From directionals to telics: Meaning construction, word-formation and grammaticalization in Role and Reference Grammar

Javier Martín Arista

Universidad de La Rioja

Francisco J. Cortés Rodríguez

Universidad de La Laguna

This chapter deals with the evolution of preverbs and discusses the development of a telic function by directionals after a process of lexicalization and grammaticalization. The main language of analysis is Old English and the discussion includes a comparison with Sanskrit, Gothic and Old Icelandic. The theoretical background is provided by Role and Reference Grammar. The conclusion is reached that a cline of lexicalization and grammaticalization free adverb > preverbal adverb > bound prefix > no prefix can be defined with respect to Sanskrit, Gothic, Old English and Old Icelandic, in such a way that Sanskrit represents the earliest stage of the cline and Old Icelandic the latest.

1. Aims, methodology and theoretical background

The aim of this chapter is twofold. On the descriptive side, this work centres on the relationship between lexicalization and grammaticalization in the evolution of the preverbs of Old English, Sanskrit, Gothic and Icelandic. On the theoretical side, this chapter puts

forward an integrated framework of grammaticalization and lexicalization in Role and Reference Grammar, henceforth RRG (van Valin & LaPolla, 1997; van Valin, 2005, 2010) that also constitutes a reappraisal of previous work on RRG inflectional and derivational morphology (Cortés Rodríguez, 2006a, 2006b; Cortés Rodríguez & Sosa Acevedo, 2012; Martín Arista, 2008, 2009, 2011, 2012b). Such a framework comprises different layered structures at clause or word level for fully analyzable, lexicalized and grammaticalized items. On the whole, the evolution of preverbs has been explored from the points of view of positional syntax and affix interchangeability but no comprehensive account has been provided so far that discusses the question from the perspective of word-formation. In RRG terms, this chapter focuses on the relationship between layered structures and meaning construction, thus reinforcing the syntagmatic parallelism between words and clauses and making allowance for diachronic processes of loss of analyzability and gain of grammatical meaning.

The Old English data of analysis have been retrieved from the lexical database of Old English *Nerthus* (www.nerthusproject.com) while for Sanskrit, Gothic and Old Icelandic we rely on secondary sources. The outline of the chapter is as follows: the remainder of this section succinctly reviews the main aspects of the theoretical background of the research, including layering in RRG as well as lexicalization and grammaticalization. Section 2 offers a discussion of Old English preverbs in terms of affix interchangeability and affix stacking that draws a distinction between free preverbs and highly lexicalized bound affixes replaced by directionals for expressing telicity. Section 3 deals with preverbs in a wider diachronic and typological setting that comprises Sanskrit, Gothic and Old Icelandic. The processes of grammaticalization and lexicalization are considered along a single cline that comes full circle: from the lexicon (idiosyncratic) to grammar (productive and analyzable) and back to the lexicon. Section 3 also compares this proposal with previous work by the

RRG community. To close the chapter, section 4 summarizes the central points of this contribution and insists on its advantages over previous analyses.

RRG is a structural-functional theory of language whose main concern is typological adequacy. Although it can be traced back to the debate over generative semantics, RRG has made significant contributions not only to semantics, but also in the areas of morphology, syntax and pragmatics. The cornerstones of RRG linguistic analysis (Van Valin 2010) are the linking syntax-semantics and semantics-syntax on the one hand, and layering on the other, in terms of which semantically motivated morphosyntactic structures are configured by means of operators that have scope over a given layer and inner layers displaying, by definition, less semantic and syntactic complexity. Standard RRG layering comprises the nucleus, containing the predicate, and the core, which consists of the nucleus, the arguments and the argument-adjuncts. Layering thus defined is universal and, as such, explanatory at sentence (Layered Structure of the Clause or LSC) and word level (Layered Structure of the Word or LSW). In this line, the projection of constituents and the projection of operators specify categorial and functional information for the building blocks of word, phrase, clause and sentence.

Turning to grammaticalization, this phenomenon can be defined as a change from lexical into grammatical status (Hopper & Traugott, 2003, p. 18) in such a way that lexical forms are desemanticized and convey more abstract meanings (Givón, 2009, p. 301) throughout a cline *content item > grammatical word > clitic > inflectional affix* (Hopper & Traugott, 2003, p. 3). Desemanticization, in turn, has been defined by Brinton & Traugott (2005, p. 108) as "bleaching or loss of contentful meaning, usually related to decategorialization or loss of categorial properties" (Heine & Kuteva, 2002, p. 2). Regarding lexicalization, Fischer (2008, p. 52) has distinguished this term from grammaticalization by remarking that lexicalization applies at token level, whereas

grammaticalization takes place both at type and token level. On the synchronic axis, lexicalization is "the formation of a new member of a major category by the combination of more than one meaningful element, e.g. by derivational morphology or compounding" (Traugott & Dasher, 2002, p. 283). In this chapter, we will be concerned with the diachronic dimension of lexicalization, which involves the lack of analyzability of a lexical item (Bauer, 1983, p. 95; Lehmann, 2002, p. 13; Brinton & Traugott, 2005, p. 96). More specifically, Hohenhaus (2005, p. 356) describes this phenomenon "as a cline ranging from complete formal and semantic opacity, with the results becoming similar in status to unanalysable simplex words (...) via partial idiomatization/demotivation, and minor vowel reductions, to even fully transparent forms". On the grounds of the proposals just reviewed, the discussion that follows adopts a synthetic approach to grammaticalization and lexicalization, which are considered along a single cline from the lexicon to grammar and back to the lexicon.

