‘resurrection’; *ūpāfangnes* ‘reception, assumption’

These quantitative data show the existence of recurrent combinations of affixes, which constitute affix loops in the terminology proposed by Lieber (2004). Figure 1 summarizes those combinations, which are found in all four final - pre-final derivational configurations.

AFFIX COMBINATION IN OLD ENGLISH NOUN FORMATION: DISTRIBUTION AND CONSTRAINTS

<b>Prefix-Prefix</b>	<b>Prefix-Suffix</b>	<b>Suffix-Prefix</b>	<b>Suffix-Suffix</b>
<i>of- ge-</i>	<i>ed- -ing/ung</i>	<i>-end ed-</i>	<i>-dōm -en</i>
<i>ofer- ge-</i>	<i>ed- -t</i>	<i>-end for(e)-</i>	<i>-dōm -ig</i>
<i>on- ge-</i>	<i>for(e)- -ing/ung</i>	<i>-end ymb(e)-</i>	<i>-dōm -t</i>
<i>or- ge-</i>	<i>for(e)- -nes</i>	<i>-ere be-</i>	<i>-ere -en</i>
<i>un- ge-</i>	<i>forþ- -nes</i>	<i>-ere for(e)-</i>	<i>-estre -lēc</i>
	<i>fram- -ing/ung</i>	<i>-ere ō-</i>	<i>-hād -en</i>
	<i>in- -en</i>	<i>-estre for(e)-</i>	<i>-ing/ung -el</i>
	<i>in- -ere</i>	<i>-ing/ung ā-</i>	<i>-ing/ung -en</i>
	<i>in- -ing/ung</i>	<i>-ing/ung æt-</i>	<i>-ing/ung -ig</i>
	<i>in- -nes</i>	<i>-ing/ung and-</i>	<i>-ing/ung -lēc</i>
	<i>in- -t</i>	<i>-ing/ung be-</i>	<i>-ing/ung -sum</i>
	<i>med- -ing/ung</i>	<i>-ing/ung for(e)-</i>	<i>-ing/ung -t</i>
	<i>med- -t</i>	<i>-ing/ung forþ-</i>	<i>-ling -t</i>
	<i>mis- -nes</i>	<i>-ing/ung ō-</i>	<i>-nes -bære</i>
	<i>ofer- -ing/ung</i>	<i>-ing/ung of-</i>	<i>-nes -cund</i>
	<i>ofer- -nes</i>	<i>-ing/ung ofer-</i>	<i>-nes -ed</i>
	<i>ofer- -t</i>	<i>-ing/ung on-</i>	<i>-nes -el</i>
	<i>on- -ing/ung</i>	<i>-ing/ung tō-</i>	<i>-nes -en</i>
	<i>on -nes</i>	<i>-ing/ung þurh-</i>	<i>-nes -end</i>
	<i>on- -t</i>	<i>-ing/ung un-</i>	<i>-nes -ere</i>
	<i>tō- -ing/ung</i>	<i>-ing/ung under-</i>	<i>-nes -fæst</i>
	<i>tō- -nes</i>	<i>-ing/ung wiper-</i>	<i>-nes -feald</i>
	<i>un- -en</i>	<i>-ing/ung ymb(e)-</i>	<i>-nes -ful</i>
	<i>un- -ere</i>	<i>-nes ā-</i>	<i>-nes -ig</i>
	<i>un- -ing/ung</i>	<i>-nes æfter-</i>	<i>-nes -ing/ung</i>
	<i>un- -nes</i>	<i>-nes æt-</i>	<i>-nes -isc</i>
	<i>un- -scipe</i>	<i>-nes and-</i>	<i>-nes -lēc</i>
	<i>un- -t</i>	<i>-nes be-</i>	<i>-nes -lēas</i>
	<i>ūt- -ing/ung</i>	<i>-nes for(e)-</i>	<i>-nes -lic</i>
	<i>ymb(e)- -ing/ung</i>	<i>-nes forþ-</i>	<i>-nes -mōd</i>
		<i>-nes in-</i>	<i>-nes -ol</i>
		<i>-nes med-</i>	<i>-nes -sum</i>
		<i>-nes of-</i>	<i>-nes -t</i>
		<i>-nes ofer-</i>	<i>-nes -wīs</i>
		<i>-nes on-</i>	<i>-t -lēas</i>
		<i>-nes or-</i>	
		<i>-nes sin-</i>	
		<i>-nes tō-</i>	
		<i>-nes twi-</i>	
		<i>-nes þurh-</i>	
		<i>-nes un-</i>	
		<i>-nes under-</i>	
		<i>-nes ūþ-</i>	
		<i>-nes wip-</i>	
		<i>-nes wiper-</i>	
		<i>-nes ymb(e)</i>	
		<i>-scipe or-</i>	

