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**Multiple preverbs in ancient Indo-European languages:
a comparative study on Vedic, Homeric Greek,
Old Church Slavic and Old Irish**

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To the memory of my parents

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List of abbreviations

ABL	ablative	F	feminine
ABS	absolutive	FUT	future
ACC	accusative	GEN	genitive
ADV	adverb	GER	gerund
ADP	adposition	I	indefinite conjugation
ALL	allative	IMP	imperative
ANA	anaphoric	IMPF	imperfect
AOR	aorist	INDF	indefinite
APP	applicative	INJ	injunctive
ARG	argument	INS	instrumental
ART	article	INT	interrogative
AUG	augment	INTENS	intensive
CL	clitic	intran.	intransitive
CONJ	conjunction	IP	interior preverb
D	definite conjugation	IPFV	imperfective
DAT	dative	lit.	literally
DEICT	deictic	LOC	locative
DEM	demonstrative	metaph.	metaphorically
DISTR	distributive	MID	middle
DU	dual	MP	medial preverb
E	enclitic	M/P	medio-passive
EM	emphatic	N	noun
EP	exterior preverb	N	neuter
esp.	especially	NEG	negation
etym.	etymologically	NOM	nominative
EX	existential	NP	noun phrase
EXCL	exclusive	O	object

OPT	optative	P2	second position
P	preverb	REC	reciprocal
PASS	passive	RED	reduplication
PFV	perfective	REFL	reflexive
PL	plural	REL	relative
POSS	possessive	S	subject
POT	potential	SBJV	subjunctive
PP	Prepositional Phrase	SFX	suffix
PrepP	Prepositional Preverb	SG	singular
PRET	preterit	SUP	supine
PREV	preverb	tran.	transitive
PrevP	Preverbal Preverb	V	verb
PROT	prototonic	VOC	vocative
PST	past	VP	verbal phrase
PTC	particle	1	first person
PTCP	participle	2	second person
PW	place word	3	third person

In glosses, the nominal number is specified only if it is plural or dual (singular is not indicated), gender is not indicated unless it is feminine or neuter. Among verbal categories, indicative mood and active voice are likewise not indicated.

Languages

AG	Ancient Greek	Hom.Gr.	Homeric Greek
BCS	Bosnian-Croatian-Serbian	IE	Indo-European
Cypr.	Cypriot Greek	It.	Italian
CS	Common Slavic	Lat.	Latin
Germ.	German	Lyd.	Lydian
Hitt.	Hittite	MW	Middle Welsh

OCS	Old Church Slavic	PIE	Proto-Indo-European
OIr.	Old Irish	Ved.	Vedic
OLat.	Old Latin	Vulg.Lat.	Vulgar Latin
OR	Old Russian		

Authors, works, and manuscripts

AitBr.	<i>Aitareya-Brahmana</i>
Arist.	Aristotle
Bes.	<i>Gregorii Magni papae Homiliae in Evangelia</i> (<i>Besědy na evangelije papy Grigorija Velikago</i>)
Euch.	<i>Euchlogium Sinaiticum</i>
Fest.	Sextus Pompeius Festus
Har.	<i>Haravijaya</i>
<i>Il.</i>	<i>Iliad</i>
<i>Jn</i>	<i>John's Gospel</i>
KUB	<i>Keilschrifturkunden aus Boghazköi</i>
<i>Lk</i>	<i>Luke's Gospel</i>
Mar.	<i>Codex Marianus</i>
MBh.	<i>Mahābhārata</i>
<i>Metaph.</i>	<i>Metaphysics</i>
<i>Mk</i>	<i>Mark's Gospel</i>
MI.	<i>Milan Glosses</i>
<i>Mt</i>	<i>Matthew's Gospel</i>
<i>Od.</i>	<i>Odyssey</i>
ṚV	<i>Ṛg-Veda</i>
Sg.	<i>Priscian Glosses</i>
Supr.	<i>Codex Suprasliensis</i>
Wb.	<i>Würzburg Glosses</i>
Usp. Sbor.	<i>Uspenskij sbornik</i>

Grammars and dictionaries

ACC	= Stokes 1899-1900
CGH	= O'Brien 1962
DELG	= Chantraine 1968
eDIL	= <i>Electronic Dictionary of the Irish Language</i>
EWAia	= Mayrhofer 1986-2001
GOI	= Thurneysen 1946
IEW	= Pokorny 1959
KPV	= Schumacher 2004
LIPP I	= Dunkel 2014a
LIPP II	= Dunkel 2014b
LIV ²	= Rix et al. 2001
LSJ	= <i>The Online Liddell-Scott-Jones Greek-English Lexicon</i>
REW	= Vasmer 1953-1958
RIVELEX	= Krisch 2006
RIVELEX II	= Krisch 2012
TOROT	= Eckhoff & Berdicevskis 2015
VKG II	= Pedersen 1913

Symbols

→	become (synchronic rule)	/	context of a sound change
=	clitic boundary	-	morpheme boundary
~	correspond to	–	position in a rule/sound change
>	develop into (diachronic change)	√	root
+	combination of elements	#	starting-/endpoint of a sequence
	context of a phonological rule	*	unattested form

Introduction

πάντων γὰρ ὅσα πλείω μέρη ἔχει καὶ μὴ ἔστιν οἶον ὠρὸς
 τὸ πᾶν ἀλλ' ἔστι τι τὸ ὅλον παρὰ τὰ μόρια, ἔστι τι αἴτιον
 ‘In all things that have a plurality of parts, and that are not
 a total aggregate but a whole of some sort distinct from the
 parts, there is some cause.’ (Arist. *Metaph.* 8.1045a 9–10)

1. Object under investigation

This work investigates verbs modified by multiple preverbs in a number of ancient Indo-European languages, specifically in Vedic, Homeric Greek, Old Church Slavic, and Old Irish. The construction under research is schematized in (1)a and exemplified in (1)b:

(1) a. **P_n [exterior] (...P₂[medial]) P₁[interior] V**

b. Multiple preverb composites containing roots for ‘putting, laying, throwing’

PIE **d^heh₁-*, **kerH-*, **leg^h-* (LIV²: 136, 353, 398)

LANGUAGE	VERB	ACTUAL MEANING	LITERAL MEANING
Ved.	<i>adhí ní</i> √ <i>dhā</i> ¹	‘deposit for’	‘over-down-put’
Hom.Gr.	<i>ep-ana-títhēmi</i>	‘shut’	‘on-upward-put’
OCS	<i>prědъ-po-lagati</i>	‘distribute to’	‘in front of-along-lay’
OIr.	<i>do-aithchuiredar</i> (<i>to-aith-√cori-</i>)	‘return’ ²	‘to-back-put’

¹ Vedic multiple preverbs-verb combinations are written as separated items, based on the status of preverbs in this variety, which is thoroughly discussed in Chapter 3.

² Though the Old Irish citation form morphologically represents a third person singular and is usually translated with an English third person singular in the literature on Old Irish, I here decided to consistently use the English citation form instead, namely the infinitive without *to*.

Each simplex base in (1)b is modified by more than one preverb, that is, a small uninflected morpheme with original spatial semantics and free-standing status. The resulting formations can develop predictable or unpredictable semantics, given the concrete basic meanings of the elements that make them up.

1.1. *Motivations behind the present study*

Preverbs and preverbatation are two well-studied topics in Indo-European linguistics (cf. e.g. Rousseau 1995; Booij & Van Kamenade 2003; Chapter 2, and references therein), to such an extent that the notion of preverb itself saw its birth within this field of studies. However, this is not the case for multiple preverb constructions of the type in (1)a-b, whereby two or more such morphemes attach onto the same simplex verb. This gap in the literature is possibly due to the fact that the accumulation of preverbs, though possible, does not seem to be the favored procedure in ancient Indo-European languages (Kuryłowicz 1964: 174).

In spite of this general remark, a number of scholars noticed the relatively exceptional presence of multiple preverbs in Old Irish. Thurneysen (1946: 495) even wrote that “there is no restriction on the number of prepositions [i.e. preverbs] that may be employed in composition.” According to Kuryłowicz (1964: 174 ff.), in Old Irish, multiple preverbs are widespread as they do not constitute an ambiguous construction: the preverb farthest from the verbal stem is clearly separated from the rest of the verbal complex, as it retains a proclitic status. McCone (1997) offered an explanation of the ordering preferences of Old Irish preverbs in what he called ‘primary composition’, namely the inherited layer of composition, whereby more than one preverb simultaneously attached onto the same simplex verb. However, Trudy Rossiter, a student of McCone’s, in her doctoral thesis (Rossiter 2004), challenged this view: she showed that the vast majority of Old Irish verbs with multiple preverbs can be reduced by removing the outermost preverb. This fact points to a process of formation by incremental one-by-one accumulation of preverbs (the so-called ‘accretion’ or ‘recomposition’), a scenario that McCone (2006) also later embraced (cf. Chapter 6).

McCone's (1997) monography offered Papke (2010) a starting point to develop her comparison between Vedic and Old Irish preverb ordering, which she also extended to Homeric Greek. Papke concluded that, as there are strong correlations between preverb ordering especially in Vedic and Old Irish, Vedic order must be historically motivated (cf. Chapters 3 and 7). In addition, in her view, Vedic verbs with multiple preverbs originated by a process that Rossiter and McCone would call 'accretion' or 'recomposition': at first, only one preverb and a verbal base combine; afterwards, this established combination becomes available for the attaching of further preverb(s) (cf. Chapter 2).