2. Preverbs in Old English

This analysis of Old English preverbs focuses on strong verbs, which constitute the starting point of derivation in Germanic (Hinderling, 1967; Seebold, 1970; Kastovsky, 1992), in such a way that weak verbs largely reflect the patterns of derivation of strong verbs. As can be seen in (1), the weak verbs in the rightmost column derive from the strong ones in the column in the middle, which, in turn, select the strong verb *faran* as base of derivation:

    (1)   *faran*

          (ge)faran   *(ge)ferian* 'to carry, bring; depart, go'

āfaran	*āferian*	'to provide horses'
oðfaran	*oðferian*	'to take away, bear off'
tōfaran	*tōferian*	'to scatter, get rid of; put off'
wiðfaran	*wiðferian*	'to rescue, redeem'

This said, Old English preverbs can be broken down into two main types, namely pure prefixes (de la Cruz, 1975), that is, those prefixes without a prepositional counterpart or with a prepositional counterpart that differs in function, and preverbs with a prepositional or adverbial counterpart of place or direction. The preverbs belonging to each group can be seen in (2a) and (2b) respectively, and will be referred to as pure prefixes or group A and free preverbs or group B:

(2) a. *ā-*   *āberan* 'to bear'

     be-   *bebītan* 'to bite'

     for-   *forlēogan* 'to lie'

     ge-   *gebringan* 'to bring'

     of-   *ofðīnan* 'to be too moist'

     on-   *oncunnan* 'to accuse'

     tō-   *tōstincan* 'to distinguish by smell'

   b. *æt*   *ætslāpan* 'to sleep beside'

     ofer   *oferberan* 'to carry over'

     forð   *forðhrēosan* 'to rush forth'

     fore   *foresittan* 'to preside over'

     fram   *frambringan* 'to take away'

     geond   *geondsāwan* 'to scatter'

in	*ināsendan* 'to send in'	
oð	*oðiernan* 'to run away'	
ðurh	*ðurhdrīfan* 'to drive through'	
under	*underwrītan* 'to write at the foot of'	
ūp	*ūpārīsan* 'to rise up'	
ūt	*ūtātēon* 'to draw out'	
wið	*wiðspurnan* 'to hit against'	
ymb	*ymblicgan* 'to surround'	

To the inventory in (2), the aspectual *eft-,* as in *eftārīsan* 'to rise again', and the pejorative *mis-,* as in *misfaran* 'to go wrong', can be added. They differ semantically but behave exactly the same as the members of the group in (2b) and, for the latter reason, will be put aside in this discussion. Notice that the groups of preverbs as rendered in (2) are homogenenous as regards class status. More specifically, the lexical items in (2a) represent bound forms whereas those in (2b) belong to the free lexical classes. According to Clark Hall (1996), *æt* and *ymbe* are adpositions; *eft, ūp* and *ūt* qualify as adverbs; *forð*, *ofer* and *under* belong to the classes of the adverb and the adposition; and, finally, *oð* (*of*) and *wið* can function as adverbs and conjunctions. It follows from class status that the lexical items in (2b) do not necessarily precede the verb, neither do they always directly precede or follow it (Harrison, 1970, p. 7; Hopper, 1975, p. 41; Kastovsky, 1992, p. 376) as is the case with the instances of *ut* in (3), drawn from the *Dictionary of Old English Corpus* (http://quod.lib.umich.edu/o/oec):

(3)　a.　ChronA (Bately) B17.1 [0472 (895.17)]

　　　...ær hie ut of þæm geweorce foron.

...before they out of that fortress went.

b.   ChronA (Bately) B17.1 [0522 (910.8)]

...hie ut on hergað foron.

...they out on harrying went.

The Old English pure prefixes have cognates with a similar function in the old Germanic languages (except Old Icelandic), which points to a common origin (Seebold, 1970; Voyles, 1974, 1992; Elenbaas, 2007) and explains the relative semantic opacity of series of derivatives like the one presented in (4), all of which share the base of derivation *(ge)beran* 'to bear':

(4)   *āberan* 'to bear'

       beberan 'to carry to'

       forðberan 'to bring forth'

       forberan 'to forbear'

       foreberan 'to prefer'

       ināberan 'to carry in'

       inberan 'to carry in'

       oðberan 'to bear away'

       oferberan 'to carry over'

       onberan 'to carry off'

       tōberan 'to carry off'

       underberan 'to endure'

       ymbberan 'to surround'

The picture offered by (4) is one in which preverbs have already undergone some degree of semantic bleaching, given that some overlappings turn up, such as *beran/āberan/geberan* 'to bear', as well as mismatches, like *inberan/ināberan* 'to carry in', and patterns of interchangeability of the type *onberan/tōberan* 'to carry off'. On the grounds of evidence like that provided by (4), scholars such as de la Cruz (1975), Horgan (1980), Hiltunen (1983), Kastovsky (1992) and Martín Arista (2012a) have remarked that the distribution and behaviour of the pure prefixes of Old English are indicative of their semantic weakening. Hiltunen (1983, p. 54) points out that "the fact that one and the same verb may occcur with two or more different prefixes (...) is often taken to indicate the lack of expressive content in the prefixes, and their incipient decline". Kastovsky (1992, p. 377), in a similar line, stresses that "in subsequent copies of one and the same text prefixes are often omitted, added or exchanged for other prefixes without any apparent semantic effect. This points to a considerable weakening of the meanings of these prefixes". Martín Arista (2012a, pp. 415), regarding the prefix *ge-*, holds that this prefix "cannot be derived productively with the formal resources of the language". Lexicalization, understood as the loss of analyzability of derivatives on the diachronic axis, is brought to this discussion as a cover term for four types of mismatch between form and meaning: (i) an affix can be deleted without change of meaning, as in *rihtan/gerihtan* 'to set straight'; (ii) two affixes are interchangeable without change of meaning, as in *āsǣlan/gesǣlan* 'to tie'; (iii) an affix and a free form are interchangeable, as in *ondrincan/indrincan* 'to drink'; and (iv) three or more affixes are interchangeable without change of meaning, as in *āspillan/gespillan/tōspillan* 'to destroy'. These types are discussed in turn.

