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Old English Suffixation. Content and Transposition

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***Abstract:** The aim of this paper is to analyse the suffixation of Old English with special emphasis on two aspects related to recursivity, namely the combinability and the position of suffixes. A distinction is made between suffixes and suffixoids on the basis of boundedness. An exhaustive description of the recursive and non-recursive suffixal formations allows us to draw conclusions regarding the contentful or transpositional status of the suffixes on the basis of two criteria. The first is positional and refers to the position of transpositional suffixes relative to contentful suffixes. The second is distributional and has to do with the frequency of type of transpositional suffixes as compared to contentful suffixes. The conclusion is drawn that -NES in noun formation and -LICE in adjective formation are clearly transpositional while -LIC and -FUL have some transpositional properties.*

Keywords: Word-formation, suffixation, recursivity, distribution, transposition, Old English

1. Introduction

A distinction is made in morphological analysis between content affixes, which add a meaning that is not conveyed by the base of derivation and may change its category, and transpositional affixes, which change the category but do not contribute much meaning to the derivation. For instance, the suffix *-ish* conveys a meaning in derivatives like *yellowish* that is not present in the basic adjective (*yellow*), thus qualifying as a contentful suffix, whereas no such meaning difference can be found between, for example, *pure* and the corresponding noun *purity*, which results from the attachment of the transpositional suffix *-ity*. Against this background, the aim of this paper is to analyse the recursive suffixation of Old English in order to determine if there are any transpositional suffixes in this stage of the English language and to identify them. The study is relevant to the derivational morphology of Old English in general and, given that it raises the question of suffixes vs. suffixoids, bears on the boundary between derivation and compounding.

This aim calls for a paradigmatic approach as well as an exhaustive analysis of the suffixal formations attested in the texts. A paradigmatic approach to derivational morphology provides not only all the suffixal formations but, above all, a stepwise analysis of suffixation. This question is discussed in more detail in the methodological section of the article. As for the question of exhaustivity, this aim of research requires to analyse the lexical stock of the language, for which a complete Old English lexicon is necessary. The data of analysis of this research have been retrieved from the lexical database of Old English *Nerthus*, which contains *ca.* 30,000 entries.¹ They are based on the information provided mainly by *A Concise Anglo-Saxon Dictionary*.² On specific questions, *An Anglo-Saxon Dictionary* and *The Student's Dictionary of Anglo-Saxon* have also been consulted.³ *Nerthus* also provides the derivational paradigms (the whole inventory of derivatives) of strong verbs.

With these aims, the remainder of the article is organized as follows. Section 2 explains the relevance of this undertaking on the grounds of previous work in this area, which has neither addressed the question of transposition nor proposed explicit criteria for identifying transpositional suffixes. Section 3 explains the foundations of the paradigmatic approach to word-formation adopted in this research, which gathers all the lexical paradigms of strong verbs and considers all the processes of compounding, affixation and zero derivation, in such a way that the lexical paradigm of a lexemic root contains the outcome of all the word-formation processes and, moreover, a gradual organization based on patterns of morphological and semantic inheritance. Section 4 is the analytic part of this article. It decomposes suffixation into final and non-final and describes the attested patterns of suffixation. Once all the patterns have been identified and classified, it is possible to make a decision on the status of the suffixes involved in recursive suffixation. In section 5, two criteria are used. The first refers to the position of transpositional suffixes relative to contentful suffixes and the second, which is distributional, focuses on the frequency of type of transpositional suffixes as compared to contentful suffixes. To close this article, section 6 summarizes the main conclusions.

2. Review of the state of the art and relevance of this research

Overall⁴, the suffixation of Old English has drawn less attention than prefixation, which

¹ *Nerthus*, available from www.nerthusproject.com.

² Clark Hall.

³ Bosworth and Toller; Sweet.

⁴ Pilch; Campbell; Kastovsky 'Semantics and vocabulary'; Lass; Quirk and Wrenn.