Figure 1. Affix loops.

Figure 1 shows the richness and stability of Old English as regards lexical creation. If this stage of the language is characterized by a rich derivational system, the data discussed here indicate that the system is also consistent, stable and productive. However, some differences clearly turn up when comparing the forms of these affix loops.

Firstly, it must be noted that the number of combinations is more relevant when a suffix occurs as the final element. Final prefixation is fairly limited in recursively-affixed nouns. As a general rule, recursive prefixation only occurs when the affix closer to the base is *ge-*. There are only five different affixes appearing in these combinations, including *of-*, *ofer-*, *on-*, *or-*, and *un-*. Final prefixation is more frequent when the pre-final bound morpheme appears to the right of the base. There are thirty different structures following this pattern, although, not a great variety of prefixes take part. In fact, there are only thirteen distinct prefixes, with a clear preference for the use of *un-* and *in-*, which turn up in six and five structures each, thus accounting for 1/3 of the total number of forms. Regarding pre-final suffixes, a vast majority of combinations include *-ing/-ung* or *-nes*, although the suffixes *-en*, *-ere*, and *-t* also appear in more than one combination. One more suffix belongs to this group, namely *-scipe*, which combines exclusively with the prefix *un-*.

When final suffixation takes place, the number of loops increases considerably. As regards recursive suffixation, it must be noted that is unconstrained, as was the case with prefixation. There are thirty-five different structures, which contrasts with the five loop formations made up of two prefixes. Nonetheless, however relevant the number of recursive suffixation forms may be, it must be borne in mind that around half of them comprise the final suffix *-nes*. Another six combinations include *-ing/-ung* as the final affix while in three other instances it is the *-dōm* that puts an end to the derived word. These three suffixes are the only ones that give way to more than one affix loop structure in recursive suffixation. The bound morphemes *-ere*, *-estre*, *-hād*, *-ling* and *-t* also participate in words suffixed recursively, but they only give way to a single affix loop structure.

This situation with final suffixation does not differ much when the pre-final affix appears to the left of the base of derivation. Although there are forty-seven different loops, only eight of them do not feature the final suffixes *-ing/-ung* or *-nes*. Apart from *-ing* and *-nes*, four suffixes turn up in loops, namely *-end* (3 loops), *-ere* (3 loops), *-estre* (1 loop), and *-scipe* (1 loop). It is interesting to remark that only two semantic functions are performed by these six affixes. Firstly, abstract noun creations, by means of *-ing*, *-nes* and *-scipe*, and, secondly, agentive formations, through *-end*, *-ere* and *-estre*.

Given the general panorama of recursive affixation in noun formation described above, the following section sheds light upon the questions posed by this journal article and summarises the conclusions that have been reached.

#### 4. DISCUSSION AND CONCLUSIONS

I have begun this article by raising a number of explanatory questions which are repeated here for convenience: (i) Is the distinction between Germanic and Old English nominal affixes comparable to the one between native and non-native holding in



Present-Day English? (ii) Is the difference between more separable and less separable nominal affixes in Old English relevant? (iii) Are there closing affixes in Old English noun formation? (iv) Are there affix loops in Old English nouns? And (v) is there a constraint on the number of affixes attached to a nominal base? The analysis that has been reported in sections 2 and 3 has turned out the results discussed below. To close the section, I summarise the main contributions of the research.