The data shows that all the affixes of group A distribute in pairs like the following ones, in which the complex and the simplex form are, at least, partially synonymous:

(5) *ābacan/bacan* 'to bake'

begylpan/gielpan 'to boast'

getredan/tredan 'to tread'

forcwolstan/cwolstan 'to swallow'

oflinnan/linnan 'to cease'

onblōtan/blōtan 'to sacrifice'

tōsceacan/scacan 'to shake off'

Whenever a pure prefix alternates with the zero form, it also alternates with all the other prefixes in the series. Evidence in favour of this claim has been furnished in (6):

(6) *ā-/be-*   *ādrīfan/bedrīfan* 'to follow up'

ā-/ge-   *ālēogan/gelēogan* 'to lie'

ā-/for-   *āmeltan/formeltan* 'to melt away'

ā-/of-   *āsnīðan/ofsnīðan* 'to cut off'

ā-/on-   *āhōn/onhōn* 'to crucify'

ā-/tō-   *ācnāwan/tōcnāwan* 'to recognise'

be-/ge-   *belēogan/gelēogan* 'to lie'

be-/for-   *beflēon/forflēon* 'to flee from'

be-/of-   *behrēosan/ofhrēosan* 'to overwhelm'

be-/on-   *behātan/onhātan* 'to promise'

be-/tō   *becuman/tōcuman* 'to come'

for-/ge-   *forsweltan/gesweltan* 'to die'

for-/of-   *fortredan/oftredan* 'to tread down'

for-/on-   *forgieldan/ongieldan* 'to pay for'

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for-/tō-	*forhēawan/tōhēawan* 'to hew in pieces'	
ge-/of-	*gelēogan/oflēogan* 'to lie'	
ge-/on-	*gebēodan/onbēodan* 'to command'	
ge-/tō-	*gehelpan*/tōhelpan 'to help'	
of-/on-	*ofmunan/onmunan* 'to remember'	
of-tō-	*ofsnīðan/tōsnīðan* 'to cut off'	
on-/tō-	*onhlīdan/tōhlīdan* 'to open'	

Although infrequently, the preverbs in group B alternate with those in group A, but they cannot be replaced by zero with a similar meaning, as is illustrated by (7):

(7)	*æt-/ā-*	*æthebban/āhebban* 'to take away'
	ofer-/for-	*oferniman/forniman* 'to take away'
	oð-/be-	*oðcwelan/becwelan* 'to die'
	oð-/on-	*oðhrīnan/onhrīnan* 'to touch'
	geond-/ge-	*geondscīnan/gescīnan* 'to shine upon'
	ofer-/of-	*ofertredan/oftredan* 'to tread down'
	oð-/of-	*oðswerian/ofswerian* 'to abjure'
	ūp-/on-	*ūphebban/onhebban* 'to lift up'
	oð-/to-	*oðglīdan/tōglīdan* 'to glide away
	ūpā-/ūtā-	*ūpābrecan/ūtābrecan* 'to break out'
	wið-/wiðer-	*wiðstandan/wiðerstandan* 'to resist'

Patterns of interchangeability often come in triplets, rather than in pairs. Examples in point are:

(8) *ā-/be-/for-*   *āweorpan/beweorpan/forweorpan* 'to throw'

     ā-/be-/ge-   *ālēogan/belēogan/gelēogan* 'to lie'

     ā-/be-/tō-   *ābrecan/bebrecan/tōbrecan* 'to break to pieces'

     ā-/ge-/for-   *āblāwan/geblāwan/forblāwan* 'to blow'

     ā-/ge-/on-   *ābēodan/gebēodan/onbēodan* 'to command'

     ā-/ge-/to-   *āhelpan/gehelpan/tōhelpan* 'to help'

     be-/on-/to-   *becuman/ancuman/tōcuman* 'to arrive'

     be-/for-/of-   *beswelgan/forswelgan/ofswelgan* 'to swallow up'

These triplets include the affixes *ā* and *ge-*, but also *be-, for-, of-, on-* and *tō-*. For Hiltunen (1983, p. 84), "in terms of interchangeability, *ā-* and *ge-* form a group of their own". However, the analysis of affix variation has shown consistent patterns of behaviour in group A and group B, rather than drawing a distinction between *ā-* and *ge-* and the rest: whereas the pure prefixes in group A alternate with zero and with other affixes from their group, the free forms in group B do not alternate either with zero or with other preverbs from group B. That is, *ā-* and *ge-* do not constitute an independent group of affixes but clearly belong to group A, which can be distinguished from group B for the reasons just given.

We use the term *affix stacking* after Papke (2010), to refer to unproductive affix sequences (in the sense of semantically opaque). For productive sequences, the term *recursive* is used in the following section. The following combinations are frequent in affix stacking as found in complex verbs:

(9) *forð-ge-, fore-ge-, fram-ā-, in-be-, in-ge-, niðer- ā-, of-ā-, ofer-be-,*

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ofer-ge-, on-ā-, on-be-, on-ge-, onweg-ā-, tō-be-, tō-ge-, ūp-ā-, ūt-ā-

The limit is two preverbs. The typical pattern is a preverb from group B followed by another one that belongs to group A. The following combinations conform to the pattern just described:

(10) a. *of-ā-*

   ofāceorfan 'to cut off', *ofādrincan* 'to quench', *ofāhēawan* 'to cut off', *ofāniman* 'to take away', *ofāsceacan* 'to shake off', *ofāsciran* 'to cut off', *ofāsēoðan* 'to purify', *ofāslēan* 'to smite off', *ofāsnīdan* 'to cut off', *ofāstīgan* 'to descend', *ofātēon* 'to pull out', *ofāweorpan* 'to throw off'

   b. *ūp-ā-ūpāblāwan* 'to blow up', *ūpābrecan* 'to break out', *ūpābregdan* 'to lift up', *ūpāhebban* 'to raise up', *ūpāhōn* 'to hang up', *ūpālūcan* 'to eradicate', *ūpārīsan* 'to rise up', *ūpāspringan* 'to spring up', *ūpāstīgan* 'to rise', *ūpātēon* 'to draw up', *ūpāweallan* 'to well up', *ūpāwegan* 'to lift up'

   c. *ūt-ā-ūtāberstan* 'burst out', *ūtābrecan* 'break out', *ūtādelfan* 'dig out', *ūtādrīfan* 'drive out', *ūtāfaran* 'to go out', *ūtāflōwan* 'to flow out', *ūtāscēotan* 'to pierce out', *ūtāslēan* 'to strike outwards', *ūtāslīdan* 'to slip forwards', *ūtāspīwan* 'to spew forth', *ūtātēon* 'to draw out', *ūtāwindan* 'to fall out'