has been studied not only from the purely morphological point of view,⁵ but also from the perspective of the development of phrasal verbs.⁶ Suffixation is dealt with in general studies in word-formation, which analyses the formation of nouns and adjectives in the Germanic dialects.⁷ Other works concentrate on Old English specifically⁸ and raise the question of nominal suffixation against the background of the change from stem formation to word formation.⁹ Old English linguistic introductions and grammars also offer an analysis of suffixation.¹⁰ Suffixation in terms of lexical category is addressed as to adjectives,¹¹ weak verbs,¹² and adverbs.¹³ The studies in individual suffixes or sets of suffixes have more often concentrated on the noun, thus *-a*, *-e*, *-o*, *-u*,¹⁴ *-ere*,¹⁵ *-estre*,¹⁶ *-estre* and *-icge*,¹⁷ *-nes*,¹⁸ *-unga*,¹⁹ *-nes*, *-ing* *-ung*,²⁰ *-dōm*, *-hād*, *-sceaft*, *-stæf*,²¹ *-dōm* and *-scipe*.²² Studies in the adjectival suffixes focus on *-bære*,²³ *-el*,²⁴ *-fæst*,²⁵ as well as *-lāc*, *-rāden* and *-wist*.²⁶ As for verbal suffixes, previous research has dealt with *-ettan*,²⁷ and *-sian*.²⁸

In spite of the richness and accuracy of the works reviewed above, two aspects of suffixation remain practically untouched. The first is stepwise derivation and recursivity, that is to say, what suffixes can be attached to a given suffix, in what order and to what degree of recursivity. The second is the hierarchy of suffixes. In general, previous research in the derivational morphology of Old English has listed the affixes partaking in derivation but has not provided an overall classification based on criteria like affix-affixoid, recursive-non recursive, productive-unproductive, etc. For this reason, some studies that classify the prefixes on the grounds of categorial homonymy represent a significant step towards a more explanatory treatment of Old English word-formation.²⁹ Pure prefixes either do not have a prepositional counterpart, or have a prepositional counterpart that differs in meaning. This group includes the prefixes *ā-*, *be-*, *for-*, *ge-*, *on-*

⁵ Dietz, 'Die altenglischen Präfixbildungen'.

⁶ Hiltunen; Brinton; Brinton and Traugott.

⁷ Kluge.

⁸ Kastovsky, 'Semantics and vocabulary'.

⁹ Haselow.

¹⁰ Campbell; Lass; Quirk and Wrenn.

¹¹ Schön; Seelig.

¹² Schuldt; Bammesberger; Stark.

¹³ Nicolai; Seelig.

¹⁴ González Torres, 'The Continuum Inflection-Derivation and 'The bases of derivation'.

¹⁵ Kastovsky, 'The Old English Suffix *-ER(E)*'.

¹⁶ Davis.

¹⁷ von Lindheim, 'Die Weiblichen Genussuffixe'; Schabram.

¹⁸ Möhlig.

¹⁹ Munske.

²⁰ Weyhe.

²¹ Dietz, 'Denominale Abstraktbildungen des Altenglischen'.

²² Trips.

²³ von Lindheim, 'Das Suffix *-bære* in Altenglischen'.

²⁴ Sauer.

²⁵ Bauer.

²⁶ Dietz, 'Denominale Abstraktbildungen des Altenglischen'.

²⁷ Marckwardt.

²⁸ Hallander.

²⁹ De la Cruz.

, *of-* and *tō-* as attached to derived verbs like, respectively, *ācnāwan* 'to recognise', *bedrīfan* 'to follow up', *forniman* 'to take away', *gescīnan* 'to shine upon', *onhebban* 'to lift up' and *tōglīdan* 'to glide away'.³⁰ Prefixes have been classified into primary and secondary on the basis of boundedness. This means that primary prefixes do not occur as free forms.³¹ They do not have a prepositional or adverbial counterpart, whereas secondary prefixes do. Such a classification of prefixes is displayed in Figure 1.³²

[Figure 1 here]

This classification of Old English prefixes is not directly applicable to suffixes for several reasons. First of all, recursive prefixation is above all verbal,³³ whereas recursive suffixation mainly comprises nominal and adjectival derivatives. Secondly, unlike prefixes, suffixes do not have adverbial or prepositional counterparts. Thirdly, unlike prefixes, suffixes usually turn out members of one lexical category. For instance, nouns result from the attachment of the suffixes *-dom* (*freodom* 'freedom'), *-ing* (*æðeling* 'prince'), *-ling* (*lytling* 'child'), *-ness* (*beorhtness* 'brightness'), *-scipe* (*gecorenscipe* 'election'), *-ð(o)/-t* (*iermð(o)* 'poverty', *lifleast* 'death') and *-wist* (*loswist* 'loss'); whereas the suffixes used in adjective formation include, among others, *-cund* (*innancund* 'internal'), *-fæst* (*soðfæst* 'truthful'), *-feald* (*anfeald* 'single'), *-ful* (*geornful* 'eager'), *-ig* (*adlig* 'sick'), *-lic* (*deoplic* 'deep'), *-sum* (*ansum* 'whole'), and *-wende* (*hatwende* 'hot'). And, finally, suffixation in Old English is more recursive than prefixation. Put in other words, whereas the maximum number of prefixes is usually two, thus *cūð* > *forcūð* > *unforcūð* 'noble', there can be a maximum of three suffixes in a recursive complex word, as in *dēad* > *dēað* > *dēaðlic* > *dēaðlicnes* 'deadliness' and *oferflōwan* > *oferflōwed* > *oferflōwedlic* > *oferflōwedlicnes* 'excess'.