Caroline Imbert dedicated several studies to Homeric Greek multiple preverbs, to their historical sources, and to the synchronic constraints ruling preverb ordering (cf. e.g. Imbert 2008). Notably, Imbert's works are typologically oriented: she applied to Homeric Greek the category of 'relational preverbs' (cf. Chapter 2), which Craig & Hale (1988) identified for preverbs in Rama (a Chibchan language). Accordingly, Imbert argued that Homeric Greek multiple preverbs developed from previous postpositions, as Craig & Hale showed for Rama. Zanchi (2014) is also devoted to Homeric multiple preverbs and their origins, but came to different conclusions from Imbert's: multiple preverbs are believed to have developed from original adverbs, rather than from postpositions (cf. Chapter 4).

To the present day, there are no studies focusing on multiple preverbs in Old Church Slavic; both Fil' (2011) and Zanchi & Naccarato (2016) take into account both Old Russian and Old Church Slavic data. Instead, multiple preverbs and their functions in modern Slavic languages have received much attention: for example, multiple preverbs are investigated in Czech by Filip (2003), in Bulgarian by Istratkova (2004), in Serbian by Milićević (2004), and in Russian, among others, by Babko-Malaya (1999), Filip (1999, 2003), Ramchand (2004), Romanova (2004), Svenonius (2004a, 2004b), and Tatevosov (2008, 2009). However, the system of multiple preverbs in modern Slavic turned out to be completely different from that of Old Church Slavic (cf. Chapter 5).

Alongside with this relative lack of studies on multiple preverbs, it is worth mentioning another crucial gap in the relevant literature. Specifically, no investigations are virtually available on preverbs' origin, functions, and developments that integrate the results achieved for different languages, in order to gain a precise, and at the same time

more general, understanding of the common reasons behind their behaviors and historical developments. For example, the above-mentioned concept of ‘accretion’ or ‘recomposition’ was coined by Rossiter (2004) and McCone (2006) for Old Irish, and – to my knowledge – never brought beyond its original scope. A second case in point is the so-called ‘Vey-Schooneveld effect’, which basically accounts for the development of Slavic preverbs into aspectual markers as a reanalysis triggered by semantic redundancy. This hypothesis was born within Slavic linguistics and virtually never tested elsewhere (a limited exception is Latin linguistics; cf. Chapter 5, fn. 6). My third and final example follows: Viti (2008a, 2008b) connected the development of Homeric preverbs into markers of actionality (and transitivity) with their ability to draw anaphoric reference to discourse-active (i.e. topical) participants. Although Boley (2004) and others also regarded preverbs as elements contributing to textual cohesion, and Friederich (1987), Coleman (1991) and Cuzzolin (1995) spoke about ‘discourse-oriented grammaticalization’ for Latin (and generally Indo-European) preverbs, similar analyses were never performed on a wider language sample.

Thus, the choice to investigate a relatively underrepresented phenomenon such as multiple preverbs in a relatively wide sample of Indo-European languages aims to be a first contribution to fill the gaps that I outlined above. In particular, Vedic and Homeric Greek were selected as they represent comparably early stages of development, whereby preverbs retain most of their assumed original meanings, functions, and syntactic freedom (cf. Section 2 for the chronology of their attestation; the most anciently attested Indo-European language, Hittite, was not included in this investigation, as it represents a divergent and to some extent problematic development, on which see Chapter 2, fn. 13). By contrast, Old Church Slavic offers a glimpse into the initial steps toward one of the possible developments of preverbs: specifically, their subsequent grammaticalization into fully-fledged aspectual markers. In parallel, Old Irish, with its flourishing usage of multiple preverbs, provides an excellent touchstone to assess another development that preverbs may undergo: specifically, their lexicalization into semantically idiosyncratic or unpredictable composite items.

2. Aims of the study and parameters of investigation

The aims of this work can be subcategorized as follows: (a) language-internal goals; (b) comparative goals; (c) wide-ranging goals. To begin with, for each language of the sample, the present investigation aims to (i) describe the full array of multiple preverb formations in terms of preverb combinations, verbal roots, and their frequencies; (ii) assess the extent to which multiple preverbs underwent lexicalization or grammaticalization; (iii) understand the morphosyntactic status of multiple preverbs; (iv) detect the meanings of preverbs in multiple preverb combinations; (v) provide insights on the formation process of verbs modified by multiple preverbs and preverb ordering.

Moving to type-(b) goals, this work seeks to (i) compare multiple preverb formations, multiple preverb combinations, the verbal bases that they contain, and preverb ordering; (ii) compare the statuses of multiple preverbs in the above-mentioned languages; (iii) identify, describe, and motivate common semantic shifts. At the most general level (type-(c) goals), the study aims to (i) provide, within a relatively limited data-sample, a more detailed view on the reasons why preverbs underwent the well-known lexicalization and grammaticalization; (ii) identify the pattern of formation of multiple preverb verbs; (iii) integrate references that focus on different languages to acquire a more general view of the common processes of development and their motivations.

In order to meet these goals, the present investigation takes into account a number of morphological, semantic, and syntactic parameters, which are briefly collected below:

- (a) preverbs' position with respect to that of the other pieces of preverbal morphology; the *sandhi* effects undergone by the elements that make up the formation; the position of the accent; when relevant, the metrical constraints that may influence preverbs' placement and univerbation;
- (b) multiple preverb verbs' degree of semantic compositionality; preverbs' degree of polysemy in multiple preverb combinations;
- (c) preverbs' potential displacement from the modified verbal base, the range, and the type of such displacement; preverbs' obligatoriness; preverbs' repetition outside the preverbal context; argument structure of multiple preverb verbs.

2.1. *Outline of the work*

The present work is organized as follows. The present introduction continues with brief descriptions of the texts selected for the present investigation. I focus on philological metadata, including dating, geographical origin, author, content, and textual tradition, as far as these are relevant to the linguistic amalgam that such written records transmit to us. The introduction ends with a few methodological caveats relating to the usage of the so-called ‘corpus languages’ (in Cuzzolin & Haverling’s 2010 terms) for research on historical linguistics.

Chapter 1 provides an overview of the theoretical background that the linguist needs to study preverbs and their developments in this language sample. Given the geographical and chronological dispersal that characterizes these languages (cf. Section 3 below), preverbs show very distinct behaviors, and thus require various analytical tools to be accounted for. On the one hand, the framework of Cognitive Grammar, spatial relations, and Semantic Roles are needed to analyze the basic meanings of preverbs and their paths of lexicalization. On the other hand, the categories of aspect and actionality are crucial to frame the developments of preverbs that are due to grammaticalization.

Chapter 2 provides the reader with an overview of preverbs inside and outside Indo-European. The first section, which deals with Indo-European, opens with a working definition of preverbs and a description of their functions. It then discusses their positional properties in ancient and modern Indo-European languages and their origin. Lastly, it addresses preverbs as a typological and a terminological problem, displays the terminology adopted in this work, and explains the reasons behind the outlined terminological choices (for the sake of clarity, it is worth anticipating that I consistently call multiple preverbs+verbs combinations ‘composites’ rather than ‘compounds’). Then, a section follows on the specific research topic: multiple preverbs. The last section of the chapter offers some typological insights on Finno-Ugric, Caucasian, Amerindian, and Northern Australian preverbs, insofar as their behavioral properties and paths of development can be relevant to our understanding of Indo-European preverbs.

The analysis unfolds in Chapters 3–6, starting with Vedic, going through Homeric Greek and Old Church Slavic, and concluding with Old Irish. Each of these chapters is organized in a consistent way. It first (Section 1) outlines the state of the art on preverbs and multiple preverbs in each language and provides information on their categorial status. The chapters continue displaying quantitative data on multiple preverbs: specifically, the catalogues of (i) multiple preverb composites, (ii) multiple preverb combinations, (iii) verbal roots modified by multiple preverbs together with their frequencies. For Old Church Slavic and Old Irish, the Greek and Latin counterparts of multiple preverb composites are also provided.

Section 3 addresses various issues relating to the form of composites: (a) possible *sandhi* phenomena occurring between their elements; (b) the relative positioning of preverbs with respect to other pieces of preverbal morphology; (c) in the case of Old Church Slavic, the interaction between preverbs and Slavic secondary verbal suffixes expressing imperfectivity. Section 4 analyzes the semantics of preverbs occurring in multiple preverb composites and the semantic compositionality of multiple preverb composites. It also focuses on a number of particularly interesting semantic developments, in order to show how new abstract meanings relate to the basic one via cognitive metaphors. It concludes with a table summarizing the meanings of preverbs as they occur in multiple preverb composites. Section 5 follows dealing with the syntax of multiple preverbs and/or the argument structure of multiple preverb composites. It explores (a) the possible alternative constructions to multiple preverb combinations (i.e. the ‘mobility’ of preverbs); (b) their optionality; (c) their ability to function as transitivity morphemes; (d) their inclination to be repeated outside the preverbal context; (e) their capacity of referring back to previously mentioned or discourse-active participants.

The final section (Section 6) investigates the reasons behind preverb ordering, which is understood as originating from the interplay of factors of different sort: (a) semantic and cognitive motivations, most notably redundancy; (b) textual motivations, such as the reference to discourse-active participants; (c) historical motivations, such as specific etymological origins of specific preverbs; (d) contact-relating motivation, including

calquing from Greek or Latin. Chapter 7 sums up the analyses unfolded in the preceding four chapters, compares their results, and draws general concluding remarks.