The pure prefixes tend to take up the second position in stacks of affixes, as in *ūpāwegan* 'to lift up'. When the pure prefixes appear in the first position, they are frequently followed by another pure prefix. In this respect, the only pure prefixes that

appear in the second position preceded by another pure prefix in the first position are *ā-, be-, for-, ge-* and *on-*, thus, for instance, *ofāsēoðan* 'to purify'; while the only pure prefixes that occupy the first position followed by another preverb are *ā-* and *ge-*, as in *gebelimpan* 'to concern'. This boils down to saying that the two pure prefixes that can be followed by another preverb are the most frequent and the only ones that do not have a free counterpart in group B, namely *ā-* and *gē-*. A summary of stacking involving the Old English pure prefixes is given in (11):

(11) I   *tō-*   *tōbeflōwan* 'to flow up to'

     I   *of-*   *ofāslēan* 'to smite off'

     I/II   *ge-*   *gebelimpan* 'to concern' / *ongesēon* 'to look on'

     I/II   *ā-*   *ofādrincan* 'to quench' / *āðurhgiefan* 'to fogive'

     II   *on-*   *geonwealdian* 'to have dominion over'

     II   *be-*   *tōbefealdan* 'to fold together'

     II   *for-*   *geforcippian* 'to cut off'

To recapitulate, affix interchangeability comprising the members of group A indicates that all prefixes involved in such patterns must perform the same function (or no function at all). As for the preverbs in group B, it turns out that they cannot combine with other preverbs from the same group, neither can they occupy a position closer to the verb than that taken by an affix from group A. In syntactic terms, preverbs in group B are separable. That is to say, preverbs with more semantic weight are more separable and are attached further away from the verb than preverbs with less semantic weight, which, moreover, cannot be detached from the verb.

There is, however, the issue of distinguishing semantic weight from full lexical meaning. In other words, the meaning conveyed by meaningful preverbs can be grammatical rather than lexical. As has already been said, preverb stacking in Old English verbs is best illustrated by instances such as *fram-ā-drīfan* 'to drive away' and *in-for-lœtan* 'to let in', in which a directional (from group B) is attached to a complex base of derivation displaying a pure prefix (from group A). In this sense, de la Cruz (1975, p. 75) rightly underlines the telic function performed by the pure prefixes in formations like:

(12) *āsingan* 'sing to an end'/*singan* 'to sing'

   beswælan 'scorch'/*swælan* 'to burn'

   ofsceotan 'shoot down'/*sceotan* 'to shoot'

   forgrindan 'grind to pieces'/*grindan* 'to grind'

For Brinton & Closs Traugott (2005, p. 127) "the rise of prepositional verbs is concurrent with the loss of verbal prefixes, which over the OE period had weakened, overextended, and lost information content". Brinton & Closs Traugott (2005, p. 124) point out that preverbs like *of-*, *ūp-* and *ūt-* "come to be grammaticalized as markers of verbal aspect". In this view, the directional meaning is the source of the telic one, as can be seen in instances like *ūp-ā-brecan* 'to break out' and *ūt-for-lǣtan* 'to cast out'. The grammaticalization cline logically results in alternations like the ones given in (13), in which the originally telic prefix from group A alternates with zero:

(13) *forðātēon/forðtēon* 'to bring forth'

   forðbecuman/forðcuman 'to come forth'

   ofergesāwan/ofersāwan 'to sow'

underbeginnan/underginnan 'to undertake'

ūpātēon/ūptēon 'to draw up'

ūtāberstan/ūtberstan 'to burst out'

As is shown by (13), when one of the two preverbs is omitted, it is the one that is closer to the base that disappears, the one from group A. The opposite does not happen. Such a distribution can be explained by means of the Redundancy Restriction put forward by Lieber (2004, p. 161), which stipulates that "affixes do not add semantic content that is already available within a base word (simplex or derived)". It can also be held that the preverbs with free status outrank those with bound status when there is competition for the expression of telicity. From the diachronic perspective, these pairs anticipate the disappearance of the Germanic verbal prefixes, which are hard to find and completely opaque in Present-day English. To close this section, it is necessary to note that lexicalization on the diachronic axis is not restricted to the preverbs from group A. Eventually, lexicalization also arises in instances of stacking involving a preverb of group A preceded by another of group B, such as *ofer-be-bēodan* 'to rule' and *under-be-ðēodan* 'to subject'.

3. A comparison with Sanskrit, Gothic and Old Icelandic preverbs

To summarize what has been said in section 2, Old English has free preverbs that can attach to the verb or detach from it, as well as bound affixes that represent a largely lexicalized stock replaced by directionals when it comes to performing the telic function. This section discusses the situation just described within a larger diachronic and typological setting that

comprises Sanskrit, Gothic and Old Icelandic. The explanatory part of this section aims to contribute to the theory of Role and Reference Grammar as put forward by Van Valin & LaPolla (1997) and Van Valin (2005, 2010) by dealing with questions like lexicalization and grammaticalization within a morphological framework that accommodates the formal and semantic dimension of word-formation.