In order to distinguish between contentful and transpositional suffixes in Old English, two criteria are proposed on the basis of their position and their distribution. The positional criterion is purely morphological while the distributional criterion is more geared to the semantics of word formation because it focuses on affix combinability.

The positional criterion is based on transpositional affixes which lack content and limit recursivity, which is understood as the derivation of derived bases.³⁴ This statement is interpreted in this research as follows. Transpositional suffixes change the category rather than the meaning of the base of derivation and transpositional suffixes cannot be attached before contentful suffixes in recursive derivation.

The distributional criterion draws on the idea that "productivity processes are semantically (and phonologically) transparent and have a high proportion of low frequency types".³⁵ The relationship between type frequency and transposition is established in the following way. Affixes with a wider distribution in recursive suffixation, that is, affixes that take part in a higher number of affixal combinations (in type rather than in token analysis), are more likely to be transpositional than affixes that appear in a lower number of recursive combinations, the reason being semantic: a high type frequency indicates fewer restrictions on semantic compatibility while a low type frequency corresponds to fewer predictable or homogeneous meanings.

³⁰ Ibid.

³¹ Dietz, 'Denominale Abstraktbildungen des Altenglischen'.

³² Ibid.

³³ Hiltunen; Martín Arista, 'OE strong verbs derived from strong verbs'.

³⁴ Lieber.

³⁵ Plag, 38.

These criteria are applied to the recursive formations found in Old English suffixation in section 5. Section 3 considers some aspects of the paradigmatic approach to word-formation.

3. Word-formation and paradigms

The description of the aims of research made in the previous section calls for some methodological remarks. There is agreement in the field on the central character of strong verbs, which constitute the starting point of Germanic derivation.³⁶ Indeed, strong verbs not only produce the vast majority of derivatives in Old English but also turn out members of practically all lexical categories. Consider the strong verb (class I) *(ge)drifan* ‘drive’ (strong I) pret. sing. *drāf*, pret. plur. *drifon*, *dreofon*, past part. *drifen* ‘to drive, force, hunt, follow up, pursue; drive away, expel; practise, carry on; rush against, impel, drive forwards or backwards; undergo’, which has the nominal derivatives *drāf* ‘action of driving’, *(ge)drif* ‘fever’, *fodrifnes* ‘opposition’, *onwegādrifennes* ‘a driving away’, *tōdrāfednes* ‘dispersion’, *underdrifennes* ‘subjection’, *ūtdrāf* ‘decree of expulsion’, *drāfend* ‘hunter’, *ūtdrāfere* ‘driver out’, *gedrif* ‘a drive’; the adjectival derivatives *fullgedrifen* ‘full of wild beasts’ and *undrifen* ‘not driven or tossed’; the derived strong verbs *ādrifan* ‘to drive’, *bedrifan* ‘to beat’, *eftādrifan* ‘to reject’, *eftfodrifan* ‘to drive away’, *fodrifan* ‘to sweep away’, *framādrifan* ‘to remove’, *framādrīfan* ‘to drive away’, *indrifan* ‘to ejaculate’, *oferdrifan* ‘to overcome’, *onwegādrifan* ‘to drive away’, *tōdrifan* ‘to scatter’, *ðurhdrifan* ‘to drive through’, *ūtādrifan* ‘to drive out’, *ūtdrifan* ‘to expel’, *wiōdrifan* ‘to repel’; and the derived weak verbs *ādrāfan* ‘to drive away’, *drīfan* ‘to stir up’, *fodrāfan* ‘to compel’, *(ge)drāfan* ‘to drive’, *tōdrāfan* ‘to scatter’ and *ūtādrāfan* ‘to drive out’. The derivational paradigm of *(ge)drifan*, then, comprises a very large number of derivatives. Moreover, not only nouns, adjectives and weak verbs derive from the strong verb, but also other strong verbs such as *fodrīfan*, *framādrīfan*, *oferdrīfan* etc. in the paradigm of *drīfan*. This has the important effect of boosting derivation because new strong verbs are created that are likely to produce many more derivatives of their own.³⁷ In spite of the importance of strong verbs for the configuration of the derivational paradigms found in the lexicon of the language, there are other categories that organize derivational paradigms around them, including the noun, the adjective and the weak verb. As an illustration, consider the nominal paradigm of *heorte* ‘heart’ (with derivatives like *efenheorte* ‘harmony’, *gramheort* ‘hostile-minded’ and *mildheortlice* ‘kindly, compassionately, mercifully’) and the adjectival paradigm of *æðele* ‘noble’ (which comprises derivatives like *æðelnes* ‘nobility, excellence’, *æðelcund* ‘of noble birth’, *unæðelian* ‘to degrade, debase’ and *unæðelice* ‘ignobly, basely’).