Considering the nature of the prefixes, I must point out that a division as the one existing in Present Day English based on the Germanic and non Germanic character the affixes does not hold. As I have remarked above, the Old English lexicon is purely Germanic, and the influence of foreign languages is not sufficient to establish such a difference. Although some affixes and patterns are borrowed (Kastovsky 1992), only the Latin forms *arce-* in *arcebiscop* ‘archbishop’ and further derivatives with this form and *sub-*, as in *subd̄acon* ‘subdeacon’ have been identified in this research. As for the patterns, the influence affects the formation of verbs much more directly than the one of nouns (Martín Arista 2008, 2010a).

This research has proved the existence of constraints as regards the linearization, combination and categorization of affixes. Thus, a distinction must be drawn between the constraints applying to prefixes and those applying to suffixes.

Taking the pure prefixes proposed by de la Cruz (1975) as the oldest forms of prefield bound morphemes, some relevant data can be stressed. Of the set of affixes consisting of *tō-*, *ā-*, *on-*, *ge-*, *for(e)-*, *of-* and *be-*, only *on-* can be final with respect to some other element of the paradigm different from the prefix *ge-* (it can combine with pre-final *ā-* and *be-*). The prefixes *tō-*, *for(e)-* and *of-* are final only with respect to *ge-*. The prefixes that occur in final derivational steps are never found in pre-final steps and occupy the slots further away from the base, so they can be considered as more separable than the rest. On the other hand, those prefixes that appear in pre-final derivational steps do not allow to be separated from the base by means of previous prefixation. In general terms, and although not belonging in the group of pure affixes proposed by de la Cruz (1975), the prefix *un-* is the one that has a more separable character, since it can be attached after a wide range of affixes. It is significant that special provisions have had to be made for *ge-* and *un-* throughout the research. This is probably due to two reasons. Firstly, the prefix *ge-* is the most type-frequent in the Old English lexicon, followed by *un-*. The conclusion in this respect is that the combinatorial properties are related to (if not a function of) type frequency. The other reason, which applies to *ge-* only, has to do with grammaticalization and loss. Indeed, the prefix *un-* is still productive in Present-day English, whereas the prefix *ge-* undergoes a process of semantic fading (Horgan 1980; Hiltunen 1983; Kastovsky 1992), becomes inflective through a process of grammaticalization (Martín Arista *fc.-c*) and eventually disappears (Stanley 1982). This grammaticalization must be seen in the wider context of the loss of the pure prefixes and their replacement with spatial adverbs and prepositions that express telic *Aktionsart* (Brinton and Traugott 2005). That is, type frequency and semantics contribute to the degree of separability of the affixes in question. Regarding frequency, we are dealing

with the most frequent affixes in the lexicon and, with respect to meaning, *ge-* has lost semantic content or got lexicalized and *un-* serves a wide array of functions associated with lexical negation and, as such, is combinable for reasons of semantic compatibility with all major lexical categories (Martín Arista 2010b).

The case with suffixes is different, for they can be linearized in more different positions, with the same suffix occupying closer and further away slots with respect to the base. However, in final – pre-final suffixation, the combinations, and thus, the order of affixes is kept. In other words, two different suffixes cannot be final with respect to each other. Just one linearization is possible. As in affixation, combinability is determined by type frequency. In this respect, the suffixes *-ing/ung* and *-nes*, which stand out as the most type-frequent, partake in the vast majority of these affix combinations. In more complex suffixed nouns, those which present more than two suffixation processes, as in *wuldorfestlicnes* ‘glory’ or *ealdordōmlicnes* ‘authority, control’, two selectional constraints hold. The examples demonstrate that whenever recursive suffixation is at stake, it always implies recategorization. Apart from this, the conclusion can be drawn that the same affix cannot appear twice in this kind of constructions for reasons of semantic compatibility, which is applicable to both prefixes and suffixes.

Considering the existence of closing affixes, figure 2 offers a set of reversed final – pre-final derivations that demonstrates that Old English had no trace of closing affixes.

