The subjective and objective functions in Old English deverbal formations[1]

MIGUEL LACALLE PALACIOS
UNIVERSIDAD DE LA RIOJA

The aim of this paper is to analyze the Old English nominal derivatives to which the following suffixes have been attached: *-a, -bora, -e, -en, -end, -ere/-re, -icge, -estre/-istre/-ystre, -o,* and *-u*. In general, two types of derivational relationship are examined. Firstly, the explicit derivational relationship as in *bacan* 'to bake' ~ *bæcestre* 'baker', in which a full derivational morpheme turns up in the derivative, and, secondly, the implicit derivational relationship, such as the one holding in *ri:dan* 'to ride' ~ *ridda* 'rider', in which no derivational morpheme is present from a strictly synchronic point of view. The analysis is based on the derivational functions and the types of lexical derivation and category functions proposed by Lexeme-Morpheme Base Morphology. Conclusions go along the line of the subjective vs. objective profile of derivatives.
Keywords: Old English, Suffixation, Function, Subjective, Objective

1. INTRODUCTION

In general, two types of derivational relationship are examined. Firstly, the explicit derivational relationship as in *bacan* 'to bake' ~ *bæcestre* 'baker', in which a full derivational morpheme turns up in the derivative, and, secondly, the implicit derivational relationship, such as the one holding in *ri:dan* 'to ride' ~ *ridda* 'rider', in which no derivational morpheme is present from a strictly synchronic point of view. The analysis is based on the derivational functions and the types of lexical derivation and category functions proposed by Lexeme-Morpheme Base Morphology. Conclusions go along the line of the subjective vs. objective profile of derivatives.

Considering this background, this paper aims at contributing to the debate over the structure of the Old English lexicon in general and the operation of word-formation processes that is being carried out by the *Nerthus* project. With respect to the former topic, this work follows in the track of Kastovsky (1986, 1989, 1990, 1992, 2005, 2006) who has dealt with the typological shift from stem-formation to word-formation that takes place in Old English, as a result of which variable bases of derivation are replaced by invariable ones. On the topic of the word-formation processes of Old English, Martín Arista (2008, 2009, 2010a, 2010b, 2010c, fc.-a, fc.-b, fc.-c, fc.-d, fc.-e, fc.-f) has focused on derivational processes of Old English, including prefixation (*a-, ge-, un-*, etc.), adjectival suffixation and zero derivation. Another research line of the field of Old English lexicology has been concerned with the analysis of Old English semantic primes, including the works by Martín Arista and Martín de la Rosa (2006), de la Cruz Cabanillas (2007) and Guarddon Anelo (2009a, 2009b).

The data that I analyse as well as the methodology of analysis that I adopt draw on the lexical database of Old English *Nerthus* (www.nerthusproject.com).

2. DESCRIPTIVE AND THEORETICAL BACKGROUND

2.1. Old English word-formation: Nominal suffixation

In Kastovsky´s words (1992:294) "much of the OE vocabulary is derivationally related by productive word-formation patterns, and, (...) instead of borrowing a foreign, usually Latin word, the corresponding notion is often expressed by activating one of the indigenous word-formation rules, producing a so-called loan translation".

The derivational morphology of Old English uses three main processes to coin new lexemes: zero-derivation, compounding and affixation. Since this paper focuses on noun suffixation, I offer a more detailed review of this phenomenon, whereas others are skipped.

Affixation is the morphological process by means of which new lexemes are formed by the addition of an affix to a base (Beard 1998). There are two kinds of affix depending on the relation to the base to which they attach: prefixes are added before the base (*and-hweorfan* 'move against', *for-giefan* 'give up, forgive', *un-lucan* 'unlock'), whereas suffixes follow the base (*æðel-ing* 'son of a noble, prince', *freond-scipe* 'friendship', *ðicc-ett* 'thicket').

As regards prefixation, Kastovsky (1992) offers the following inventory of the commonest Old English prefixes: *a(:)-, æ:-, æf-, and-, be-, ed-, fær-, for-, ge-, mis-, or-, sam-, sa:m-, sin-, un-, wan-*. Quirk and Wrenn (1994) classify prefixes depending on the frequency of occurrence. According to these authors, the prefixes with the highest frequency include *a:-, be-/bi:-, for-, ge-, on-/an-, un-*; those with a high frequency of occurrence are *and-/ond-, in-, of-, ofer-, to:-*; and other common prefixes are *a:-/o:-, æ:-, æf-, æfter-, ed-, el-, fore-, forð-, ful-, mis-, or-, sa:m-, sin-, ðurh-, under-, u:p-, u:t-, wan-/won-, wið-, wiðer-* and *ymb(e)-*.