The lexicon of Old English is associative. This means that morphological and semantic relatedness links Germanic terms to other Germanic terms, as in *fæder-fæderlic*. Subsequent evolution led to dissociation, or pairings of Germanic and Romance elements, as in the corresponding *father-paternal*.³⁸ Given such associative character of the Old English lexicon and the lexical paradigms in terms of which it is organized, the nature of this research calls for a paradigmatic model of morphology that is based on the existence

³⁶ Bammesberger, *Deverbative jan-Verba des Altenglischen*, ‘The place of English in Germanic; Hinderling; Kastovsky, ‘Semantics and vocabulary’; Seebold; Martín Arista, ‘Lexical negation in Old English’, ‘Projections and constructions’, ‘Lexical database’, ‘The Old English Prefix Ge-’, ‘Recursivity’, ‘Noun layers in Old English’.

³⁷ Martín Arista, ‘Lexical negation in Old English’.

³⁸ Kastovsky, ‘Semantics and vocabulary’, 294.

of derivational paradigms which can be defined as follows: “a set of paradigmatic relations between word-formations sharing a lexemic root”.³⁹ This same author distinguishes between the paradigm as a morphological structure, consisting of a set of paths between a base and the operations that turn out its derivatives, and the lexical paradigm involving a structured pattern of instructions for operations on stems. The former is valid for a whole lexical class, such as the class of nouns, or a subclass like denominal verbs. The latter is the individual paradigm of the member of a lexical class, such as, for instance, the paradigm of the adjective *dēop* ‘deep’.

The difference between the morphological and the lexical paradigm can be defined in terms of degrees of abstractness and dynamism. The morphological paradigm defines a set of possible operations that are instantiated (or not) by the lexical paradigm. Note that this model excludes processes such as suppletion or insertion from the paradigm of lexemes, as they do not result in a form that is transparently related to the base of the paradigm; in this model, a shared lexemic origin must be present for the establishment of a word-formation relation.⁴⁰ The derivational paradigms thus defined confirm the associative character of lexicon to which we have just referred. Consider, for example, a series of derivatives like *agan* ‘to go’; *began* ‘to go over’, *begang* ‘practice’, *beganga* ‘inhabitant’, *begenge* ‘practice’, *bigengere* ‘worker’, *bigengestre* ‘maiden’, etc. from *gan* ‘to go’.⁴¹ As for the question of dynamism, the morphological paradigm, as a set of operations, represents the dynamic part of word-formation, whereas the lexical paradigm, being a product, constitutes the static part of word-formation.

Also of relevance to the distinction between the morphological and lexical paradigm is the question of defectivity or formations resulting from correct paths (units and operations) in the morphological paradigm which are not attested in the lexical paradigm. Consider for instance the compound *glīwhlēōðriendlic* ‘musical’, whose adjunct *glīw* is attested whereas its base *hlēōðriendlic* is not⁴²: although the derivation of *hlēōðriend* from *hlēōðrian* is stepwise, the adjective *hlēōðriendlic*_ϕ constitutes a unattested form (marked with the subindex ϕ). The full derivation, consequently, can be stated as *hleōðrian* > *hleōðriend* > *hlēōðriendlic*_ϕ > *glīwhlēōðriendlic*, the hypothetical predicate for the unattested form constituting an intermediate step between *hlēōðriend* and *glīwhlēōðriendlic*. A derivation like *hleōðrian* > *hleōðriend* > *hlēōðriendlic*_ϕ is well attested in other instances involving an *-end* derivative to which the suffix *-lic* is attached, as in *gītsiendlic* ‘insatiable’, *līciendlic* ‘agreeable’, *mynegiendlic* ‘hortatory’, *sciriendlic* ‘derivative’ and *ðrōwiendlic* ‘suffering’.