<b>Final prefix</b>	<b>Pre-final Suffix</b>	<b>Final Suffix</b>	<b>Pre-final affix</b>
<i>for(e)-</i>	<i>-ing/ung</i>	<i>-ing/ung</i>	<i>fore-</i>
<i>for(e)-</i>	<i>-nes</i>	<i>-ing/ung</i>	<i>ofer-</i>
<i>forþ-</i>	<i>-nes</i>	<i>-ing/ung</i>	<i>on-</i>
<i>in-</i>	<i>-nes</i>	<i>-ing/ung</i>	<i>tō-</i>
<i>ofer-</i>	<i>-ing</i>	<i>-ing/ung</i>	<i>un-</i>
<i>ofer-</i>	<i>-nes</i>	<i>-nes</i>	<i>for(e)-</i>
<i>on-</i>	<i>-ing</i>	<i>-nes</i>	<i>forþ-</i>
<i>on-</i>	<i>-nes</i>	<i>-nes</i>	<i>in-</i>
<i>tō-</i>	<i>-ing</i>	<i>-nes</i>	<i>ofer-</i>
<i>tō-</i>	<i>-nes</i>	<i>-nes</i>	<i>on-</i>
<i>un-</i>	<i>-ing</i>	<i>-nes</i>	<i>tō-</i>
<i>un-</i>	<i>-nes</i>	<i>-nes</i>	<i>un-</i>

Figure 2. *Bidirectional affix recursivity.*

In all these combinations, the suffixes involved are *-ing/-ung* and *-nes*. In fact, except for the combinations of *in-* and *forþ-* with the final or pre-final suffix *-nes*, the prefixes taking part in these structures are the same, namely, *for(e)-*, *ofer-*, *on-*, *tō-* and *un-*. This constitutes clear evidence against the existence of closing affixes in Old English. The fact that regardless of the type of affixal combination, the prefix *un-* and the suffixes *-ing/-ung* and *-nes* present a wider distribution in final derivational steps does not demonstrate their

status of closing affixes. While it is true that *-nes* can be final with respect to *un-*, as in *unārwyꝥnes* ‘irreverence’, *unrihtnes* ‘wickednes’ or *untrunnes* ‘weakness’, and also with respect to *-ing/-ung*, as in *fyrbringnes* ‘furtherance’, *gegearwungnes* ‘preparation’, *līthingnes* ‘lightnes of taxation’ and *þurhwunungnes* ‘perseverance’, it also holds good that *-nes* occupies a pre-final slot in *unforhæfednes* ‘incontinence’ and *ungeh̄trsumnes* ‘disobedience’. In spite of these facts, a set of three suffixes has been identified that do not admit further affixation, including *-incel*, *-estre* and *-wist*. The suffixes *-incel* and *-wist* take part, respectively, in 3 and 1 processes of recursive affixation, which give rise to 3 and 1 predicates, respectively. These figures are by no means representative, and do not constitute evidence strong enough so as to claim their status of closing affixes. The case with *-estre* is different, as this suffix partakes in 7 different affix combinations that render a total of 20 predicates. Take (12) as illustration:

- (12) *hæftincel* ‘slave’ (*hæft* 1 ‘bond, fetter’), *wilnincel* ‘a little female servant’ (*wielen* ‘foreign slave’), *byrþincel* ‘a little burden’ ((*ge*)*beran* ‘to bear’)  
*(ge)gaderwist* ‘companionship’ (*gegadere* ‘together’)  
*bæcestre* ‘baker’ ((*gebæc* ‘baking’), *bepæcestre* ‘whore’ (*bepæcan* ‘to seduce’),  
*forgiefestre* ‘female giver’ (*forgiefan* ‘to give, grant’), *oferswīðestre* ‘victrix’  
*(oferswīðan* ‘to conquer’)

If one bears in mind that the total number of nouns suffixed with *-estre* is 47, the figures of 20 predicates is relevant and makes allowance for the proposal for *-estre* as a closing suffix in Old English recursive affixation. This leaves for future research the question of looking at other affixes that, attaching in non-recursive affixation, block recursive prefixation and suffixation.