Turning to suffixes, Kastovsky (1992) lists the main nominal suffixes of Old English: *-d/-t/-ð, -do:m, -ele(e)/-l(a)/-ol, -els, -en, -end, -ere, -estre, -et(t), -ha:d, -incel, -ing, -la:c, -ling, -ness, -ræ:den, -scipe, -ð(o)/-t, -ung/-ing, -wist*. Quirk and Wrenn (1994) give an inventory of nominal suffixes including suffixes of very high frequency like *-nes(s)/-nis/-nys* and *-ung/-ing*; suffixes of high frequency like *-do:m, -end* and *-scipe*, and other common suffixes like *-bora, -el/-ol/-ul, -els, -en, -ere, -estre, -et(t), -ha:d, -ing, -la:c, -ling, -oð/-að, -ræ:den* and *-ð(o)/-ð(u)*.

Along with these suffixes, which bear an explicit derivational relationship because the derivational and the inflectional parts of the ending are clearly distinguishable, there are other suffixes which bear an implicit derivational relationship because the same segment expresses the derivational as well as the inflectional function. This is the case, as González Torres (2010) remarks, with the suffixes *-a, -e, -o*, and *-u*.

2.2. Lexeme-Morpheme Base Morphology: An Overview

The theoretical framework chosen for this study is Lexeme-Morpheme Base Morphology, as proposed by Beard (1995) and Beard and Volpe (2005). This theory has been chosen because it allows for a decomposition of a complex notion such as derivational relationship into simpler notions and, moreover, because it provides a unified inventory of derivational and inflectional functions compatible with phenomena of continuity between inflection and derivation such as the one just mentioned.

Lexeme-Morpheme Base Morphology is known for its strict distinction between lexemes and grammatical morphemes. Morpheme-based morphology assumes that language contains only one type of meaningful unit, the morpheme, which includes stems and affixes, all of which are signs. Lexeme-based morphology, on the contrary, assumes that only lexemes, derived or underived, are signs, and that affixes, reduplication, re-vowelling, metathesis, subtraction, stem mutation, and the like, are means of phonologically marking independent derivational operations which a lexeme might have undergone. This means that lexemes refer to something in the real world, whereas morphemes refer exclusively to universally available closed class grammatical categories (such as Tense, Aspect, and Number) and may consist of independent phonemic strings, affixes, infixes, changes in accent

or tone, or even predictable omissions (zero morphemes). Figure 1 summarizes the main differences between lexemes and morphemes as identified by Lexeme-Morpheme Base Morphology:

Lexemes	**Morphemes**
- Belong to an open class	- Belong to a closed class
- Do not allow zero or empty forms	- Allow zero or empty forms
- Have extra grammatical (real world) references	- Have grammatical functions (refer only to grammatical categories)
- May undergo lexical derivation	- May not undergo lexical derivation
- Are not paradigmatic	- Are paradigmatic
- Must be phonologically expressed	- May be phonologically expressed

Figure 1: Lexemes and morphemes in LMBM.

The basic idea, therefore, is that the lexicon contains exclusively noun, verb and adjective stems, whereas grammatical morphemes are the output of phonological operations independent of the semantic operations they realize. In this framework, affixation is reduced to an exclusively phonological operation. This is called the Separation Hypothesis. The Separation Hypothesis splits derivation, both lexical and inflectional, into three processes: lexical (L-) derivation, inflectional (I-) derivation, and morphological spelling. Derivation comprises operations on abstract lexical and inflectional category functions such as [+Plural, -Singular], [+Past, -Present], [+1st], and the like. Spelling is the purely phonological realization of the morphological categories of any base lexeme that has undergone such derivation. Its function is to distinguish stems that have undergone derivation from those which have not. If the derivation is inflectional, the marker may be attached to the lexical stem or assigned independently to a structural position in syntax in ways which syntax alone cannot predict. Lexical derivation takes place in the lexicon and inflectional derivation in the syntax. Beard (1995) distinguishes four kinds of lexical derivation: transposition, functional derivation, feature switches and expressive derivations. Transpositions change the lexical category of a lexeme. Functional derivations add a semantically interpretable category function, such as Subject, Object, Locus and Manner. Lexical switches change the value of inherent lexical features, such as Gender and expressive derivations comprise the Augmentative and Diminutive and reflect the attitude of the speaker.