The philological tradition has stressed the transparent character of Sanskrit word-formation, which displays series of derivatives like the one of the root √*kr* 'do' (Killingley & Killingley 1995, p. 22):

(14) *karoti* 'do' (V)

   kartr- 'doer' (N, masculine)

   krti- 'action' (N, feminine)

   kara- 'hand' (N, masculine)

   karana- 'causing' (Adj); 'cause' (N, neuter)

   karman- 'action' (N, neuter)

   kārana- (Adj) 'causing'; (N, neuter) 'reason, cause'

   -ktr- 'making' (Adj); 'maker' (N, masculine)

Given these bases, further derivatives can be obtained by means of the attachment of secondary suffixes that also apply on a largely transparent fashion. Focusing on preverbs, directionals such as *ā-, upā-* and *prati-* are remarkably transparent in complex instances like *āgacchati* 'he comes', *upāgacchati* 'he approaches' and *pratigacchati* 'he returns', corresponding to the simplex form *gacchati* 'he goes' (Egenes, 2005, p. 188). However, there is also consensus on the field regarding the lexicalization of derivatives like *anutisthati* 'he performs, carries out a plan' or *upacarati* 'he waits on, serves, treats a

patient' (Killingley, 1996, p. 153). Schäufele (1991, p. 171) remarks that in Classical Sanskrit the verbal root + prefix combination has been lexicalized and can therefore be treated as a simple V. Along with evidence of lack of semantic analyzability like the one just gathered, there are formal arguments in favour of preverb lexicalization in Classical Sanskrit. As Killingley (1996, p. 151) points out, some verbs are only used with preverbs, including, for instance, *upadiśati* 'he sits' (*diśati* 'he points'), *praviśati* 'he enters' (*viśati* 'he enters') and *vyāpādayati* 'he kills' (*pādayati* 'he causes to fall'). Interestingly, the simplex forms cited above are used in Vedic Sanskrit. This earlier stage of the language is considerably more transparent as far as preverb formation is concerned because all preverbs belong exclusively to the free lexical classes. As Whitney (1941, p. 397) puts it:

In classical Sanskrit, the prefix stands immediately before the verbal form. In the earlier language, however, (especially in the *Veda*; in the *Brāhmana*, less often and more restrictedly), its position is quite free: it may be separated from the verb by another word or words, and may even come after the form to which it belongs; it may also stand alone.

The separable status of Vedic preverbs is undoubtedly reinforced by Papke´s (2010, p. 81) remark that they can even modify nouns. In spite of the fundamental difference of separability, there is a striking similarity between Vedic and Classical Sanskrit regarding the relative ordering of preverbs. In the light of the evidence provided by Papke (2010) after the *Monier Williams Sanskrit-English Dictionary*, a pattern of permanence can be identified in terms of which there is an outstanding tendency for *adhi-* 'on, above', *anu-* 'after', *abhi-* 'to, against', and *prati* 'back to' to take up the outermost position of the complex verb, while *ā* takes the innermost position without exception (something already

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noted by Whitney (1941, p. 397). At the same time, *ni-* 'down, into', *parā-* 'away, forth, alone' and *pra-* 'forward, onward' more often than not occupy the internal position. Instances of the permanence of these patterns in Classical Sanskrit are given below:

(15) *adhi-pra-sū* 'to send away' 'to procreate'

   anu-ni-yuj 'to attach to, to place under the authority'

   anu-parā-gam 'to follow one who is escaping'

   prati-ā-diś 'to reject; put to shame'

In this respect, Whitney (1941, p. 410) holds that *ni-*, *parā-* and *pra-* do not have a prepositional counterpart, unlike the others. In other words, free preverbs occur outside bound preverbs. In general, Sanskrit stages an evolution from separable free forms to non-separable bound forms that co-occur with free forms in the prefield of the complex verb so that the more meaningful preverbs appear outside the less meaningful ones. A remarkable difference arises with respect to Old English that has to do with the degree of stacking allowed by the prefield of the verb. Whereas in Old English, as has been shown in the previous section, the maximal number of preverbs is two, up to three can be found in complex Sanskrit verbs. Their interpretation, as Killingley (1996, p. 152) states, is directional. Although Whitney (1941, p. 397) finds that the meaning of derivatives is always compositional, Papke (2010, p. 67) convincingly shows that counterexamples are not hard to find.

There are many points of convergence between preverbs in Old English and in Gothic, the only eastern representative of the Germanic group. In spite of the similarities, several remarkable differences regarding prefixed elements in complex verbs arise between the two languages. To begin with, no affix separates from the verb in Gothic (von Schon

18

1977, p. 49). In general, preverbs, both of the grammatical and the lexical type, attach more transparently in Gothic than in Old English, with which the meaning of derivatives is more compositional. This is particularly true of formations involving two preverbs like the ones that appear under (16) (we have analyzed all the verbs with two preverbs provided by Buckso (2008); the analysis of word-formation and meaning compositionality carried out here does not always coincide with Buckso´s judgements of idiomatization, though):

(16) *anainsakan* 'to add to, contribute'

   (*ana-* 'against', *in-* 'concerning', *sakan* 'to dispute, reproach')

   atgaraihtjan 'to put into good order'

   (*at-* 'at, by, to, with, of', *ga-*, *raihtjan* 'put right')

   fauragateihan 'to foretell, inform beforehand'

   (*faura-* 'before', *ga-*, *-teihan* 'to show')

   innatbairan 'to bring in'

   (*inn-* 'in', *at-* 'to', *bairan* 'to bear')

   miþfrahinþan 'to take captive along with'

   (*miþ* 'with', *fra-* 'from', *hinþan* 'catch')

   miþuskeinan 'to spring up together'

   (*miþ-* 'with', *us-* 'out', *keinan* 'sprout')

Even though lexicalization turns up more frequently in complex verbs with one preverb, thus *afgiban* 'depart' (*af* 'of, from', *giban* 'give') and *anafilhan* 'entrust, deliver, commend' (*ana* 'on', *filhan* 'hide, conceal, bury'), semantic transparency is not absolute in instances with two preverbs, as can be seen in (17):