## NOTES

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  2. I draw on Martín Arista (2008, 2009, 2011a) for the terms *prefield* and *postfield*, which refer to the structural positions of the word template that, respectively, precede and follow the word nucleus.
  3. See Mitchell (1978) on Old English separable prefixes.
  4. See González Torres (2009) for a full description of these affixes as adjuncts of derivation.
  5. For further details on numbered predicates in *Nerthus*, I refer the reader to Torre Alonso *et al.* (2008).
  6. On the prefix *ge-*, see Lindemann (1970), de la Cruz (1975) and Martín Arista (2005, fc.-c).

## REFERENCES

- Aronoff, M. and N. Fuhrhop. 2002. “Restricting suffix combination in German and English: Closing suffixes and the monosuffix constraint”. *Natural Language and Linguistic Theory* 20: 451-490.

- Bauer, L. 2007. *The Linguistics Student's Handbook*. Edinburgh: Edinburgh University Press.
- Bosworth, J. and T. N. Toller. 1973 (1898). *An Anglo-Saxon Dictionary*. Oxford: Oxford University Press.
- Brinton, L. and E. Closs Traugott. 2005. *Lexicalization and Language Change*. Cambridge: Cambridge University Press.
- Clark Hall, J. R. 1996 (1896). *A Concise Anglo-Saxon Dictionary*. Toronto: University of Toronto Press.
- De la Cruz, J. 1975. "Old English Pure Prefixes: Structure and Function". *Linguistics* 145: 47-81.
- Fabb, N. 1988. "English Suffixation is Constrained only by Selectional Restrictions". *Natural Language and Linguistic Theory* 6: 527-539.
- González Torres, E. 2009. *Affixal Nouns in Old English: Morphological Description, Multiple Bases and Recursivity*. PhD Dissertation. University of La Rioja.
- González Torres, E. 2010. "The inflection-derivation continuum and the Old English suffixes *-a, -e, -o, -u*". *Atlantis* 32 (1): 103-122.
- González Torres, E. 2011. "The bases of derivation of Old English affixed nouns: Status and category". *Studia Anglica Posnaniensia*. Forthcoming.
- Hiltunen, R. 1983. *The Decline of the Prefixes and the Beginnings of the English Phrasal Verb*. Turku: Tutun Yliopisto.
- Horgan, D. 1980. "Patterns of variation and interchangeability in some Old English Prefixes". *Neuphilologische Mitteilungen* 91: 127-130.
- Lieber, R. 2004. *Morphology and Lexical Semantics*. Cambridge: Cambridge University Press.
- Lindemann, J. W. R. 1953. "Old English preverbal *Ge-*: A re-examination of some current do". *Journal of English and Germanic Philology* 64: 65-83.
- Lindemann, J. W. R. 1970. *Old English preverbal Ge-: Its meaning*. Charlottesville, Virginia: Virginia University Press.
- Von Lindheim, B. 1958. "Die Weiblichen Genussuffixe". *Anglia: Zeitschrift für englische Philologie* 76: 479-504.
- Kastovsky, D. 1971. "The Old English suffix *-ER(E)*". *Anglia* LXXXIX 3: 285-325.
- Kastovsky, D. 1992. "Semantics and vocabulary". *The Cambridge History of the English Language I: The Beginnings to 1066*. Ed. R. Hogg. Cambridge: Cambridge University Press. 290-408.
- Lieber, R. 2004. *Morphology and Lexical Semantics*. Cambridge: Cambridge University Press.
- Mairal Usón, R. and F. Cortés Rodríguez. 2000-2001. "Semantic packaging and syntactic projections in word formation processes: The case of agent nominalizations". *Revista Española de Lingüística Aplicada* 14: 271-294.
- Martín Arista, J. 2005. "*Ge-* and the descriptive power of *Nerthus*". *Journal of English Studies* 5-6: 209-231.