Derivational paradigms as presented in this section account for defining characteristics of derivational morphology such as recategorization and recursivity.⁴³ As regards the question of recursivity, *gifolnes* ‘liberality’, for instance, is a recursive derivative of *gifol* ‘generous’, which, in turn, derives from the present stem *gif-* of the strong verb *giefan* ‘to give’. The morphological relatedness of *giefan*, *gifol* and *gifolnes* is stated by the derivational paradigm of the strong verb *giefan* ‘give’. While word-formation processes identifiable in derivational paradigms often apply recursively, thus establishing indirect dependences (as in the derivatives of derivatives with respect to the common base of derivation), they are gradual, that is, they involve a single modification

³⁹ Pounder, 82.

⁴⁰ Pounder.

⁴¹ Kastovsky, ‘Semantics and vocabulary’, 294.

⁴² Torre Alonso *et al.*

⁴³ Martín Arista, ‘Unification and separation’, ‘A Typology of Morphological Constructions’, ‘Projections and constructions’.

in zero derivation and a single addition in affixation and compounding. As illustration, consider the strong verb *bacan* ‘to bake’, which turns out the zero derivative *bæc* ‘baking’ and the suffixal derivative *bacestre* ‘baker’.

Derivational paradigms combine productive and non-productive processes or, in another terminology, what is productive synchronically and what is recoverable diachronically.⁴⁴ Derivational paradigms therefore solve the main problem when describing the Old English lexicon exhaustively, namely the overlapping of synchronic and diachronic data as reflected by the coexistence of productive processes and the output of non-productive processes of word-formation.⁴⁵ In sum, the kind of exhaustive description required by this research can be turned out only by a paradigmatic analysis centred on the gradual derivation from strong verbs.

4. Morphological description of Old English suffixation

The lexical database of Old English *Nerthus* turns out 3658 suffixed nouns, 2299 suffixed adjectives, 206 suffixed verbs and 1085 suffixed adverbs. When pre-final suffixation is taken into account, there are 346 recursive suffixed nouns, 160 recursive suffixed adjectives, nine recursive suffixed verbs and fifty-eight recursive suffixed adverbs.

The following description of the suffixal system of Old English is based on a gradual analysis of derivation in terms of which a maximum of one suffix is attached at each derivational step. The only exception to stepwise affixation in Old English is presented by the prefix *ge-*, which is not altogether surprising given the fact that this prefix is the most type-frequent in the language. There are twenty-one adjectives with nominal base of the type *getēðed* ‘toothed’ in which there seems to be a simultaneous attachment of the prefix *ge-* and the suffix *-ed*. This is the only area of Old English word-formation where parasynthetical formations take place. The whole list of derivatives is presented in figure 2.

[Figure 2 here]

Leaving aside exceptional aspects like the parasynthetical formations given in figure 2, the inventory of Old English suffixes is comprised of the elements given in figure 3. This description renders the canonical form of the suffix (and the variants if they are relevant) as well as the type frequency and the input and output lexical category, including the recategorization if it takes place. A distinction is made between suffixes with a counterpart in the major lexical categories (noun, adjective, verb and adverb) that conveys a related meaning and the suffixes without such a lexemic correspondence. When there is a related free form, the criterion for affixhood is class distribution. Candidates for suffix that cannot attach to at least two lexical categories have been excluded to avoid overlapping with compounding. For instance, *-BORA* (twenty-three instances of the type *strælbora* ‘archer’) and *-FEALD* (twenty-five instances of the type *ðicfeald* ‘dense’) have been considered bases of compounding and, as such, have been put aside. When they apply to at least two lexical categories, they have been considered suffixoids. With this criterion, of the 7158 formations that have been analyzed in this research, a total of 7075 have been considered suffixal. They are broken down in figures 3, 4, 5 and, 6, which provide, respectively, the description of the suffixation of nouns, adjectives, verbs and adverbs. The specification of type refers to the number of different bases of derivation to

⁴⁴ Stark.

⁴⁵ Kastovsky, ‘Semantics and vocabulary’.

which they are attached. The assessment of the productivity of type, when the question is raised, is based on the average mean of types, 114 formations.