The base rule component of the theory cannot be syntactic only but must accomodate both lexical operations (derivations) and high-level syntactic operations (inflections). The types of lexical derivation rules that are available to grammars, therefore, are determined by the categories of the base rule component and the lexicon. This is called the Base Rule Hypothesis.

The Universal Grammatical Function Theory stipulates that the functions of inflectional and lexical derivation are the same.

Given this overview of the theory, instances such as *bacan* 'to bake' ~ *bæcestre* 'baker' and *ri:dan* 'to ride' ~ *ridda* 'rider' imply three types of lexical derivation: a transposition whose input is a verb and whose output is a noun, a functional derivation that assigns the subjective role, and a featural switch. These three types of lexical derivation are illustrated, respectively by figures 3-5, based on Beard (1995, 2005) [where NP stands for Noun Phrase, C for Complementiser, CP for Complementiser Phrase, IP for Inflectional Phrase and VP for Verb Phrase; the basic parallel is with a sentence, in which IP contains a word level category such as *will, must,* etc. expressing verbal inflection and the Complementiser such as *that* introduces clausal complements].

NP
[Function F]

|

V
bacan
[subjects]
{BÆCESTRE}
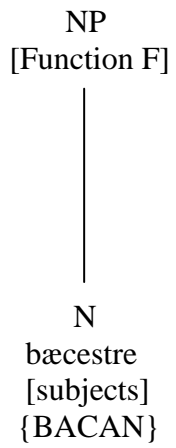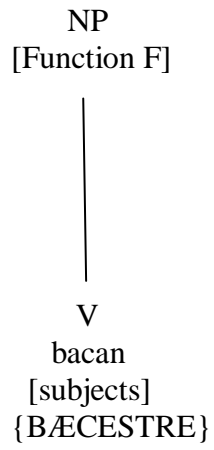

NP
[Function F]

|

N
bæcestre
[subjects]
{BACAN}

Figure 2: L-derivation in *bacan* 'to bake': *bæcestre* 'baker' (input and output of transposition).
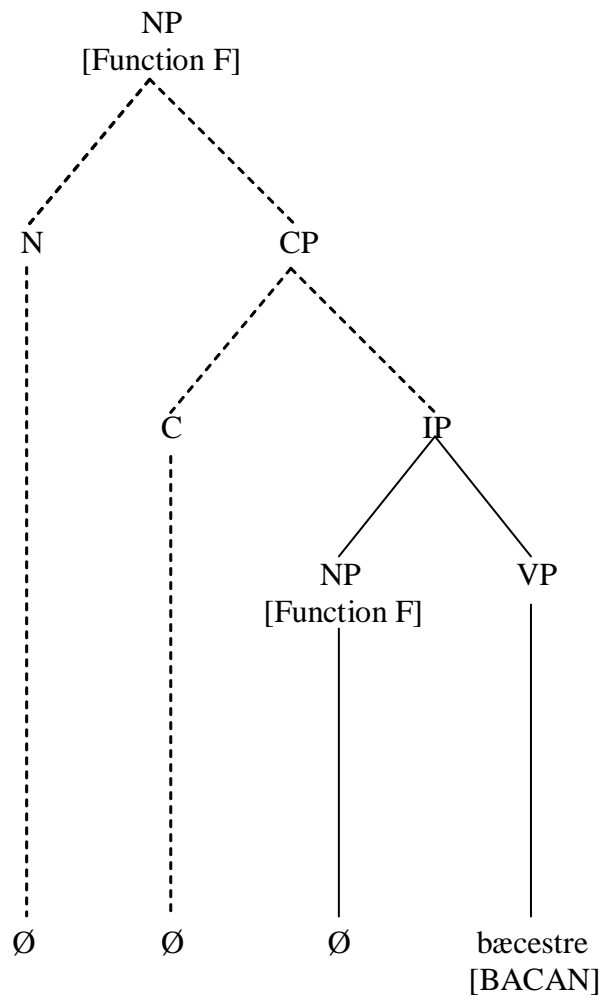
Figure 3: L-derivation in *bacan* 'to bake': *bæcestre* 'baker' (functional derivation).
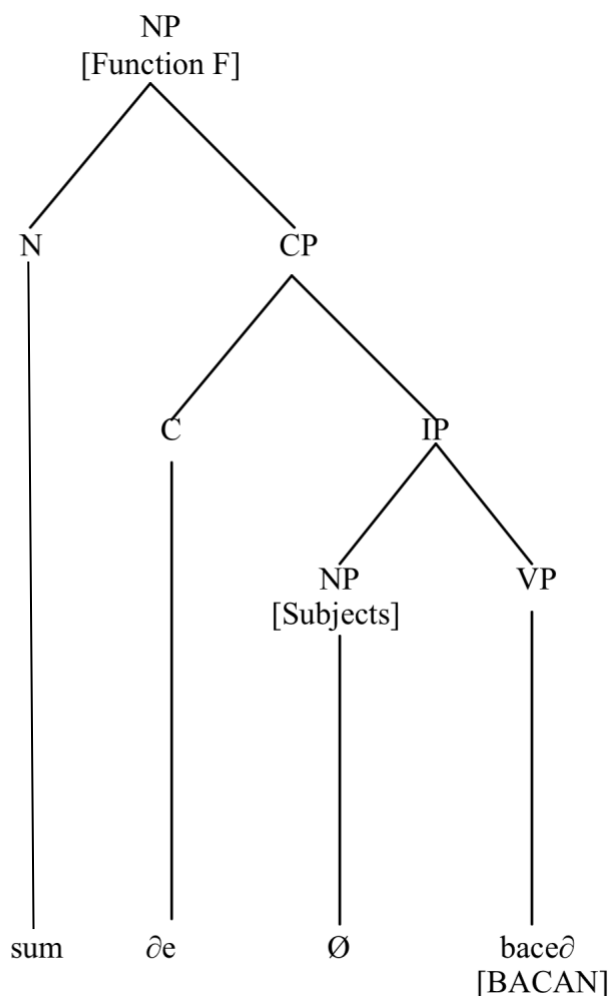
Figure 4: L-derivation in *bacan* 'to bake': *bæcestre* 'baker' (feature switch).