(17) *duatgaggan* 'to go to, come to'

  (*du-, at-* 'to', *gaggan* 'go, come')

  duatrinnan 'to run to'

  (*du-, at-* 'to', '*rinnan* run')

  duatsniwan 'to hurry towards'

  (*du-, at-* 'to', *sniwan* 'hurry')

  dugawindan 'to entangle, wrap oneself in'

  (*du-, ga-, windan* 'wind, wrap')

  fauragamanwjan 'to prepare in advance'

  (*faura-* 'before', *ga-, manwjan* 'to prepare')

  faurbigaggan 'to go before'

  (*faura-* 'before', *bi-, gaggan* 'go, come')

  miþganawistron 'to bury with'

  (*miþ* 'with', *ga-, nawistron* 'bury')

  wiþragamotjan 'to meet with'

  (*wiþra* 'against', *ga-, motjan* 'meet')

It is worth pointing out that the reflexes of some Old English preverbs from group A (the pure prefixes) also show signs of semantic weakening. This happens more often in complex verbs with a preverb than in those with two preverbs, but at least *bi-* (Old English *be-*) and *ga-* (Old English *ge-*) in example (17) are not fully transparent from the semantic point of view. As in Old English, the outer preverb has a more lexical meaning than the inner preverb, which contributes grammatical meaning instead. The sequence of preverbs *faura-ga-* clearly illustrates the telic meaning of the preverb closer to the verb preceded by a locative (either temporal or directional):

(18) *fauragahaitan* 'to foretell'

(*faura-* 'before', *ga-, haitan* 'to name; order')

fauragahugjan 'to make up one's mind'

(*faura-* 'before', *ga-, hugjan* 'to think')

fauragaleikan 'to present'

(*faura-* 'before', *ga-, leikan* 'to please')

fauragamanwjan 'to prepare in advance'

(*faura-* 'before', *ga-, manwjan* 'to prepare')

fauragameljan 'to set forth in writing previously'

(*faura-* 'before', *ga-, meljan* 'to write')

fauragaredan 'to predetermine'

(*faura-* 'before', *ga-, redan* 'to advise')

fauragasatjan 'to set before'

(*faura-* 'before', *ga-, satjan* 'to set').

fauragateihan 'to foretell, inform beforehand'

(*faura-* 'before', *ga-, -teihan* 'to show')

Leaving aside *ga-*, other preverbs partake in sequences of locative plus telic, as, for instance, *duatsniwan* 'to hurry towards' (*du-* 'to', *at-, sniwan* 'hurry'). Unlike Old English, Gothic can display two locatives, mainly a temporal and a directional, as in *faurbigaggan* 'to go before, precede' (*faura-* 'before', *bi-* 'by' *gaggan* 'to go, come') and *faurbisniwan* 'to precede' (*faura-* 'before', *bi-* 'by', *sniwan* 'hurry'). The only complex verbs with two locatives that do not conform to the pattern temporal-directional are those displaying the preverb *miþ-*, which attach the commitative before the directional:

(19) *miþfrahinþan* 'to take captive along with'

     (*miþ* 'with', *fra-* 'from', *hinþan* 'catch')

     miþinngaleiþan 'to enter along with'

     (*miþ-* 'with', *inn-* 'in', PIE **leyt(h)-* 'to go')

     miþuskeinan 'to spring up together'

     (*miþ-* 'with', *us-* 'out', *keinan* 'sprout')

Gothic complex verbs can also display two aspectuals, as in *gafullaweisjan* 'fully instruct' (*ga-*, *fulla-* 'full', *weisjan* 'to show'). Moreover, the doubling of the prefix *ga-* is possible, as evidenced by the following instances:

(20) *gagahaftjan* 'to join together'

     gagaleikon 'to be transformed'

     gagamainjan 'to defile'

     gagatilon 'to fit or join together'

     gagawairþjan 'to reconcile'

     gagawairþnan 'to become reconciled'

It is our contention that prefix repetition reflects some degree of semantic attrition of *ga-*. On the other hand, there are position switches involving *ga-* like *gafullaweisjan* 'fully instruct' (*ga-*, *fulla-* 'full', *weisjan* 'show') and *gamiþsandjan* 'send with' (*ga-*, *miþ-* 'with' *sandjan* 'send'); and the patterns of interchangeability that have been found in Old English do not appear in Gothic, with which the conclusion can be drawn that the prefix is fairly, if not fully, transparent in Gothic. The same goes for the other Gothic reflexes of the pure

prefixes. Indeed, they do not alternate with zero, as is the case with their Old English counterparts and can appear before a commitative, as has just been shown. A significant similarity between Old English and Gothic telic preverbs is that *ge-* and *ga-* show distributional properties different from the rest of the affixes in their group.

The last language discussed in this section is Old Icelandic. Rask (1843, p. 175) notices that Old Icelandic has many compound verbs like *inntaka* 'to take in', *útreaka* 'to drive out' and *fráskilija* 'to part from', in which the meaning is compositional. In clausal syntax, the adverbs and prepositions appearing in compound verbs can be illustrated by means of expressions like:

(21) a. Hrafn 10/16 (Kossuth, 1980, p. 54)

  þeir ganga út ok ofan at Øxará

  ...they go out and down to the Øxar river.

  b. Drop 45/22

  ok fóru útan í eyna at þeim

  ...and went out to the island to them.

On the other hand, there are practically no traces of verbal prefixes in Old Icelandic. Gordon (1927, p. 257) explains this demise on the grounds of the loss of unaccented vowels. With the disappearance of such vowels, the consonatal part of prefixes was also lost, except in a few exceptions containing the prefix *ga-* (Old English *ge-*), such as *glíker* 'like' (vs. *líker*) and *gnógr* 'enough' (vs. *nógr*).