[Figure 3 here]

[Figure 4 here]

[Figure 5 here]

[Figure 6 here]

Some aspects of the preceding figures require a comment. The most type-frequent suffixes (more than 100 types) are -NES (1231 types), -UNG (762 types), -END (309 types), -ING (303 types), -ERE (258 types), -Ð (163 types) and -SCIPE (100 types) in noun formation; -LIC (964 types), -IG (265 types), -LĒAS (124 types), -ISC (119 types) and -FUL (115 types) in adjective formation; -LĪCE (713) in adverb formation. It is worth pointing out that no type-frequent suffix turns out verbs, which is in accordance with the relatively low importance of verbal suffixation as compared to verbal prefixation and the suffixation of the other lexical categories. The least type-frequent suffixes (less than ten types) are -STAFAS (three types) and -ESSE (two types) in noun formation; -WIST (nine types), -WENDE (six types), -TIG (five types), -ER (four types), -IC (four types) and -WELLE (three types) in adjective formation; -CIAN (seven types) in verb formation; as well as -A (eight types) in adverb formation.

Turning to the question of recategorization, a surprisingly low number of suffixes attach to just one category, to wit -ESSE (attached to nominal bases) and -INCEL (attached to nominal bases) in noun formation and -IC (attached to nominal bases) in adjective formation. Most suffixes attach to three categories, usually to nouns, adjectives and verbs, and a remarkably high number of suffixes can be attached to the four major lexical categories: -UNG in noun formation; -OL and -WĪS in adjective formation; and -ES, -INGA, -UNGA, -LĪCE and -UM in adverb formation. Considering that most adverb-forming suffixes can be attached to all the major lexical categories, the formation of adverbs is the most recategorizing suffixation process.

It must be noted that the degree of recategorization is not a function of type frequency. For instance, the most type-frequent suffix -NES (1231 types) can be attached to nominal, adjectival and verbal bases but not to adverbial bases, while the suffix -WĪS (twenty types) attaches to nominal, adjectival, verbal and adverbial bases. The conclusions can be drawn in this respect that suffixation in Old English is significantly transcategorial and that it is certainly more transcategorial than in Present-day English. This is compatible with the typological change from stem-formation to word-formation identified as taking place in the Old English period.⁴⁶ As a result of this change, variable bases were replaced by invariable bases both in the inflectional and the derivational morphology of the language. For instance, in stem-formation variable bases like *drīf-drāf* from *drīfan* ‘to drive’ are input to word-formation processes, whilst in word-formation, in which the input to derivational processes is consistently invariable, the corresponding form *driv-* from ‘to drive’ can be found only. This also applies to inflection and is clearly related to the regular and predictable character of Present-Day English morphology.⁴⁷

⁴⁶ Kastovsky, ‘Semantics and vocabulary’.

⁴⁷ Kastovsky, ‘The Old English Suffix -ER(E)’, ‘Typological Changes’.

Seen from the perspective of this work, this change must have entailed a clearer categorial adscription for words than for stems, which, as such, lack categorial label.

It is necessary at this point to draw a distinction between non-final and final suffixation given that recursivity entails the suffixation of a suffixed base or derivation, in such a way that non-final suffixation takes place before final suffixation.

Beginning with final suffixation, the formation of suffixed nouns from suffixed nouns comprises the suffixes *-dōm* (*reccend* ‘ruler, guide’ > *reccenddōm* ‘governance, oversight’), *-en* (*tyht 1* ‘instruction’ > *tyhten* ‘incitement, excitement’), *-end* (*tyht 1* ‘instruction’ *tyhtend* > ‘inciter, instigator’), *-ere* (*māð 2* ‘cutting of grass’ > *māðere* ‘mower’), *-ett* (*ðyfel* ‘thicket’ > *ðyfelett* ‘thicket’), *-hād* (*æðeling* ‘man of royal blood’ > *æðelinghād* ‘princely state’), *-ing* (*cnāwlc̄ac* ‘acknowledgement’ > *cnāwelācing* ‘acknowledgement’), *-el* (*tih 1* ‘charge, crime’ > *tihle* ‘accusation, suit, charge’), *-ling* (*ðēowot* ‘service, ministry,’ > *ðēowling* ‘servant, slave’), *-nes* (*æfterfylgend* ‘follower, successor’ > *æfterfylgendnes* ‘succession’), *-rāden* (*frēond* ‘friend, relative; lover’ > *frēondrāden* ‘friendship; conjugal love’), *-scipe* (*nāht 1* ‘naught, nothing;’ > *nāhtscipe* ‘worthlessness’) and *-ung* (*līget* ‘lightning, flash of lightning’ > *līgetung* ‘lightning’).