3. Description of the corpora and brief methodological remarks

3.1. *The Ṛg-Veda*

The *ṚgVeda* (from *ṛc* ‘praise, verse’ + *veda* ‘knowledge’) represents the most ancient Indian collection (*saṃ-hita* ‘put together’) of hymns (*sūktas* (lit.) ‘well said’) addressed to the Vedic gods, mantras, magic spells, and sacred formulas. It belongs with the four canonical sacred texts of Hinduism, known as the *Vedas*, which also include the *Sāmaveda* ‘veda of chants’, the *Yajurveda* ‘veda of the sacrifices’, and the *Atharvaveda* ‘veda of the magic spells’. Together, they constitute the so-called ‘early Vedic’ or ‘mantra language’, the most ancient variety of Old Indo-Aryan. Alongside with the *Vedas*, the Vedic corpus also comprises later prose texts: the *Brāhmaṇas*, the *Āraṇyakas*, the *Upaniṣads*, and the *Sūtras*. Early Vedic can be considered a north-western dialect and as such is close to Avestan, whereas later Vedic shows many features of the central Vedic dialects, which approximate this variety to Sanskrit.

In this work, I only take into account the *ṚgVeda*, which is undoubtedly the most ancient among the *saṃhitās*: while the *ṚgVeda* is mentioned in the other three collections, in turn, it does not provide hints to their existence. The *ṚgVeda* is also one among the oldest extant texts in any Indo-European language. Philological and linguistic evidence suggests that the *ṚgVeda* was composed in the north-western region of the Indian subcontinent, most likely between 1500–1200 BC, though a wider approximation of 1700–1100 BC has also been proposed (cf. further Witzel 1995; Mallory & Douglas 1997; Anthony 2007; Kulikov 2017). The Ṛg-Vedic hymns certainly post-date the Indo-Iranian separation (about 2000 BC) and probably the Indo-Aryan Mitanni documents (1400 BC).

The *ṚgVeda* are organized in ten books, known as *maṇḍalas* (lit.) ‘circles’, of varying antiquity and length, for a total of 1028 hymns. The hymns in turn consist of

individual stanzas (*rcas* ‘praises’), which can be further subdivided into metrical units (*pāda* ‘foot’) (cf. Chapter 3). Different sections of the *ṚgVeda* can be assigned to different chronological layers. The *maṇḍalas* II-VII (‘family books’) constitute the oldest and the shortest bulk of the collection (‘early Ṛg-Vedic’); *maṇḍalas* I, X, and part of VIII (so-called *Vāḷakhilya*) are the latest additions (‘late Ṛg-Vedic’); *maṇḍalas* VIII-IX are chronologically heterogeneous.

3.2. *The Homeric poems*

The *Iliad* and the *Odyssey* are two epic poems (for a total of about 28000 lines) that tell about the last weeks of the Trojan War and about the tribulations that Odysseus experienced when going back to Ithaca after the fall of Troy. The two poems also include various outer narrative materials: the *Iliad* alludes or directly refers to other legends connected with the Trojan siege; the *Odyssey* is only one among the return stories circulating at the same age in which its material was collected.

The Homeric epic is composed in hexameters, that is, lines made up of six (*hék* ‘six’) feet, which in turn are constituted by regular alternations of light/short and heavy/long syllables, interrupted by regular patterns of metrical pauses (cf. Chapter 4). The variety transmitted by the epic tradition is basically an archaic eastern Ionic, enriched by an amalgam of Mycenaean and Aeolic features, as well as by a number of other archaic traits that can be hardly ascribed to any particular dialect or region (Horrocks 2010: 44).

This arguably artificial admixture can be explained by taking into account that, although one usually refers to their author as Homer, the *Iliad* and the *Odyssey* are actually examples of oral poetic diction (Lord 1960; Parry 1971). The early epic bards, most likely going back to the Bronze Age (Horrocks 1997, 2010), repeated, or better online recomposed, the poems during public performances, by drawing on a conventional range of recurrent narrative themes and of ready-made dictions to fit such themes into the meter (so-called ‘formulas’, that is, “group[s] of words which [are] regularly employed under the same metrical conditions to express a given essential idea;” cf. Lord 1960: 30). As a consequence, though the *Iliad* and the *Odyssey* were probably written down during the 8th

century BC, they preserve more ancient layers of the Greek language, at least about two centuries earlier, in the shape of formulas, precisely by virtue of this peculiar process of composition. Therefore, the Homeric poems are of inestimable value for linguistic reconstruction (Watkins 1976). Through this passage from oral to written transmission, the texts are likely to have been updated by their editors, though without seriously damaging poets' traditional narrative and stylistic repertoire (Horrocks 2010: 46).

The basis for the modern editions of the poems is constituted by the versions issued by the Hellenistic philologists (4th–1st centuries BC). They in turn had at their disposal different previous editions, which could be either previous or contemporary, either personal (*kat'ándra* 'according to a man') or official (*katà póleis* 'according to towns'). All in all, the Homeric text was floating: both the bards who put together the Homeric texts and the editors who established their official form used a variety of Greek notably different from the original language of the oral tradition.

3.3. *Old Church Slavic and the Codices Zographensis, Marianus, and Suprasliensis*

Old Church Slavic (or Slavonic) is the variety attested in some of the oldest Slavic written records, which date back to the 10th–11th centuries AD. These records are not contemporary to Constantine (i.e. Cyril) and Methodius' mission of christianization of ancient Morava (a region located somewhere in the Danube Basin), which crucially triggered the translation of Christian sacred texts from the Greek of the Septuagint and Byzantine Greek into Slavs' language (Marcialis 2007). However, as first shown by August Leskien, a chronologically consistent and relatively old group of extensive manuscripts can be identified and employed as a canonical source to describe the system of Old Church Slavic.

The variety attested in this canon does not represent any particular Slavic regional dialect, but rather a literary language used by Slavs of different regions as a shared conduit within the Christian community (cf. Drinka 2011). Nonetheless, it has the general flavor of an early eastern Balkan Slavic (or Bulgaro-Macedonian) variety, and as such has also been addressed as Old Bulgarian or Old Macedonian (Lunt 1965: 4). As already touched upon above, Old Church Slavic texts are translations from original Greek sources, which boasted

a prestigious literary tradition and outstanding authority. For these reasons, Old Church Slavic has been frequently blamed to be deeply influenced by the Greek originals at different linguistic layers, ranging from syntax (Lunt 1977; MacRobert 1986) to the lexicon (cf. Chapter 5; Drinka 2011).

Among the manuscripts contained in the Old Church Slavic canon, this work takes into account the most ancient ones, i.e. *Codex Zographensis* and *Codex Marianus*, and the most extensive one, i.e. *Codex Suprasliensis* (Lunt 1965: 7, 9). The former are two of the so-called *tetraevangelia*, that is, full versions of the Gospels, both primarily written in glagolitic script (cf. Lunt 1965: 15 ff. for more information on this script). The *Codex Zographensis* is made up of 271 folia in standard Glagolitic, plus 17 folia in Macedonian Glagolitic, and later additions in cyrillic. It covers the Gospels from *Mt* 3.11 to the end of John (though the section *Mt* 16.20–24.20 belongs with the Macedonian addenda). It can be regarded as being phonetically faithful to Cyril and Methodius' language (i.e. probably south-eastern Macedonian), but it also displays a number of arguably younger morphological features. The *Codex Marianus*, made up of 147 folia, contains the Gospel text from *Mt* 5.23 to *Jn* 21.7. It shows a number of deviations from the Cyril and Methodius' language, which can be possibly motivated either by northern Macedonian or by Serbian influence. The *Codex Suprasliensis*, written entirely in Cyrillic, includes as many as 285 folia and covers different narrative materials. It mainly constitutes a menaeum for the month of March, that is, a collection of saints' lives for daily reading, enriched by a number of sermons for Holy Week and Easter. The variety that it transmits comes from a region located somewhere in central or eastern Bulgaria, and is undoubtedly later than the language of the two above-mentioned *tetraevangelia*. Its Greek sources have not come down to us, which makes it difficult to precisely identify the constructions with Greek influence (cf. Chapter 5).

3.4. *The Milan and the Priscian Glosses*

The fundamental sources for the linguistic study of Old Irish consist of glosses on Latin manuscripts, which have been put together in the two volumes of the *Thesaurus*

palaeohibernicus (Stokes & Strachan 1901–1903), of which the *Würzburg Glosses* on the Pauline Epistles, the *Milan Glosses* and the *Priscian Glosses* constitute the largest portions. These collections of glosses represent archaic prose texts, which came down to us in more or less contemporary manuscripts. Thus, they did not undergo the major morphosyntactic and orthographic updating that altered most texts surviving only via later transcriptions. Nevertheless, due to their nature of short texts, glosses may be fluid: (a) when copying brief notes, the scribe may omit a gloss as well as add further glosses; (b) further glosses can also come from a manuscript different from the exemplar that was originally copied (cf. Hofman 1993). In this work, I take into account the largest collection, i.e. the *Milan Glosses*, and the *Priscian Glosses*, which are extremely important due to their lexicographic richness (cf. Chapter 6).

The *Milan Glosses* contain Old Irish interlinear and marginal explanations on and translation of a Latin commentary on the Psalms (manuscript *Ambrosianus* C301, now preserved in Milan). The manuscript dates back to the end of the 8th–9th centuries AD and reached Milan via Bobbio, after being written down most likely in Ireland. The earlier Latin commentary and the slightly later glosses and translations into Old Irish seem to be carried out by two different hands, as the glossator occasionally expresses hesitations as to the reading of the Latin commentary. Later on, a third scribe, probably equipped with better Latin skills, added a few corrections and the incipits of two Old Irish poems, now hardly readable. The main scribe has often been blamed to have worked with less precision than the scribes who compiled the *Würzburg Glosses*; hence, unsupported spellings and slips of the pen are frequent (McCone 1985b). Based mainly on phonological evidence, the Irish variety of the *Milan Glosses* has been said to be later than that of the *Würzburg Glosses*, but earlier than that of the *Priscian Glosses* (however, this is at present still matter of debate; cf. McCone 1985b; Roost 2013). As first shown by Strachan (1901), Latin massively influenced the Irish text at different linguistic layers: most notably for the purposes of the present work, Latin arguably played a role in the coinage of new Irish words and composites (cf. further Chapter 6; Strachan 1901; Stokes & Strachan 1901–1903; McCone 1985b).