These representations rest on the assumption that Old English has two ways of expressing the same meaning by using an identical lexeme: one is lexical (*bæc-estre* 'bak-er'), the other is syntactic (*sum ∂e bac-e∂* 'one who bakes'). Moreover, the same functions are found in both expressions. In this particular case, there is a subjective function and an unexpressed objective function.

The remainder of this paper focuses on the subjective and objective functions realized in the lexical derivations with the affixes in (1). In the next chapter, I describe the data to begin with, and then I turn to the analysis required by the state of the art and theoretical model reviewed in this chapter.

3. ANALYSIS

This chapter presents the analysis that has been carried out. Firstly, I describe the data and then I concentrate on the derivations that comprise the suffixes at stake.

3.1. Data

The lexical database of Old English *Nerthus* turns out 480 nouns derived from verbal bases by means of the following affixes: *-a*, *-bora*, *-e*, *-en*, *-end*, *-ere*, *-estre*, *-icge*, *-o* and *-u*

The context of this figure calls for some comment. *Nerthus* contains 30,170 headwords, of which 16,694 are nouns. By derivational process, nouns can be classified as follows. There are 4,115 are basic (underived) nouns and 12,579 non-basic (derived) nouns. Within non-basic nouns there are 3,488 derived nouns and 9,091 compound nouns. Affixed nouns can be broken down into 351 prefixed and 3,137 suffixed nouns. Therefore, this presentation deals with approximately 15% of suffixed Old English nouns. The data of analysis are given in (1). The figure between brackets represents the number of types of each affix found in the database:

(1)
a. *-a* (90)
b. *-bora* (22)
c. *-e* (11)
d. *-en* (14)
e. *-end* (192)
f. *-ere/-re* (96)
g. *-estre/-istre/-ystre* (12)
h. *-icge* (2)
i. *-o* (2)
j. *-u* (33)

3.2. Analysis

With the exception of *-bora* derivatives, the nouns selected for the analysis have a verbal base of derivation, given that in order to determine whether a subjective or an objective relationship holds between base and derivative, the base has to belong to the lexical category of the verb. This point is illustrated by (2), which displays instances with all the affixes in the group:

(2)
(ge)spreca 'spokesman, councillor' ~ *(ge)sprecan* 'to speak, say, utter, make a speech; converse, converse with; declare, tell off'
wi:gbora 'fighter' ~ *wi:g 1* 'strife, contest, war, battle; valour; military force, army'
syde 'a decoction' ~ *(ge)se:oðan* 'to seethe, boil; be troubled in mind, brood; afflict, disturb'
byrgen 'burying place, grave, sepulchre; burial' ~ *(ge)byrgan* 'to raise a mound, hide, bury, inter'
unrihthæ:mend 'adulterer' ~ *unrihthæ:man* 'to fornicate, commit adultery'
ha:lsere 'soothsayer, dugur' ~ *ha:lsian* 'to adjure; call upon; convoke; implore, entreat; augur; exorcise; to entreat earnestly, beseech, implore'

hoppestre 'female dancer' ~ *hoppian* 'to hop, leap, dance; limp'
a:cennicge 'mother' ~ *a:cennan* 'to bring forth, produce, renew; attribute to'
gehlytto 'fellowship, lot' ~ *gehle:otan* 'to cast lots; get by lot, obtain'
sacu 'reproof; affliction; persecution, trial; sin, fault; prosecution, lawsuit, jurisdiction, right of holding a court for criminal and civil matters' ~ *sacan* 'to struggle, dispute, disagree, wrangle, fight; accuse, blame, bring a criminal or civil action against any one, lay claim to'

The case with *-bora* is different because *-bora* itself is a verbal element, morphologically related to the verb *beran* 'bear'. In this sense, Quirk and Wrenn (1994) consider *-bora* a suffix, whereas Kastovsky (1992) does not. With the caution just explained, *-bora* is analysed as a suffix here because, although *-bora* derivatives are considerably transparent, we also come across some instances of lexicalization such as *candelbora* 'acolyte' and *wro:htbora* 'accuser; the devil'. It is also worth pointing out that *bora* as a free form is extremely infrequent. According to *The Dictionary of Old English*, there is a single occurrence of *bora* 'bearer' in the corpus.

Another set of affixes that call for some attention is the one formed by *-a*, *-e*, *-o* and *-u*. As I have already pointed out regarding *ridda* 'rider, horseman, horse-soldier' there is no explicit morphological relationship between the strong verb and the derived noun. Some authors, including Kastovsky (1968, 1992) and Marchand (1969), treat the phenomenon under zero derivation. Others, such as González Torres (2009) consider it a case of continuity between inflection and derivation. Apart from the morphological question, I agree on the functional unification of the phenomenon in terms of lexical derivation carried out by Martín Arista (2008, 2009) because the same function is performed by *-ere* and *-a*, for instance.

In the analysis that follows I distinguish the subjective and the objective function. It must be borne in mind, regarding this question, that these functions are semantic-syntactic rather than notional. In this sense, subjective is not equated with animate and, conversely, objective is not equated with inanimate. As illustration, example (3) gives instances of the subjective semantic-syntactic function corresponding to the notion of inanimate.

(3)
geclofa 'counterpart (of a document)' (subjective)
sce:arra 'shears, scissors' (subjective)
scinna 'spectre, illusion, phantom, evil spirit; magical image; be resplendent' (subjective)
staca 'pin, stake' (subjective)
steorfa 'pestilence; carrion' (subjective)
sticca 'stick; peg, pointer; spoon' (subjective)

Beginning with the results that the analysis turns out, lexical switches produce pairs like those in (4):

(4)
a.	*a:cennend*	m	'parent'
	a:cennicge	f	'mother'
b.	*a:ðswara*	m	'oath-swearing, oath'
	a:ðswaru	f	'oath-swearing, oath'
c.	*byrðestre*	f	'female carrier'
	byrðre 1	m	'bearer, supporter'
d.	*cennend*	m	'parent'

	cennestre	f	'mother'
e.	*forspennend*	m	'procurer'
	forspennestre	f	'procuress'
f.	*fylgend*	m	'follower, observer'
	fylgestre	f	'female follower'
g.	*galdre*	m	'wizard, magician'
	galdricge	f	'enchantress'
h.	*hæ:lend*	m	'Saviour, Christ'
	hæ:lestre	f	'saviour'
i.	*hle:apere*	m	'runner, courier; wanderer, leaper, dancer'
	hle:apestre	f	'female dancer'
j.	*leornere*	m	'learner, disciple; scholar; reader'
	leornestre	f	'a student'
k.	*oferswi:ðend*	m	'vanquisher'
	oferswi:ðestre	f	'victrix'
l.	*plegere*	m	'player'
	plegestre	f	'female athlete'