The derivation of suffixed nouns from suffixed adjectives resorts to the suffixes *-dōm* (*woruldwīs* ‘worldly-wise; learned’ > *woruldwīsdōm* ‘science’), *-t* (*scamlēas* ‘shameless, impudent, immodest’ > *scamlēast* ‘shamelessness’), *-scipe* (*fracoð 1* ‘vile, bad, wicked’ > *fracoðscipe* ‘scandalous conduct’) and *-ung* (*staðolfæst* ‘fixed, firm, steadfast’ > *staðolfæstnung* ‘foundation’).

The formation of suffixed adjectives from suffixed nouns features the affixes *-bære* (*dēað* ‘death, dying’ > *dēaðbære* ‘deadly’), *-ed* (*hwyrfel* ‘circuit, exterior,’ > *hwyrflede* ‘round’), *-en* (*ðyfel* ‘thicket’ > *ðyflen* ‘bushy’), *-ful* (*frēcen* ‘danger’ > *frēcenful* ‘dangerous’), *-ig* (*(ge)sælð* ‘hap, fortune;’ > *(ge)sælig* ‘fortuitous; happy, prosperous’), *-lēas* (*frēond* ‘friend, relative; lover’ > *frēondlēas* ‘friendless; orphan’), *-lic* (*gift* ‘marriage’ > *giftlic* ‘nuptial’) and *-sum* (*genyht* ‘abundance, fulness, sufficiency’ > *genyhtsum* ‘abundant, satisfied’).

The affixes that partake in the derivation of suffixed adjectives from suffixed adjectives are *-e* (*selflic* ‘spontaneous, voluntary’ > *selflice 2* ‘egotistic, puffed up, vain’), *-fæst* (*wlitig* ‘adiant, beautiful’ > *wlitigfæst* ‘of enduring beauty’), *-ful* (*fjren* ‘of fire, fiery;’ > *fjrenful* ‘fiery’), *-ig* (*clifiht* ‘steep’ > *clifihlig* ‘steep’), *-isc* (*hæðen 1* ‘heathen, heathenish, pagan’ > *hæðenisc* ‘heathenish, pagan’), *-lic* (*geornful* ‘desirous, eager, zealous, diligent’ > *geornfullic* ‘desirous, eager, zealous, diligent’) and *-weard* (*līnen* ‘linen, made of flax’ > *līnenweard* ‘clad in linen’).

The formation of suffixed weak verbs from suffixed nouns, adjectives and verbs comprises the suffixes *-ettan* (*lēaslic* ‘false, deceitful, sham, empty’ > *lēaslīccettan* ‘to disassemble’), *-lācan* (*cýðð* ‘knowledge, familiarity.’ > *cýðlācan* ‘to become known’), *-lian* (*hwearft* ‘evolution, circuit,’ > *hwearftlian* ‘to revolve’) and *-nian* (*gelīffæst* ‘living, vigorous’ > *gelīffæstnian* ‘to quicken’).

The affixes that take part in the recursive formation of adverbs are *-a* (*nēadung* ‘compulsion’ > *nēadunga* ‘forcibly’), *-e* (*gesælig* ‘one who carries a standard’ > *gesælige* ‘happily’), *-es* (*sūðweard* ‘towards the south, southwards’ > *sūðweardes* ‘southwards’), *-lice* (*sibsum* ‘peace-loving, peaceable, friendly’ > *sibsumlice* ‘peaceably, in peace (BT)’), *-unga* (*middel 2* ‘middle, intermediate’ > *midlunga* ‘to a moderate extent’) and *-weard* (*ūte* ‘out, without, outside, abroad’ > *ūteweard* ‘external, outward, outside,’).

The next step in the analysis of recursive suffixation is to consider this phenomenon from the point of view of pre-final suffixation. This is done in figure 7, which presents the qualitative (different patterns) and quantitative (number of types)

analysis of affix combination in the suffixation of nouns, adjectives, verbs and adverbs. The suffixes have been sorted alphabetically.

[Figure 7 here]

Overall, the data in figure seven contain thirty-five suffixes and 147 recursive types or combinations of suffixes found in recursive formations.

5. Contentful and transpositional suffixes

Out of the sixty-two suffixes presented in section 4, fourteen cannot be used recursively, either as final or pre-final suffixes: -ELS, -ESSE, -ICGE, -INCEL and -STAFAS in noun formation; -OL, -ERNE, -IC, -OÐA, -LĀC, -WELLE and -WIST in adjective formation; and -UM and -MĀELUM in adverb formation. With the exception of -OL and -UM, which coincides with the inflection for the dative, all of them present a relatively low type frequency (like -WIST, nine types) or, in most cases, a low type frequency, thus -ESSE (two types), -STAFAS (three types), -IC (four types), -WELLE (three types). Although this does not allow for a generalization that attributes recursivity to type frequency, it is certainly the case that in Old English suffixation low frequency and the constrain to take part in recursive formations are related.