The *Priscian Glosses* are made up of marginal and interlinear comments on a translation of Priscian's *Institutiones Grammaticae* (5th–6th centuries AD) into Old Irish. They survived until us thanks to a number of manuscripts, among which *Cod. Sang. 904* is the largest and contains all glosses that also occur in all other manuscripts. It comes from St. Gall and may have been written down during the 9th century in Ireland. The St. Gall glosses were compiled by two hands, which transcribed from the same original, plus minor later addenda. The language of this collection is said to be heterogeneous; however, it is generally later than that of the *Milan Glosses*, though it also shows a number of archaisms, probably due to the fact that it was compiled from different sources of various antiquity (Strachan 1903: 470).

3.5. *Methodological remarks*

This work is entirely based on inherently limited corpora: the texts that survived until us, mainly due to accidents of the textual tradition, are the only material at linguists' disposal. Cuzzolin & Haverling (2010: 25) addressed such varieties as 'corpus languages': "[they are] no longer anybody's native language[s] and what we can know of [them] as [...] living language[s] is to be traced in the written material still at our disposal." Therefore, the picture of a certain language that such materials mirror is most likely to be fragmentary. Joseph & Janda (2003: 19) effectively sum up the consequences of these issues as follows: "no matter how carefully we deal with documentary evidence from the past, we will always be left with lacunae in coverage, with a record that remains imperfect and so confronts us with major chasms in our understanding that must somehow be bridged."

To begin with, a lack of attestation does not necessarily imply actual absence in the grammar or in the lexicon of a certain language (cf. Joseph & Janda 2003: 15 ff. for some examples of "accidental gaps in the historical record"). And what is more, the textual tradition and the manuscript transmission of certain written sources can also be responsible for alterations or/and updating of the originals (cf. in particular Chapter 4). Thus, all above texts constitute instances of intrinsically diachronic corpora, in that they simultaneously attest to different chronological layers of a variety: on the one part, texts at our disposal are

the outcome of centuries of textual tradition; on the other part, different sections of the same text can date back to different time periods (Sections 3.1–3.4).

All in all, as is discussed in Chapter 1 (see especially Section 2.3.3), grammaticalization theory is the most adequate theoretical tool to deal with such inherently diachronic data: the developments that can be subsumed under the rubric of grammaticalization can be understood as gradual diachronic processes that result in gradient synchronic linguistic categories. This point has proved to be of crucial importance especially for the analysis of Vedic and Homeric multiple preverbs (cf. Chapters 3–4). In addition, by means of the grammaticalization theory and its intrinsic diachronic character, one can also assess the overall development of Indo-European preverbs, by analyzing their behavior in sub-varieties that belong to to very spread out chronological layers. Specifically, as shown in Table 1, Vedic and Homeric Greek, on the one hand, and Old Church Slavic and Old Irish, on the other hand, are divided by a time gap of more than one millennium.

Table 1. Language sample, texts, and dating

LANGUAGE	TEXTS & MANUSCRIPTS	TIME PERIOD
Vedic	<i>R̥g-Veda</i>	about 18 th –12 th centuries BC
Homeric Greek	<i>Iliad</i> , <i>Odyssey</i>	about 8 th century BC
Old Irish	<i>Milan Glosses</i> , <i>Priscian Glosses</i>	about 8 th –9 th centuries AD
Old Church Slavic	<i>Codex Marianus</i> , <i>Codex Zographensis</i> , <i>Codex Suprasliensis</i>	10 th –11 th centuries AD

Furthermore, the *R̥g-Veda*, the Homeric poems, the Old Church Slavic texts represent literary corpora, in terms of their content and aims. Thus, their variety most likely does not faithfully mirror the actual usages of everyday speech (cf. Joseph & Janda 2003: 17–19). In addition, on the one hand, the Vedic hymns and the Homeric poems constitute poetic corpora. As such, they have to meet relatively rigid metrical requirements, which possibly also contributed to moving the language away from the daily practice.

Occasionally, meter might both constrain syntax in general, and word order in particular, as well as motivate otherwise obscure lexical choices (cf. Chapters 3 and 4, for further discussions and relevant examples).

On the other hand, for the Old Church Slavic texts and for the Old Irish glosses, one must take into account their undeniable interaction with the Greek source- and the Latin main texts. Thus, further issues relating to the employment of parallel (or quasi-parallel) corpora come into play, which have been touched upon in Sections 3.3–3.4 and further discussed in Chapters 5–6. However, as regards our understanding of the formation process of multiple preverb composites, Greek and Latin equivalents have proved to be crucial, in that they can provide access points to the various degrees of lexicalization and semantic bleaching affecting multiple preverb composites.

1 Theoretical background:

Analytical tools for the study of preverbs

1. Cognitive Grammar

In this work, I adopt the theoretical framework of Cognitive Grammar, in which grammatical forms are conceived as meaningful: the difference between grammatical and lexical meanings essentially lies in their degree of abstractness. Thus, syntax and semantics are understood as a *continuum*: “lexicon and grammar form a gradation consisting solely in assemblies of symbolic structures” (Langacker 2008: 5). The meanings of the elements of grammar emerge as the concepts associated to linguistic expressions. Such concepts are grounded on elementary semantic structures, which in turn are based on humans’ perception and spatio-physical experience (cf. e.g. Talmy 1983; Lakoff 1987; Langacker 1987), as shown in Section 1.1.

1.1. Space as the basic domain of human cognition

Human beings’ perception, experience, and conceptualizations are mediated and constrained by human bodies: this is what is meant by ‘embodiment’ and ‘embodied cognition’. Embodied experience gives shape to conceptual structure: the world, as interfered by organs of perception, constitutes the basis of conceptual structure, that is, of human thoughts and concepts (cf. among many others, Lakoff 1987; Lakoff & Johnson 1980; Langacker 1987; Svorou 1994). Furthermore, if embodied experience shapes our conceptual structure, it must also constitute the foundation of meaning, that is, of concepts expressed by means of human language. This implies that meaning must derive from being in the world via human bodies: all concepts, both concrete and abstract, are grounded in terms of spatio-physical experience.

Therefore, in Cognitive Grammar, space is regarded as one of the basic domains of human cognition, as it does not seem to be understood through other cognitive domains, and provides the basis for understanding other more abstract domains (Lakoff & Johnson 1980). More generally, any set of concepts that cannot be described by means of another set of concepts can be regarded as a basic domain. By contrast, any domain that at least needs another domain to be conceptualized is abstract (Croft 1993).

Linguistic forms, which are humans' means for expressing thoughts and concepts, are originally associated with a concrete and spatial meaning, which constitutes the starting point for developing more abstract meanings and functions. The mapping from a concrete to an abstract conceptual domain is possible thanks to the cognitive mechanisms of metonymy and metaphor. Importantly, several metonymic and metaphorical meanings are regularly connected to specific linguistic sources, and later on conventionalized (cf. Section 1.2). In conventionalized lexical items, it can become difficult to go back to the original spatial meaning, or to understand the links between the developed abstract and the basic spatial meanings from a synchronic point of view (cf. Section 2.5 on lexicalization; Chapters 5 and 6 on Old Church Slavic and Old Irish preverbs for cases in point). Thus, a given linguistic form is usually polysemous: each of its meanings can rely on the basic or on the abstract domains that pertain to said linguistic form. All meanings of a linguistic form are organized around its basic meaning in what can be called 'structured polysemy' (e.g. Tyler & Evans 2003): meanings directly or indirectly relate to the center or to each other in a motivated radial structure (e.g. Lakoff 1987).

1.2. *Going from spatial to abstract domains: metaphor and metonymy*

Metaphor is a way to conceptualize a cognitively difficult domain in terms of an easier domain; in other words, through metaphor it is possible to understand "conceptually complex phenomena in terms of less complex ones" (Claudi & Heine 1986: 299). Thus metaphor establishes a mapping between two different conceptual domains that, despite being equated, remain distinct (Croft 1993). Examples (1)–(2) show two different uses of the English preposition *in*:

(1) *Luke is in the kitchen.*

(2) *Luke is in love.*

Sentences (1) and (2) contain similar linguistic items: the proper name *Luke*, the third person singular of the verb *to be*, the preposition *in*, and a common noun, *kitchen* in (1), determined by the article *the*, and *love* in (2). However, while the noun *kitchen* denotes a real Location where *Luke* is, the noun *love* denotes a state that *Luke* experiences. Thus, the same verb *to be* and the same preposition *in* express a spatial relation in (1), but a metaphorical relation in (2). This shift toward the abstract plane is accounted for by conceptual metaphor: the room *kitchen* physically contains *Luke*; in a comparable way, the state of being in love is understood as a container in which *Luke* is metaphorically located. As Lakoff & Johnson (1980: 32 ff.) point out, the same metaphors can be responsible for multiple semantic changes: for example, states are often conceptualized as containers (the so-called ‘Container metaphor’). This is valid within a single language and across different languages: in Sections 4 devoted to the semantics of multiple preverbs, Chapters 3–6 show that morphemes with similar basic spatial meaning also tend to develop similar abstract meanings (cf. further Chapter 7).

Metonymy occurs when an entity of a certain conceptual domain is referred to by means of an entity belonging to a contiguous or to the same conceptual domain (Lakoff & Johnson 1980: 29; Croft 1993). Within the same domain, such entities are connected by means of humans’ encyclopedic experience (Lakoff 1987). For example, in (3) below, the expression *the ham sandwich* does not refer to an actual sandwich, rather to the person who ordered it. The entity *ham sandwich* belongs to the conceptual domain that can be labelled as [CUSTOMER], because a customer is supposed to order something to eat or drink.³

(3) *The ham sandwich is waiting for his check.*

³ The notation with small caps and square brackets means that [CUSTOMER] should be interpreted as a conceptual domain (and not as an entity).