In pairs and triplets like the ones offered in (5) it can be seen that affix selection has impact on meaning:

(5)

a.	*begi:men*	f	'attention, observation'
	begi:mend	m	'guide, ruler'
b.	*bepæ:cend*	m	'deceiver'
	bepæ:cestre	f	'whore'
c.	*bla:wend*	m	'inspirer'
	bla:were	f	'blower'
d.	*byrgen*	f	'burying place, grave, sepulchre; burial'
	byrgend	m	'grave-digger'
	byrgere	m	'corpse-bearer'
e.	*forgifestre*	f	'female giver'
	forgifu	f	'gratia'
f.	*ge:otend*	m	'artery'
	ge:otere	m	'founder (of metal)'
g.	*læ:rend*	m	'misleader, instigator'
	læ:restre	f	'instructress'
h.	*sceððend*	m	'adversary'
	sceððu	f	'hurt, injury'
i.	*ðro:wend*	m	'serpent, scorpion, basilisk'
	ðro:were	m	'sufferer, martyr'
j.	*wendend*	m	'that which turns round'
	wendere	m	'translator, interpreter'

From the point of view of function, it is worth remarking that a correspondence has been found in a significant number of instances between a subjective derivative and another objective one. Relevant instances include those given in (6):

(6)

a.	*andetla*	m	'declaration, confession'	(objective)

	andetta	m	'one who confesses'	(subjective)
	andettere	m	'one who confesses'	(subjective)
b.	*byrgen*	f	'burying place'	(objective)
	byrgend	m	'grave-digger'	(subjective)
c.	*fore∂ingere*	m	'intercessor, mediator'	(subjective)
	fore∂ingiend	m	'intercessor'	(subjective)
	fore∂ingræ:den	f	'intercession'	(objective)
d.	*gehlyta*	m	'companion'	(subjective)
	gehlytta	m	'partner, fellow'	(subjective)
	gehlytto	?	'fellowship, lot'	(objective)
e.	*(ge)re:∂ra*	m	'rower, sailor'	(subjective)
	(ge)re:∂ru	np	'oars'	(objective)
f.	*(ge)saca*	m	'opponent, foe'	(subjective)
	(ge)sacu	f	'conflict, strife, war'	(objective)
g.	*giefa*	m	'donor'	(subjective)
	giefend	m	'giver'	(subjective)
	giefu	f	'giving, gift'	(objective)
h.	*gripa*	m	'handful, sheaf'	(objective)
	gripu	f	'kettle, caldron'	(subjective)
i.	*ma:nswara*	m	'perjurer'	(subjective)
	ma:nswaru	f	'perjury'	(objective)
j.	*ny:dnima*	m	'one who takes by force'	(subjective)
	ny:dnimend	f	'rapine'	(objective)
	ny:dnimu	f	'rapine, forcible seizure'	(objective)
k.	*scea∂a*	m	'injurious person, criminal'	(subjective)
	scea∂u	f	'injury'	(objective)
l.	*selen*	f	'grant, gift; tribute'	(objective)
	sellend	m	'giver; betrayer'	(subjective)
m.	*slaga*	m	'slayer, homicide'	(subjective)
	sle:a	f	'slay, weaver's reed'	(objective)
n.	*unna*	m	'favour, approval; grant'	(objective)
	unnend	m	'one who grants'	(subjective)
o.	*wi∂ercwida*	m	'contradicter'	(subjective)
	wi∂ercwide	m	'contradiction; opposition'	(objective)

Affix by affix, the suffix *-a* is selected for the subjective and the objective functions. The suffix *-bora* is selected for the subjective function exclusively. The suffix *-e* is selected for the objective function mainly. The suffix *-en* is selected for the objective function mainly. The suffix *-end* is clearly subjective. The situation with the suffix *-ere/-re* is comparable. It is overwhelmingly subjective, although there is an instance of the objective function. The suffix *-estre/-istre/-ystre* is subjective only. The suffix *-icge* is exclusively subjective. The suffix *-o* is objective only. Finally, the suffix *-u* is clearly objective. There are two instances, however, that can be considered subjective.