The suffixes that appear both pre-finally and finally in recursive formations are: -Ð, -EL, -END, -ERE, -ETT, -ING, -UNG, -DŌM, -HĀD in noun formation; -ED, -FUL, -IG, -ISC, -LIC, -SUM, -WEARD, -BĀERE, -CUND, -FÆST, -LĒAS and -WEARD in adjective formation; -ETTAN, -LIAN, -NIAN and -LĒCAN in verb formation; as well as -E, -LĪCE, and -WEARD in adverb formation. This makes approximately one half of the total inventory of suffixes and includes the formation of all the major lexical categories.

In recursive formations, the following suffixes appear in final position only: -ESTRE, -LING, -NES, and -SCIPE in noun formation; and -A and -ES in adverb formation. On the other hand, the following suffixes can appear in pre-final position only: -RĀEDEN in noun formation; -ENDE, -ER, -IHT, -OR, -TIG, -WENDE and -WĪS in adjective formation; -CIAN, -ERIAN and -SIAN in verb formation; -AN, -INGA, and -UNGA in adverb formation.

Of the two criteria proposed for distinguishing contentful from transpositional suffixes, the positional criterion stipulates that transpositional suffixes cannot be attached before contentful suffixes in recursive derivation. This criterion excludes non-recursive suffixes, final and prefinal suffixes and pre-final only suffixes for transposition, while it indicates that final only suffixes are good candidates for transposition: ESTRE, -LING, -NES, -SCIPE, -A and -ES.

The distributional criterion states that affixes which take part in a higher number of affixal combinations are more likely to be transpositional than affixes that appear in a lower number of recursive combinations. In section 4 a total thirty-five suffixes and 147 different combinations of affixes (types) have been presented as taking part in recursive formations, which throws an average mean of approximately four types. The distributional criterion, therefore, confirms the transpositional character of -NES (twenty-five types) and discards -A (two types), -ES (one type), -ESTRE (two types), -LING (one type) and -SCIPE (two types) as transpositional suffixes.

Leaving -NES apart, three suffixes call for some comment. In the first place, -LĪCE, which can appear both in final and pre-final position is only pre-final with the transpositional suffix -NES. Otherwise, it cannot be attached in pre-final position. Considering the number of types of -LĪCE, which amounts to fifteen, which clearly

outnumbers the average mean of 4 types, this suffix can be considered transpositional. In the second place, the suffix -LIC throws a high number of types (twenty-three) and is outpowered by the transpositional suffix -NES. As regards its distribution, -LIC only appears pre-finally with the transpositional suffix -NES as well as with -ETTAN and -UNG. For these reasons, this suffix might be considered transpositional. In the third place, the case with -FUL is weaker. This suffix can only be attached pre-finally before the transpositional -LĪCE, although its distribution is clearly under the mean. This leaves two clearly transpositional suffixes, -NES in noun formation and -LĪCE in adjective formation and two less clear cases, -LIC and -FUL in adjective formation. The rest of the suffixes discussed in this article can be considered contentful.

6. Conclusion

After isolating the parasyntetic formations with the simultaneous attachment of the prefix *ge-* and the suffix *-ed*, the analysis carried out in this article has described the suffixation producing all the major lexical categories in Old English in terms of affix combination and type frequency. A distinction has been made between suffixes and suffixoids on the basis of boundedness. The stepwise analysis has considered first final suffixation and then pre-final suffixation. With respect to final suffixation, special attention has been paid to type-frequency and recategorization. As regards pre-final suffixation, the patterns of affix combinability have been considered both from the quantitative and the qualitative point of view. Two criteria have been defined to distinguish transpositional from contentful suffixes. The positional criterion stipulates that transpositional suffixes cannot be attached before contentful suffixes in recursive derivation while the distributional criterion states that affixes which take part in a higher number of affixal combinations are more likely to be transpositional than affixes that appear in a lower number of recursive combinations. The application of these criteria leads to the conclusion that there are two clearly transpositional suffixes, -NES in noun formation and -LĪCE in adjective formation, while -LIC and -FUL in adjective formation might be considered transpositional.

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