Notably, example (3) cannot be regarded as a case of personification metaphor, given that human qualities are not ascribed to the said sandwich. Rather, the sandwich is a part of the conceptual domain of the person ordering it. By contrast, example (4) contains an instance of personification:

(4) *Inflation* has attacked *the foundation of our economy*. *Inflation* has pinned us to the wall.

In example (4), a non-human entity, *inflation*, is conceived or conceptualized as human on account of the metaphor INFLATION IS A HUMAN BEING (Lakoff & Johnson 1980: 28 ff.).⁴ This metaphoric extension only selects one feature of the source-entity, specifically ‘a human being can be an adversary’, according to the personification INFLATION IS AN ADVERSARY. Categories of entities, including human beings, show a number of properties that can be either overseen as a whole or observed one by one. Categories of entities seem to be organized as so-called *Gestalten*, that is, structures in terms of which our perception of the world is given a shape, and that exhibit a number of properties, including that of being “at once holistic and analyzable” (Lakoff 1977: 246). Thus, metaphors can also be triggered by a single property possessed by a category of entities, as in (4).

1.3. *The conceptualization of the spatial event*

Given that spatial concepts are cognitively basic for human beings (cf. Section 1.1), it is worth discussing how these events are conceptualized. As events of different sort, spatial events can be viewed from different standpoints, and consequently conceptualized in different ways. One of the most important varying parameters, in terms of conceptualization, is the so-called ‘prominence’ (in Langacker’s 1987, 2008 terms). Prominence is a kind of asymmetry related to the focus of attention, that is, to what a linguistic expression describes as foreground, and what as background (Langacker 2008: 68). Different types of prominence are discussed in what follows.

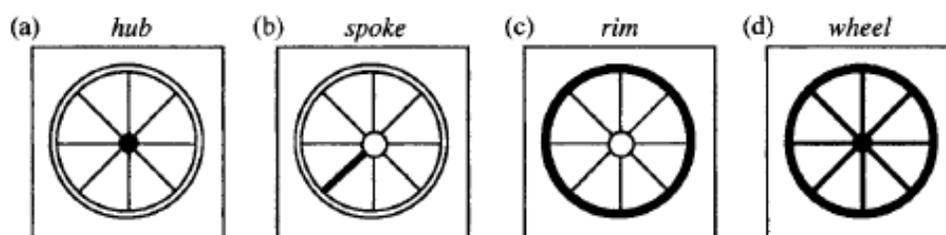
⁴ Capital letters are Lakoff & Johnson’s (1980) and indicate that the above statement is a cognitive metaphor.

1.3.1. *The first type of prominence: the profile-base asymmetry*

The concept of profile has been introduced by Langacker (1987) by means of the word *spoke*. In order to understand the meaning of *spoke*, Langacker writes, one must also be aware of what a *wheel* is. The segment *spoke* is defined in relation with the structure of the whole *wheel*. Langacker describes the relation holding between the *spoke* and the *wheel* as the relation of a ‘profile’ of a concept with respect to its ‘base’. The profile is the precise and narrow concept expressed by a word, whereas the base can be defined as the encyclopedic knowledge or conceptual structure presupposed by the said word.⁵

As Croft (1993) points out, the profile and the base make up an inseparable pair: a profile needs a base against which it is individuated. Symmetrically, a base cannot be individuated without the profiles that are defined with respect to it. The verb ‘to profile’ corresponds to the noun ‘profile’: for example, *spoke* profiles a certain part of the base *wheel*. In a similar way, the meaning of *wheel* is also the base for *hub* and *rim*, as shown in Figure 1 below:

Figure 1. The profile-base asymmetry: *wheel* vs. *spoke*, *rim*, *wheel*
(from Langacker 2008: 67)



An expression can profile either a thing such as in Figure 1 or a relationship. Therefore, the concept of profile can also be employed to describe spatial and non-spatial relations and thus the meaning of preverbs. For example, the Homeric motion verb *eis-ana-bainō* ‘go up to’ profiles the movement of an entity going along a trajectory toward a certain direction.

⁵ Langacker (1987) and Lakoff (1987) also use the term *domain* to indicate the base, whereas Fillmore (1982) calls it *frame*.

This verb contains two preverbs: the former, *eis-* ‘to’, profiles the direction of motion (Goal); the latter, *ana-* ‘up’, instead profiles its orientation and Path, specifying that the verb indicates an upward motion. The whole spatial relation expressed by the compound *eis-ana-bainō* implies that there are a path, an entity that moves along a path, and an entity to be reached, which constitute the basis of the spatial relation.

1.3.2. *The second type of prominence: the Trajector-Landmark asymmetry*

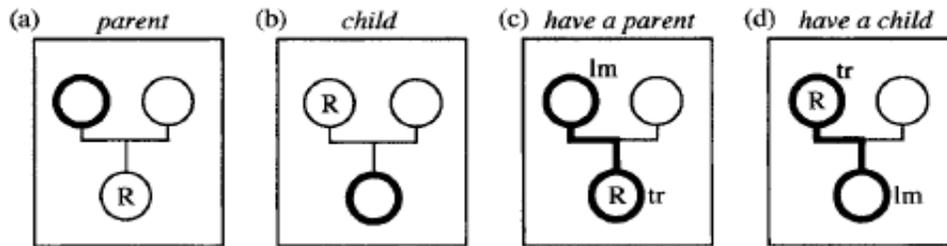
As anticipated discussing the meaning of the verb *eis-ana-bainō* ‘go up to’, entities are usually located with respect to other entities functioning as reference points (Talmy 1983; Langacker 1987). This way of locating entities implies a further asymmetrical relation holding between the located entity, and the reference-entity.

Talmy (1983) introduces the terms ‘Figure’ and ‘Ground’, borrowed from *Gestalt* psychology (Köhler 1929; Koffka 1935), to describe this asymmetrical relation: the Figure is the object to be located, while the Ground is the object with respect to which the Figure is located. In reference works, other terms are also used to identify the participants in a spatial relation, including the pairs ‘locans’-‘locatum’, and ‘referent’-‘relatum’ (e.g. Rappaport & Levin 1985; Levinson 1996). In this work, I opt for Langacker’s (1987, 2008) terminology, which describes Talmy’s Figure and Ground in terms of focus of attention. Langacker argues that, while profiling a spatial relation holding between two entities, one of such entities is always more focused than the other one. Langacker calls the more prominent and located entity Trajector (henceforth TR), whereas the less prominent reference-entity Landmark (henceforth LM).

Langacker employs the concepts of TR and LM beyond the cognitive domain of space. After him, let us take as an example the kinship relations of *having a child* and *having a parent*. Both relations share the base, that is, the domain of kinship relations. In addition, they profile the same kinship relation, as they involve two participants, of whom one is the son or the parent of the other. What changes is the directionality of the relation, and thus their TR-LM alignment: *having a child* is primarily concerned with parents, who thus function as a TR. By contrast, *having a parent* is a predication concerning the child,

who in turn functions as a TR. Figure 2 shows both the profile-base and TR-LM asymmetries:

Figure 2. Kinship relations: profile-base and TR-LM asymmetries
(Langacker 2008: 68)



In Figure 2 (a)–(d), bold highlights the profile. Both in (a) and in (b), the profile is a human entity, either the *parent* or the *child*. They are both characterized by means of the relative role that they play in the kinship relation, which is conceptualized as the base. Both in (c) and in (d), instead, the same kinship relation is profiled. The semantic contrast between *have a parent* and *have a child* resides in their opposite directionalities.

1.3.3. *The parameters of the spatial event*

So far, I discussed static spatial events, in which a TR is located with respect to a LM. However, a spatial event can also imply motion: in such events, the TR moves with respect either to a stable or to another moving entity (LM). In each case, one recognizes an asymmetrical relation between a TR and a LM. Several parameters can contribute to such asymmetrical relation, including the number of the moving entities, the direction of movement, the path of movement, containment, orientation, or a combination of these (Svorou 1994: 24).

Motion events can also be conceptualized as having directionality, or a deictic orientation. TRs can be directed toward or away from LMs: for example, the English verb *to go* implies a motion away from the speaker, whereas *to come* implies a direction toward the speaker. Furthermore, the directionality of certain entities can be specified on a vertical

axis, such as in the following Italian verbs: *salire* ‘to go up’ entails an upward motion, while *scendere* ‘to go down’ a downward motion.

In addition, the conceptualization of a motion event subsumes a trajectory, that is, the path covered by a TR with respect to a LM. However, the trajectory can either be profiled or remain in the base. For example, the Ancient Greek verbs *pégnumi* ‘fix’ and *bállō* ‘throw’ can take either the dative or the accusative, both expressing the direction of the motion. The dative and the accusative cases differ in their profile: the dative only profiles the endpoint of the trajectory, while the accusative profiles it as a whole.

Both location and motion events can involve the containment of the TR inside the LM, conceptualized as a container. As for location events, the TR can either be placed inside, near, or in contact with the LM (‘inessive’, ‘adessive’, and ‘superessive’ location, respectively). As regards motion events, the TR can move either toward the inside of a LM, toward its direction, or toward a contact position with the LM (‘illative’, ‘allative’, and ‘superallative’ motion). Conversely, the TR can move from the inside of the LM, from its vicinity, or from a contact position with the LM (‘elative’, ‘ablativ’, ‘superlative’ motion, respectively). As discussed for examples (1) and (2), both spatial and metaphorical LMs can be conceived as containers: the so-called Container metaphor is one of the most widespread means for shifting from the concrete to the abstract plane in conceptualizing events (Lakoff & Johnson 1980: 32 ff.). The Container metaphor is based on the fact that the human body itself has its dimensionality and can be conceptualized as a container.