- Martín Arista, J. 2008. "Unification and separation in a Functional Theory of morphology". *Investigations of the Syntax-Semantics-Pragmatics Interface*. Ed. R. Van Valin. Amsterdam: John Benjamins. 119-145.
- Martín Arista, J. 2009. "A typology of morphological constructions". *Deconstructing Constructions*. Eds., C. Butler and J. Martín Arista. Amsterdam: John Benjamins. 85-115.
- Martín Arista, J., L. Caballero González, E. González Torres, A. Ibáñez Moreno, R. Torre Alonso. 2009. Nerthus: An Online Lexical Database of Old English. <http://www.nerthusproject.com>
- Martín Arista, J. 2010a. "OE strong verbs derived from strong verbs". *SKASE Journal of Theoretical Linguistics* 7 (1): 36-56.
- Martín Arista, J. 2010b. "Lexical negation in Old English". *NOWELE-North-Western European Language Evolution*. 60/61: 89-108.
- Martín Arista, J. 2010c. "Building a lexical database of Old English: Issues and landmarks". *Current Projects in Historical Lexicography*. Ed. J. Considine. Newcastle: Cambridge Scholars Publishing. 1-33.
- Martín Arista, J. 2011a. "Morphological relatedness and zero alternation in Old English". *Morphosyntactic Alternations in English*. Eds. C. Butler and P. Guerrero Medina. London: Equinox. Forthcoming.
- Martín Arista, J. 2011b. "Adjective formation and lexical layers in Old English". *English Studies* 92 (3): 323-344.
- Martín Arista, J. 2011c. "Projections and constructions in Functional morphology: The case of Old English *HRĒOW*". *Language and Linguistics* 12 (2): 393-424.
- Martín Arista, J. "Old English lexical primes: Corpus analysis and database compilation". *Creation and Use of Historical Linguistic Corpora in Spain*. Ed. N. Vázquez. Newcastle: Cambridge Scholars. Forthcoming-a.
- Martín Arista, J. *Parasynthesis in Old English Word-Formation*. Forthcoming-b.
- Martín Arista, J. *The Old English prefix Ge-: A Panchronic Reappraisal*. Forthcoming-c.
- Martín Arista, J. *Derivational Paradigms as Evidence for Semantic Primes: The Case of Old English*. Forthcoming-d.
- Mitchell, B. 1978. "Prepositions, adverbs, prepositional adverbs, postpositions, separable prefixes or inseparable prefixes in Old English". *Neuphilologische Mitteilungen* 79: 240-257.
- Plag, I. 1999. *Morphological Productivity. Structural Constraints in English Derivation*. Berlin: Mouton de Gruyter.
- Pounder, A. 2000. *Processes and Paradigms in Word-Formation Morphology*. Berlin: Mouton de Gruyter.
- Quirk R. and C. L. Wrenn. 1994 (1955). *An Old English Grammar*. DeKalb, Illinois: Northern Illinois University Press.
- Roberts, J. 1980. "Old English *UN-* 'very' and *UNFERTH*". *English Studies* 61: 289-292.
- Samuels, M. L. 1949. *The Ge- Prefix in the Old English Gloss to the Lindisfarne Gospel*. Translations of Philological Society.

- Schabram, H. 1970. "Bemerkungen zu den Altenglischen Nomina Agentis auf *-ESTRE* und *-ICGE*". *Angliā Zeitschrift für englische Philologie* 88: 94-98.
- Stanley, E. 1982. "The prenominal prefix *Ge-* in late Old English and early Middle English". *Transactions from the Philological Society* 80 (1): 25-66.
- Sweet, H. 1976 (1896). *The Student's Dictionary of Anglo-Saxon*. Cambridge: Cambridge University Press.
- Torre Alonso, R., L. Caballero González, E. González Torres, A. Ibáñez Moreno and J. Martín Arista. 2008. "Fundamentos empíricos y metodológicos de una base de datos léxica de la morfología derivativa del Inglés Antiguo". *Revista de Lingüística y Lenguas Aplicadas* 3: 129-144.