To recapitulate, Vedic and Old Icelandic represent different stages of diachronic evolution, in spite of which they converge regarding the existence of free adverbs (whose clausal position is more fixed in Old Icelandic than in Vedic) and the analyzability of

complex verbs (they have free adverbs rather than prefixes). This evolution is consistent with Hopper´s (1975, p. 43) remark that the inseparable prefixes are a late development of the Germanic languages. Chronologically, Old Icelandic is later than Old English, which is, in turn, later than Gothic and Sanskrit. In compliance with chronology then, Old Icelandic must represent the final stage in the cline of lexicalization and grammaticalization.

The transition both in semantic and in grammatical terms undergone by directionals in the four languages scrutinized can lead us to establish a grammaticalization/lexicalization cline consisting of four stages. In the first stage directionals are distributionally free lexical items, thus functioning as adjuncts inside a clausal core, as in *ær hie ut of þæm geweorce foron* 'before they went out of that fortress', given in (3a) above. This is presented in figure 1:
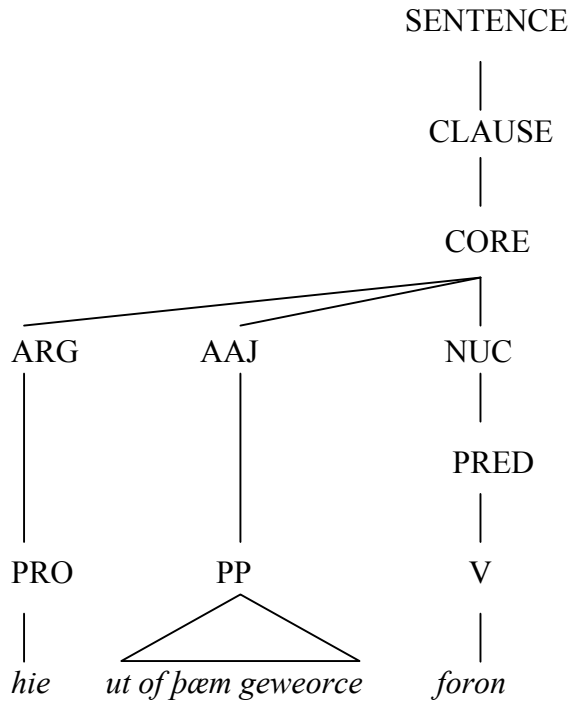
```
                        SENTENCE
                            |
                         CLAUSE
                            |
                          CORE
              _____/‾‾‾‾|
         ____/         ___/    |
       ARG           AAJ       NUC
        |             |         |
        |             |        PRED
        |             |         |
       PRO           PP         V
        |            /\         |
      hie      ut of þæm geweorce   foron
```

Figure 1: Argument-adjunct in clause core.

Free lexical preverbial units in Vedic Sanskrit also correspond to this evolutionary stage. Once free lexical units lose positional mobility and are stacked in the prefield the analysis necessarily involves a second stage of grammaticalization, in which directionals tend to become distributionally fixed, in contradistinction to adverbs and prepositionals of stage 1, which can freely precede or follow the predicate. In fact, stage 2 grammaticalization involves morphologization as the combination preverb + predicate is no longer clausal but a word level process; that is, a word-formation phenomenon, as is the case with *ðurhdrīfan* 'to drive through' in figure 2, in which, following the proposal by Martín Arista (2008, 2009), the preverb is projected in the constituent projection as an argument-adjunct in the LSW of a complex word.

COMPLEX WORD

CORE

AAJ   NUC

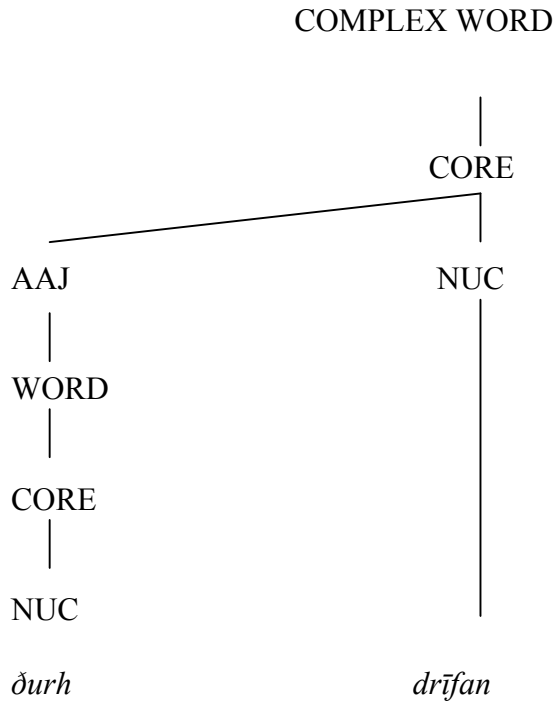WORD

CORE

NUC

ðurh   *drīfan*

Figure 2: Argument-adjunct in complex word core.

The difference drawn by Whitney (1941, p. 397) between freely movable and even independent Vedic preverbs (stage 1) and the distributionally restricted ones in Classical Sanskrit can be interpreted as a diagnostic for the morphologization involved in the transition from stage 1 to 2. Once they reach stage 2, their representation is as presented by figure 2.