In contexts where containment is not involved, contact instead can be relevant to identify the position of a TR with respect to a LM. The opposition based on contact is not expressed through morphological cases in Indo-European languages. However, in English as well as in ancient Indo-European languages, a number of preverbs-adpositions (cf. Chapter 2 on this terminology) in fact express this contrast: in English both *on* and *over* indicate that the TR is vertically located with respect to the LM, and differ only in the presence/lack of contact (Brugmann 1988); in parallel, for example, the basic meanings of Ancient Greek *epí* ‘on’ and *hupér* ‘over’ express superiority, the former involving contact, the latter lacking this implication (Luraghi 2003: 24).

Another relevant parameter is the plexity (in Talmy's 2000: 177–254) of the TR, of the LM and of the trajectory. TR and LM can consist of separate items (multiplex), or of a non-analyzable single entity (uniplex); in parallel, trajectory can be unidirectional (uniplex) or multidirectional (multiplex). Remarkably, the plexity is not an inherent feature of the participants in a spatial relation, but rather depends on how these participants are conceptualized. A further distinction only concerns multiplex entities: they can be either continuous or discontinuous. Discontinuous entities are typically plural count nouns, which profile the existence of a number of individuated entities; conversely, continuous entities are usually mass nouns and collectives, which profile an undifferentiated mass. Thus, discontinuous and continuous entities, as well as plural and mass nouns, are distinguished only by their degree of individuation (Langacker 1987: 294).

2. Grammaticalization

2.1. *A brief history of grammaticalization studies*

At least since the early 19th century, it has been a common observation that independent lexical items constitute the ultimate source for bound grammatical forms (e.g. Bopp 1816; Humboldt 1822; Wüllner 1931; von der Gabelenz 1961[1891]).⁶ As a matter of fact, however, Antoine Meillet was the one who presumably coined the term 'grammaticalization', which increasingly acquired better luck in later research. Meillet (1912) described grammaticalization as the development of an autonomous word into a grammatical element, that is, as a linguistic change whereby lexical items enter the grammatical system.⁷ Meillet (1912: 140–141) later on compared the changes that he regarded as making up grammaticalization to a spiral: first, languages add non-obligatory elements to a given expression for the sake of intensification; then, these elements

⁶ On the history of grammaticalization studies, cf. Lehmann (1995[1982]), Heine, Claudi & Hünnemeyer (1991), and Hopper & Traugott (2003).

⁷ “[...] le passage d'un mot autonome au rôle d'élément grammatical” (Meillet 1912: 131).

increasingly bleach, lose their autonomy, and eventually enter the grammatical system. Further new expressive elements thereafter come into play and in turn undergo bleaching in a neverending cycle.⁸ Crucially for the onward research (cf. Section 2.3), Meillet assigned gradualness to grammaticalization: focusing on the French verb ‘to be’, he individuated different stages within its path from a lexical locative-existential verb (*je suis chez moi* ‘I am home’), through a copula (*je suis malade* ‘I am sick’), into a tense auxiliary (*je suis allé* ‘I went’).

Building on Meillet’s ideas, Kuryłowicz (1975[1965]: 52) was among the first scholars undertaking new studies framed within the theory of grammaticalization. Kuryłowicz’s broadened definition of grammaticalization later on became traditional: “Grammaticalization consists in the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status, e.g. from a derivative formant to an inflectional one.” Thus, not only a previously lexical item must enter the grammatical system for grammaticalization to take place, but also a less grammatical item can acquire new and more grammatical functions.

Kuryłowicz remained an isolated case till the 1970s, when Givón’s (1971, 1979) work gave new life to grammaticalization studies, by stressing the fact that a language structure can only be understood in the light of its past (Givón’s is the famous slogan “today’s morphology is yesterday’s syntax”). However, works consistently framed within grammaticalization theory only started flourishing during the 1980s (cf. Lehmann 1995[1982]; Heine & Reh 1982), and last till nowadays (cf. among many others Heine, Claudi & Hünčyer 1991; Traugott & Heine 1991a, 1991b; Hopper & Traugott 1993; Heine 1997; Rissanen et al. 1997; and Fischer et al. 2000). In last decades, however, grammaticalization theory also underwent serious criticism (cf. Section 2.4).

⁸ Here are Meillet’s (1912: 140–141) words: “Les langues suivent ainsi une sorte de développement en spirale: elles ajoutent des mots accessoires pour obtenir une expression intense; ces mots s’affaiblissent, se dégradent et tombent au niveau de simples outils grammaticaux; on ajoute de nouveaux mots ou des mots différents en vue de l’expression; l’affaiblissement recommence, et ainsi sans fin.”

2.2. *Nowadays approaches to grammaticalization*

Alongside with undergoing serious criticism, the grammaticalization theory has in parallel extended its traditional scope of application in different directions. While in the 20th century the grammaticalization theory was mostly confined to grammatical, semantic, and pragmatic analyses carried out by functionally oriented scholars from Europe and North America, it is now employed as a theoretical framework in works of corpus linguistics, phonology, language acquisition, and sociolinguistics, as well as in studies performed by formal linguists also in such regions including East Asia and South America (Narrog & Heine 2011: 2–3). This diversity had the consequence of multiplying the number of approaches to and definitions of grammaticalization (cf. Traugott 2010). A possible way to sort out this variety is grouping the approaches into two main groups based on the inclusiveness/exclusiveness of grammaticalization.

The more ancient and more restrictive approach to grammaticalization puts much emphasis on the parameter of obligatorification (cf. e.g. Lehmann 1995[1982]; Haspelmath 2004), which implies reduction in transparadigmatic variability, increased dependency, and tightening of boundaries. Haspelmath's (2004: 26) definition is often cited to exemplify this approach: "A grammaticalization is a diachronic change by which the parts of a constructional schema come to have stronger internal dependencies" (Haspelmath 2004: 26). Lehmann (2004: 155) also describes grammaticalization as a reduction of autonomy: "Grammaticalization of a linguistic sign is a process in which it loses in autonomy by becoming more subject to constraints of the linguistic system" (Lehmann 2004: 155). It is common in both descriptive and theoretical literature on grammaticalization understood in the narrow sense to regard it as a loss: loss of meaning, loss of phonology, and loss of independence.

By contrast, more inclusive approaches regard grammaticalization as an expansion of grammar, and generally as an enrichment of languages (cf. e.g. von Stechow 1995; DeLancey 2001; Himmelmann 2004; Brinton & Traugott 2005; Croft 2006). Among others, a promoter of this view is DeLancey (2001): "The word *grammaticalization* [...] implies a process of becoming 'grammatical.' The reference can be taken as being to

lexical morphemes becoming grammatical ones, or, more broadly, to any linguistic construct (a morpheme, a syntactic construction, or a discourse pattern) becoming part of the grammatical system of a language.” Importantly, in his view, grammaticalization not only affects morphemes, but also linguistic units embedded within greater constructions or patterns; in addition, it not only causes the development of morphology, but also of all structures of languages. Brinton & Traugott (2005: 99) also adopt a similarly broad definition: “Grammaticalization is the change whereby in certain linguistic contexts speakers use parts of a construction with a grammatical function. Over time the resulting grammatical item may become more grammatical by acquiring more grammatical functions and expanding its host-classes.” Thus, to the foundational element of expansion, Brinton & Traugott add that of *context* expansion, or paradigmaticization. Croft’s (2006: 366) definition is downright wider: grammaticalization is “the process by which grammar is created.” As Fischer (2011b) notes, a number of linguists even employ ‘grammaticalization’ as a synonym of ‘change’, though not every linguistic change, for example sound change, can qualify as a grammaticalization.

The analysis of the developments of Indo-European preverbs can take advantage both from the inclusive and the exclusive approach to grammaticalization outlined so far. Specifically, on the one hand, the criterion of obligatoriness is crucial for understanding the developments of Vedic and Homeric Greek preverbs (cf. Chapters 3 and 4). We will see that the occurrence of a preverb gains increasing obligatoriness to express certain types of spatial and non-spatial meanings. On the other hand, the wider approach, by taking into consideration semantic bleaching and the concomitant context expansion undergone by grammatical items, is of particular importance for Chapters 5 and 6, in which Old Church Slavic and Old Irish preverbs are analyzed.

2.3. *The continuum of grammaticalization*

As DeLancey (2001) points out, a grammaticalization process entails changes at every level of language. Notably, although all changes outlined below typically occur in

grammaticalization processes, independently of each other, they are not essential for grammaticalization to take place (Bybee, Perkins & Pagliuca 1994).

At the semantic and pragmatic level, a grammaticalization process entails changes such as semantic bleaching, semantic specialization through metaphor (see Section 1.1.1), reanalysis through pragmatic inference, lexicalization – that is the process by which originally independent lexemes become parts of new lexical items (cf. Section 2.5), and ‘referent conflation’. A referent conflation is a semantic change according to which two conceptually distinct referents are reanalyzed as one. For example, in the development of an adposition from a relational noun, e.g. *atop* + *noun* from **on the top of* + *noun*, one can see the conflation of two referents into one (*top* + *noun* > *noun*) (DeLancey 2001).