4. CONCLUSIONS AND LINES OF FUTURE RESEARCH

4.1. Summary and conclusions

This paper has analysed the Old English deverbal nouns to which the following suffixes have been attached: *-a, -bora, -e, -en, -end, -ere/-re, -icge, -estre/-istre/-ystre, -o,* and *-u*. Two types of derivational relationship have been found. In the first place, the explicit derivational relationship as in *bacan* 'to bake' ~ *bæcestre* 'baker', in which a full derivational morpheme turns up in the derivative, and, in the second place, the implicit derivational relationship, such as the one holding in *ri:dan* 'to ride' ~ *ridda* 'rider', in which no derivational morpheme is present from a strictly synchronic point of view. The analysis of this phenomenon in terms of the derivational functions and the types of lexical derivation and category functions proposed by Lexeme-Morpheme Base Morphology turns out several conclusions.

Firstly, from the quantitative point of view, 480 suffixed nouns have been analyzed, out of which 391 are subjective and 89 objective. Therefore, the subjective function is clearly favoured.

Secondly, the 10 suffixes analyzed can be divided into three groups on functional grounds: those suffixes that always perform the same function; b) those suffixes that practically always realize the same function; and c) those suffixes for which no predominant function can be identified. These groups are given in (1):

(1)
a. *-bora* (21 subjective); *-estre/-istre/-ystre* (18 subjective); *-icge* (2 subjective); *-o* (2 objective)
b. *-e* (8 subjective, 3 objective); *-en* (13 objective, 1 subjective); *-end* (190 subjective, 2 objective); *-ere/-re* (95 subjective, 1 objective); *-u* (29 objective, 4 subjective)
c. *-a* (58 subjective, 32 objective)

These results are in accordance with the Universal Grammatical Function Theory, which predicts that the functions of inflectional and lexical derivation are the same. Indeed, suffixes involved in explicit derivational relations such as *-estre* perform the same function, namely subjective, as other suffixes involved in implicit derivational relations, such as *-a*. The same applies to the objective function. Suffixes taking part in explicit derivational relations such as *-en* perform the subjective function, as other suffixes involved in implicit derivational relations, like *-o*, do.

And, thirdly, the fact that most of the suffixes in (1) perform the subjective and the objective function is in keeping with the Separation Hypothesis, in terms of which grammatical morphemes are the output of phonological operations independent of the semantic operations that they realize. Affixation is a phonological operation of affix selection, whereas lexical derivation entails lexical categories and functional relations. In this analysis I have insisted on the functional derivations that add semantically interpretable functions such as the subjective or the objective.

4.2. Lines of future research

It remains for future research to address the question of how to deal with featural switches of gender such as the one in *hle:apere/hle:apestre* 'male/female harp player'. It also constitutes a pending task to define the principles of affix selection that operate in series such as *steora* 'steersman, pilot, guider, director', *steorend* 'corrector, director, ruler' *steorere* 'steersman', as well as to exclude semantic factors in affix choice. Finally, purely inflectional affixes such as the ones attaching to *adela* 'mud', *tosca* 'frog', *asce* 'ash', etc. have to be explained by means of an up-to-date theory of grammatical gender.

5. BIBLIOGRAPHICAL REFERENCES

Beard, R. 1995. *Lexeme-Morpheme Base Morphology*. Albany: State University of New York Press.

Beard, R. 1998. Derivation. In A. Spencer and A. M. Zwicky (eds.), *The Handbook of Morphology*. 44-65. Oxford: Blackwell.

Beard, R. and M. Volpe. 2005. Lexeme-Morpheme Base Morphology. In P. Stekauer and R. Lieber (eds.), *Handbook of Word-Formation*. 189-205. Dordrecht: Springer.

de la Cruz Cabanillas, I. 2007. Semantic primes in Old English: a preliminary study of descriptors. *SELIM*. 14: 37-58.

González Torres, E. 2010. The Continuum Inflection-Derivation and the Old English *suffixes -a, -e, -o, -u*. *ATLANTIS* 32.1: 103-122.

Guarddon Anelo, M. C. 2009a. Un análisis de las propiedades combinatorias de los primitivos semánticos a través de las adposiciones complejas en inglés antiguo. *Revista Española de Lingüística*. Forthcoming.

Guarddon Anelo, M. C. 2009b. The Natural Semantic Metalanguage of Old English Compound Adpositions. *English Studies* 30: 61-83.