Stage 3 structures correspond to Old English pure (i.e. class A) prefixes whose semantic transparency is seriously diminished and show a high degree of lexicalization. As described in section 2, Old English pure prefixes are interchangeable with other prefixes (see example 6) or even with zero forms (*ābacan/bacan, getredan/tredan*), which are signs of non-analyzability of the derived forms, and, at the same time, mark the difference with regard to class B preverbs. Thus, the LSW analysis differs substantially in these cases because the relevant projection is the operator projection, in which class A prefixes realize an operator of telicity with scope over the nucleus of the word. The contrast is seen more clearly if the different representations of *gebringan* are discussed on the grounds of the

different constructions of meaning involved, namely 'to bring forth' (directional), 'to present' (telic) and 'to adduce' (non-figurative). As shown by figure 2, full directionals belong in the projection of the constituents, where they function as argument-adjuncts in the core of the complex word. On the other hand, the grammaticalized telic meaning is represented by means of a nuclear operator of aspect, as in figure 3:

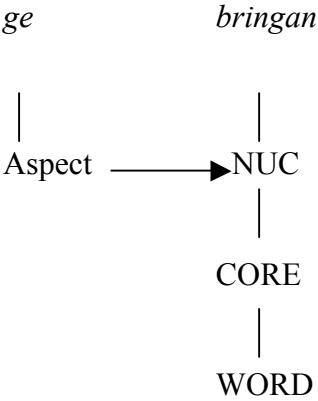*ge*   *bringan*

Aspect ⟶ NUC

CORE

WORD

Figure 3: Operator projection in simplex word.

Figure 3 represents the operator projection of a simplex word given that it is not possible to associate the prefix to any syntactic function. It has already evolved into an operator, which is probably the result of the most significant transition in the semantic evolution of directionals into telic prefixes. The non-figurative meaning of *gebringan* 'to adduce', in this framework, is constructed on the basis of the telic meaning and, being unanalyzable, corresponds to a simplex word with a constituent projection representation as shown by figure 4:
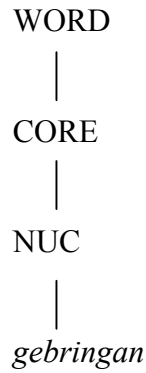
WORD
|
CORE
|
NUC
|
gebringan
Figure 4: Constituent projection in simplex word.

Fully lexicalized prefixed forms such as Classical Sanskrit *upadiśati* or *praviśati,* which must be treated already as monomorphemic, since their contemporary unprefixed equivalents are not attested, are probably instances of stage 3 grammaticalization, thus being represented as given in figure 4. Figure 4 corresponds to the final result of the process of lexicalization whereby a syntactically productive and semantically transparent construction of spontaneous or induced movement is replaced by a syntactically unproductive but semantically transparent lexical item which, in turn, is replaced by a syntactically unproductive and semantically opaque lexical item.

Old Icelandic offers the last stage in the grammaticalization process as morphologization is followed by full lexicalization: prefixes disappear and preverb composition is a clausal phenomenon, thus going back to stage 1 in the cline, as happens in examples (21a) and (21b). Figure 5 summarizes the full evolution described above.

	Grammaticalization	Lexicalization	Cline
Sanskrit Vedic	Free adverbs	Lexical analysability of complex verbs	Stage 2
Classical Sanskrit	Preverbal adverbs	Relative unalysability of complex verbs	Stage 2-3
Gothic	Preverbal adverbs	Relative unalysability of complex verbs	Stage 2-3
Old English	Bound prefixes	Most complex verbs are unalysable	Stage 3
Old Icelandic	No prefixes	Lexical analysability of complex verbs	Stage 4 > 1

Figure 5: Lexicalization and grammaticalization on the diachronic axis.

In a nutshell, the picture that emerges from figure 5 is that the lexicalization and grammaticalization process is cyclical, so that the free adverb stage represents the end as well as the beginning of the process. This said, this proposal is discussed in the light of previous analyses of these phenomena carried out within the RRG community. Matasović (2008) deals with the applicability of the LSC to the analysis of cross-linguistic patterns of grammaticalization and convincingly argues that (i) operators with narrower scope tend to grammaticalize as operators with broader scope and (ii) elements of constructions at a particular level of juncture tend to give rise to operators at the same or the immediately upper level. For Matasović, the broadening of the scope of operators can be explained as a consequence of the process semantic bleaching through which lexical units lose their meaning partially and, ultimately, undergo grammaticalization. The analysis of preverbs in Old English, Sanskrit, Gothic and Old Icelandic shows that, in contradistinction to the LSW, argument-adjuncts at clause level lexicalize as argument adjuncts at word level and finally grammaticalize as nuclear operators in the LSW. Put differently, lexicalization and

grammaticalization are not centrifugal but centripetal because they do not broaden the scope of their targets but narrow it. This analysis partially coincides with Kailuweit's (2008), who, in a study in French preverbal periphrases, notices that operators grammaticalize from the nucleus over the core to clause level, whereas predicates grammaticalize towards the nucleus and beyond, thus becoming bound morphemes of word formation. Although Kailuweit (2008, p. 84) finds the reason for this divergent behaviour in the fact that operators are grammatical morphemes, thus different from morphemes of word formation, both analyses explain grammaticalization as a change from the constituent projection to the operator projection and insist on the narrowing of scope at word level.

4. Conclusion

The preceding sections have analyzed the preverbs of Old English and compared them with those of Vedic Sanskrit, Classical Sanskrit, Gothic and Old Icelandic. On the diachronic axis, a cline lexicalization-grammaticalization has been identified in terms of which lexical items lose their analyzability and acquire grammatical status, while on the typological axis, the stage of grammaticalized preverbs is followed by that of independent adverbs, which also constitutes the starting point of the evolution. In layered structure, an argument-adjunct in a clausal core of the LSC is replaced by an argument-adjunct in a word core of the LSW. Such argument-adjunct narrows its scope to the nucleus and emerges in the operator projection as an operator of telicity. Overall, this work is the first study in the grammaticalization of the old Germanic languages that is based on RRG, which has been concerned with this phenomenon in Romance languages mostly. This analysis also has the advantage of strengthening the layering of RRG by linking the LSC to the LSW through

grammaticalization and lexicalization. Put in other words, this research contributes to the integration of the morphology and the syntax of the theory by means of layered structures. Last but not least, this proposal opens new research venues concerning the relationship between the lexicalization-grammaticalization cycle and degrammaticalization (Norde, 2009) or loss of grammatical status, given that the stage of full lexical analyzability is considered the beginning and the end of the processes at stake.

Acknowledgements

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