At the layers of syntax and morphology, changes such as reanalysis and alterations in constituent structure also can occur. In addition, as already remarked, grammaticalization often involves obligatorification (Lehmann 1995[1982]). However, some scholars, such as Heine & Kuteva (2007: 34), point out that, though obligatorification seems to be important, it is not necessary for grammaticalization to take place, and that it also occurs in language changes different from grammaticalization. Heine et al. (1991) and Heine & Kuteva (2007: 40-41) also speak of decategorialization in grammaticalization processes. By decategorialization, a linguistic expression is likely to lose morphological and syntactic properties that were characteristic of its initial category, but which are not central for the new grammatical function. For example, in English a number of gerund forms, such as *barring*, *concerning*, and *considering*, came to acquire prepositional functions. This development led such forms to lose a number of properties normally associated with the morphological category of verbs: e.g. the possibility of taking auxiliaries, and of being inflected for tense and aspect.

At the phonological level, morphemes can undergo phonetic erosion or cliticization (Heine & Kuteva 2007: 42 ff.). In Himmelmann’s (2004) view, such changes result in a set of expansions (cf. Section 2.2): host-class expansion, in which expressions are generalized to more collocational contexts, syntactic expansion, in which expressions come to acquire new syntactic functions, and semantic-pragmatic expansion.

2.3.1. Gradualness and the stages of grammaticalization

Gradualness is a concept that affects linguistic change in general and grammaticalization in particular, and as such it is spread throughout diachronic depth. Gradualness can be understood as a two-fold concept. First, it describes how a linguistic change propagates among new groups of speakers, different situational contexts, and various stages of language. Second, it concerns the structural propagation of change: “gradualness refers to the fact that most change involves (a series of) micro-changes” (Traugott & Trousdale 2010: 23). Each medial step along this process represents an intermediate construction type in structural terms (Croft 2001: 313). In fact, by virtue of gradualness, more than one intermediate step in change may coexist in the same individual or community of speakers (cf. Section 2.3.3).

In contrast with Traugott & Trousdale (2010), who regard grammaticalization as a sequence of discrete changes, no matter how little these are, DeLancey (2001) understands the whole grammaticalization as a *continuum*: the distinction into a number of discrete processes only results from linguists’ idealization. Such processes must not necessarily be laid out in a strict serial order. However, some of them are likely to trigger other successive processes by providing them with the necessary conditions for development.

In what follows, I describe the stages of grammaticalization mainly based on DeLancey (2001). At first, the essential precondition for grammaticalization is a productive syntactic construction: a lexeme or some lexemes must frequently occur in a certain constructions on account of some semantic or pragmatic reasons. By virtue of their frequency, such constructions undergo conventionalization, or in DeLancey’s terms “undergo a functional specialization” (e.g. *the face of NP*, *finish VP*, and so on). In what one may call usage-based models of language, frequency is invoked as one of the main forces, or even as *the* main force, driving grammaticalization, or even linguistic change in general (cf. e.g. Bybee & Hopper 2001; Bybee 2011).

At a later stage, such a construction loses (a) part(s) of its meaning, and consequently acquires the possibility of being used in a wider range of contexts (this is ‘semantic bleaching’, in Givón’s terms). Notably, such a construction also comes to occur

in contexts conflicting with its original and more specific meaning. For example, when the noun *front* becomes a part of the adposition *in front of*, it loses the portion of its meaning that directly refers to the human body (Heine & Kuteva 2007: 40).

The next stage involves decategorialization (or *recategorialization*; cf. Heine et. al. 1991; Heine & Kuteva 2007; Section 2.3): the construction loses (some of) the morphosyntactic behaviors characteristic of its original category. For example, as discussed in Chapter 2, as soon as Indo-European local adverbs start developing into preverbs and/or into adpositions, they lose the typical syntactic freedom of adverbs. Such categorial reassessment can end up in a two-fold way. The developed form can enter one of the existing morphosyntactic categories of the language. As an alternative, the form comes to show behaviors that differentiate it from all the other items of the language. In this latter case, the said form gives birth to a new morphosyntactic category. This is the case of Proto-Indo-European local adverbs undergoing functional bifurcation into preverbs and adpositions.

In the end, further (non-obligatory) stages of grammaticalization are cliticization and morphologization. The grammaticalized form loses its independency, both at the phonological and at the syntactic level. For example, the grammaticalization path of Indo-European local adverbs includes the following loss of independency: local adverbs firstly develop into clitic preverbs, and secondly into prefixes that cannot be displaced from their hosting verbs (cf. Chapter 2).

2.3.2. Gradience

The concept of grammaticalization is grounded on the dichotomy of ‘lexical’ vs. ‘grammatical’ forms. However, grammaticalization studies contributed to blurring this clear-cut distinction (e.g. Lehmann 1985, 1995[1982]; Hopper & Traugott 1993; DeLancey 2001). In assuming a *continuum* between lexicon and grammar, most versions of grammaticalization theory go hand in hand with functionalist and usage-based models of language, including Cognitive Grammar (Narrog & Heine 2011: 9; Section 1).

As discussed for gradualness, the term *gradience* – here regarded as a synchronic phenomenon relating to the *continuum* of categoriality and grammaticalness (Traugott & Trusdale 2010: 22) – allows for a two-fold interpretation. To begin with, the members of a certain category do not equally fit that category; rather, there can be better or worse representatives of the said category. This interpretation of gradience involves only a single category. Instead, the second interpretation involves at least two categories, which are not understood as discrete and separated by clear-cut boundaries, but as constituting a *continuum*. Going back to the traditional dichotomy between lexicon and grammar, as much as it is doubtless that there exist linguistic elements that are either clearly grammatical (e.g. case inflections) or clearly lexical (e.g. nouns and verbs), it is as much as difficult to individuate a sharp dividing line between the categories of grammatical and lexical forms. Rather, linguistic forms are likely to be placed on a *continuum* of grammaticality and to be given accordingly a degree of grammaticality (cf. further the discussion on prototypical categories and prototypes at Section 3.1). Thus, one and the same linguistic element can be polysemous, in that it simultaneously expresses different lexical meanings, as well as serve grammatical functions. In such cases, a number of scholars speak of ‘polygrammaticalization’ (e.g. Craig 1991), whereby a single lexical item gives birth to distinct paths of development.

Furthermore, not only grammatical morphemes are grown from lexical morphemes, but also specific grammatical morphemes also tend to develop regularly from specific lexical sources cross-linguistically. Thus, grammaticalization is not a development based on random sources (e.g. Traugott 1988; Givón 1979, Bybee 1988; Bybee, Perkins & Pagliuca 1994; Heine et. al. 1991; various papers in Traugott & Heine 1991a, 1991b). For example, future tense constructions frequently develop from verbs that originally mean ‘want’, ‘go’, or ‘have’. One such case is found in the Romance languages, in which the emergence of synthetic future conjugations results from the univerbation of the auxiliary *habere* ‘have’ with an infinitive (e.g. It. *canterò* ‘I will sing’ < Vulg.Lat. *cantare*:INF *habeo*:PRS.1SG, which originally means ‘to sing’ + ‘I have’; cf. Benveniste 1968; Hopper & Traugott 1993). Causative morphemes regularly develop from serialized or complement-taking verbs with meanings like ‘make’, ‘give’ or ‘send’ (DeLancey 2001). Such systematic developments

also contribute to suggesting that grammatical functions must include a portion of semantic content, rather than being purely structural, which is one of the main claims of Cognitive Grammar (cf. Section 1).⁹

In addition, as all these developments are gradual (cf. Section 2.3.1), there must be a diachronic stage in which a given form shows multiple functions, and thus displays an intermediate and uncertain categorial status (cf. the discussions on Vedic and Homeric Greek preverbs in Chapters 3 and 4). However, the categorial status of such items is uncertain or ambiguous only from the linguists' standpoint, not from that of speakers, who naturally employ a certain form or a certain construction with its different meanings and functions. Therefore, not only can categories be said to be non-discrete, but they are not even theoretically given (cf. Haspelmath 2007b).

2.3.3. The intersection between gradience and gradualness

As discussed in Section 2.3.2, at a synchronic level, it is often impossible to unambiguously assign a morpheme or a construction to a discrete grammatical category (e.g. Hopper 1987; Givón 1979; Haspelmath 2011). Such synchronic gradience can be seen as a side-effect of diachronic gradualness (Hopper 1987; Bybee & Hopper 2001). In other words, “since grammaticalization is generally regarded as a gradual diachronic process, it is expected that the resulting function words form a gradient from full content words to clear function words” (Haspelmath 2001: 16539). This relies on the *continuum* that characterizes grammaticalization, which provides a more adequate basis for understanding even the synchronic gradience structure. In this light, grammaticalization approaches also call into question the traditional dichotomy between synchronic vs. diachronic analyses (cf. Mithun

⁹ These common developments open the issue as to whether grammaticalization paths can be borrowed (Heine & Kuteva 2005, 2006 speak of ‘grammaticalization contact zones’). A putative case in point might be the emergence of a future marker based on a volition verb in the Balkans. At a closer look, however, the single steps and processes needed to explain the emergence of such future markers in different Balkan languages vary to such an extent that it is difficult to maintain the grammaticalization contact zone as a meaningful account (Joseph 2011).

2011 for a discussion and a case-study on Navajo, a Na-Dené language spoken in Arizona, New Mexico, Utah, and Colorado).

Such an approach to grammaticalization, which is based on the assumption that its diachronic gradualness results in a synchronic gradience, is particularly adequate to analyze the development of preverbs, especially in a sample including languages that are spread out in diachrony (roughly, Vedic: 18th–12th centuries BC; Homeric Greek: 8th century BC; Old Irish: 7th–9th AD; Old Church Slavic: 9th–11th centuries AD; cf. Table 1), and whose corpora are intrinsically diachronic, such as those of Vedic, Homeric Greek, Old Church Slavic and Old Irish (cf. Introduction). As discussed in Chapters 3 and 4, the Vedic and Homeric languages especially result from the stratification of different stages of Old Indo-Aryan and Ancient Greek. Thus, a purely synchronic analysis would have led to a multiplication of categories, as a number of linguistic forms, including preverbs, show multiple functions and, from the linguists' viewpoint, seem to belong to more than one category. Rather, the uncertain behavior shown by a number of forms arguably reflect the gradual steps in their grammaticalization path, which their diachronically stratified corpora mirror to us.