Healey, A. di Paolo. 2003. *The Dictionary of Old English in Electronic Form A-F*. Toronto: Dictionary of Old English Project, Centre for Medieval Studies, University of Toronto.

Kastovsky, D. 1968. *Old English Deverbal Substantives Derived by means of a Zero Morpheme*. PhD Dissertation. Tübingen: Eberhard-Karls-Universität.

Kastovsky, D. 1986. Deverbal nouns in Old and Modern English: from stem-formation to word-formation. In J. Fisiak (ed.), *Historical Semantics-Historical Word Formation*. Berlin: Mouton de Gruyter. 221-261.

Kastovsky, D. 1989. Typological Changes in the History of English Morphology. In U. Fries and M. Heusser (eds.), *Meaning and Beyond. Ernst Leisi zum 70. Geburstag*. Tübingen. 281-293.

Kastovsky, D. 1990. The typological status of Old English Word Formation. In S. Adamson, V. Law, N. Vincent and S. Wright (eds.), *Papers from the 5th International Conference on English Historical Linguistics*. 205-224. Amsterdam: John Benjamins.

Kastovsky, D. 1992. Semantics and vocabulary. In R. Hogg (ed.), *The Cambridge History of the English Language I: The Beginnings to 1066*. Cambridge: Cambridge University Press. 290-408.

Kastovsky, D. 2005. Conversion and/on zero: word-formation theory, historical linguistics, and typology. In L. Bauer and S. Varela (eds.), *Approaches to Conversion/Zero Derivation* Münster: Waxmann. 31-50.

Kastovsky, D. 2006. Typological Changes in Derivational Morphology. In A. van Kemenade and B. Los (eds.), *The Handbook of The History of English*. Oxford: Blackwell. 151-177.

Marchand, H. 1969. *The Categories and Types of Present-Day English Word-Formation*. München: C.H. Beck´sche Verlagsbuchhandlung.

Martín Arista, J. 2008. Unification and separation in a functional theory of morphology. In R. Van Valin (ed.), *Investigations of the Syntax-Semantics-Pragmatics Interface*. Amsterdam: John Benjamins. 119-145.

Martín Arista, J. 2009. A Typology of Morphological Constructions. In C. Butler and J. Martín Arista (eds.), *Deconstructing Constructions*. Amsterdam: John Benjamins. 85-115.

Martín Arista, J. 2010a. OE strong verbs derived from strong verbs. *SKASE Journal of Theoretical Linguistics* 7: 36-56.

Martín Arista, J. 2010b. Lexical negation in Old English. *NOWELE-North-Western European Language Evolution*. Forthcoming.

Martín Arista, J. 2010c. Building a lexical database of Old English: issues and landmarks. In J. Considine (ed.), *Current projects in historical lexicography*. Newcastle: Cambridge Scholars Publishing. 1-39.

Martín Arista, J. Adjective formation and lexical layers in Old English. *English Studies*. Forthcoming-c.

Martín Arista, J. and M.V. Martín de la Rosa. 2006. Old English Semantic Primes: Substantives, Determiners and Quantifiers. *Atlantis* 28.2: 9-28.

Martín Arista, J. Morphological relatedness and zero alternation in Old English. In C. Butler and P. Guerrero Medina (eds.), *Morphosyntactic Alternations in English*. London: Equinox. Forthcoming-a.

Martín Arista, J. Parasynthesis in Old English word-formation. Forthcoming-b.

Martín Arista, J. Morphological relatedness and zero alternation in Old English. In C. Butler and P. Guerrero (eds.), *Morphosyntactic Alternations in English*. London: Equinox. Forthcoming-c.

Martín Arista, J. Projections and constructions in functional morphology: the case of HREOW. *Language and Linguistics*. Forthcoming-d.

Martín Arista, J. Morfología flexiva en RRG. In R. Mairal, L. Guerrero and C. González (eds.), *El funcionalismo en la teoría lingüística*. Madrid: Akal Universitaria. Forthcoming-e.

Martín Arista, J. Old English Lexical Primes: Corpus Analysis and Database Compilation. In N. Vázquez (ed.), *Creation and Use of Historical Linguistic Corpora in Spain*. Newcastle: Cambridge Scholars. Forthcoming-f.

Quirk, R. and C. L. Wrenn. 1994 (1955). *An Old English Grammar*. DeKalb, Illinois: Northern Illinois University Press.