2.4. *Grammaticalization: an abused theoretical concept?*

As touched upon in Section 2.2, the whole enterprise of grammaticalization has undergone serious critique in recent years. Joseph (2011: 193–194) summarizes the major themes that drew criticism as follows: (a) grammaticalization as a process or result; (b) privileging one cluster of developments over others; (c) alternative outcomes/results; (d) unidirectionality.¹⁰

The first reason for criticism questions the nature of grammaticalization itself, by claiming that it is not a distinct process nor a primitive concept, but rather a mere way of representing a whole series of independent linguistic processes or mechanisms of change, including for example sound change, semantic change, and reanalysis. Crucially, each of the mentioned changes also manifests itself independently of grammaticalization (cf.

¹⁰ Joseph (2011: 202 ff.) also adds the issue that he calls 'grammaticalization and language contact', which I do not thoroughly discuss here (cf. the hints in fn. 9).

Campbell 2001; Joseph 2001, 2003, 2004, 2006, 2011, 2014; Newmeyer 2001). As Joseph discusses in several papers, by keeping the grammaticalization process separated from the other mechanisms of change, linguists needlessly increase the dimensions of language change, which are ultimately three: (i) the physiological dimension, which is relevant for sound change; (ii) the cognitive dimension, which is the basis for analogy (of which metaphor is understood as a subtype, that is, as a conceptual analogy) and reanalysis; (iii) the social dimension, which is crucial for the diffusion of language changes. Should we add to these dimensions/mechanisms of change the grammaticalization process as a distinct type of development? Or, rather, is grammaticalization merely a label for naming the result of independently occurring processes? (cf. Joseph 2011). Moreover, if one assumes that grammaticalization indeed constitutes a distinct process, it remains difficult to assess how many grammaticalizations give birth to a certain gram, i.e. how many processes of change end up in a new grammatical item or category (cf. also Janda 2001; Fischer 2011b).

Line (b) of criticism expresses skepticism as to whether the series of sub-processes that are grouped under grammaticalization (on which cf. Section 2.3) really deserve to be treated separately as special, being assigned their own label, dedicated conferences, textbooks, and so forth, with respect to other (clusters of) changes with which historical linguistics is concerned. This also relates to the issue as to when grammaticalization exactly happens. For example, when does grammaticalization occur in the development of the Romance future of the type of Italian *canterò* ‘I will sing’ from Vulgar Latin *cantare habeo* ‘I have to sing’ (cf. Section 2.3.2)? Is it when the locution *cantare habeo* comes to show a conventionalized future meaning even without concomitant phonetic reduction? Or rather, are phonetic reduction and univerbation necessary to speak of grammaticalization? Or even, should these two processes (semantic change and univerbation) be regarded as two distinct grammaticalizations, though they result in a single one grammatical item and category?

Joseph’s (2011) elaboration on theme (b) directly leads us to his point (c), by which the author further emphasizes that “much more goes on in language change than just the often cited movement of *lexical/somewhat-grammatical* to *(more) grammatical* that characterizes grammaticalization” (Joseph 2011: 198). Joseph goes on discussing a number

of morphological developments that cannot be subsumed under the grammaticalization rubric. These are schematized below:

- (a) derivational morphology > derivational morphology (e.g. resegmentation of morpheme boundaries);
- (b) inflectional morphology > inflectional morphology (e.g. remaking of verbal endings based on other endings);
- (c) inflectional morphology > derivational morphology (e.g. reanalysis of an inflectional ending as part of the stem onto which verbal endings are further added, as in the instances of the so-called Watkins' Law; cf. Arlotto 1972; Collinge 1985).

The last line of criticism that I discuss here is one of the cornerstones of grammaticalization, specifically the so-called 'unidirectionality hypothesis': changes falling under the rubric of grammaticalization always go from less grammatical to more grammatical (Rosenbach 2004: 73; Börjars & Vincent 2011). From Givón (1971) onward, different works more or less strictly embraced the unidirectionality hypothesis, including Lehmann (1995[1982]: 16), Hopper & Traugott (1993: Chapter 5), Traugott (2001), Heine (2003), and Brinton & Traugott (2005: Chapter 4.3).

In usage-based models, unidirectionality is motivated by frequency: "Changes related to increases in frequency all move in one direction and even decreases in frequency do not condition reversals: there is no process of de-automatization or de-habituation, subtraction of pragmatic inferences, etc. Once phonetic form and semantic properties are lost, there is no way to retrieve them. Thus grammaticization [i.e. grammaticalization] is unidirectional" (Bybee 2008: 348). Other functionalist approaches also refer to social factors as driving grammaticalization, such as 'the invisible hand' (Keller 1990), the communicative goal of expressiveness, and speakers' will of talking in such a way that they are noticed (so-called 'extravagance' in Haspelmath 1999: 1043) and later on imitated by other speakers (so-called 'conformity'). By contrast, formalists explain unidirectionality based on some universal principles that eventually relate to the principle of Economy (cf. van Gelderen 2004, 2011), including that of 'grammar optimization', that is, the elimination of unmotivated grammatical complexity or idiosyncrasy (Kiparsky 2011).

The pieces of evidence against the unidirectionality hypothesis gathered together in recent decades (e.g. among many others Ramat 1992; Haspelmath 2004; Willis 2007; Norde 2009; Kiparsky 2011) were seized on to argue against the existence of grammaticalization as a distinct and pervasive process of linguistic change, precisely because of the said occurrence of many counterexamples (e.g. Janda 2001; Joseph 2001; Newmeyer 2001).

As in the case of grammaticalization (cf. Section 2.2), there exist wider and narrower definitions for the other-way process, often called ‘degrammaticalization’, ‘antigrammaticalization’ or ‘countergrammaticalization’. For example, Newmeyer (2001: 205) considers an instance of degrammaticalization any increase in lexical content or morphological independence. In a more precise way, Norde (2010: 126) defines degrammaticalization as a change that affects several linguistic layers: “Degrammaticalization is a composite change whereby a gram in a specific context gains in autonomy or substance on more than one linguistic level (semantics, morphology, syntax, or phonology).” This view is shared by other scholars, including Willis (2007: 273), who offers a catalogue of different linguistic changes operating at different linguistic levels that can be ascribed to degrammaticalization: (i) phonological strengthening, (ii) change rightward along the cline: affix > clitic > independent word; (iii) categorial reanalysis from grammatical to lexical; (iv) metaphorical shift from abstract to concrete; (v) pragmatic inferencing from abstract to concrete. Importantly, changes (i)–(v) mirror their opposite counterparts in grammaticalization. Such an idea that degrammaticalization must be described in parallel to grammaticalization is common to other scholars. Haspelmath (2004: 27) for example writes as follows: “By this [i.e. antigrammaticalization] I mean a change that leads from the endpoint to the starting point of a potential grammaticalization and also shows the same intermediate stages.”

2.5. Grammaticalization and lexicalization

Within the literature on grammaticalization (and degrammaticalization), a central issue is assessing whether a linguistic change constitutes a real instance of grammaticalization, or can be better captured within some alternative fields of analysis.

For example, degrammaticalization of the type (iii) (cf. Section 2.4), that is, the categorial reanalysis from grammatical to lexical, implies new entries in the lexicon. Thus, what is the point in differentiating between type (iii) of degrammaticalization and ‘lexicalization’, which, according to some definitions, includes any type of lexical enrichment (cf. e.g. Hopper & Traugott 1993: 127; van der Auwera 2002; Lightfoot 2011: 438 ff.)?¹¹ Thus, the first reason of ambiguity as regards the lexicalization is that, since the beginning of grammaticalization studies (Kuryłowicz 1975[1965]: 52), linguists have regarded lexicalization as the reverse of a grammaticalization. A way of distinguishing degrammaticalization of the (iii) type and lexicalization is emphasizing that the former, but not the latter, must genuinely mirror grammaticalization, thus involving the same sub-steps as those of grammaticalization, but in reverse order.

Moreover, as pointed out by Anttila (1989[1972]: 151), any new item entering the lexicon undergoes lexicalization, including those that instantiate developments whereby they increase their grammaticality (e.g. open-class noun > closed-class adverb). This somehow anticipates the second reason of confusion between grammaticalization and lexicalization: the fact that most functionalist scholars recognize that lexicon and grammar are not two discrete categories, but rather they are placed on a *continuum* (cf. Sections 1 and 2.3.2). Along this *continuum*, lexical words also contain grammatical information and,

¹¹ In this Section, I only discuss the diachronic definitions for ‘lexicalization’. This term however is even more ambiguous than outlined here: it is differently understood in works embracing a synchronic perspective. For example, for many synchronic researchers, including lexical typologists, ‘lexicalization’ and ‘lexicalize’ mean ‘has a segmental expression, or ‘is used to pack a certain portion of meaning’ (Brinton & Traugott 2005; Traugott & Trausdale 2013: 33 ff.). Talmy’s (e.g. 1985, 2000) well-known lexical typology of motion verbs, for example, distinguishes verbs that express (‘lexicalize’) the manner of motion, from verbs that encode the path of motion.

viceversa, grammatical words also include some sort of lexical meaning. In this view, both features of grammaticality and lexicality are gradual, and a certain form can be either more/less grammatical or lexical (cf. e.g. Lehmann 2002; Hopper & Traugott 2003; Fischer 2008; Trousdale 2008a, 2008b).

In fact, more recent and narrower definitions of lexicalization put much emphasis on the fact that lexicalization must also be understood as a sequential process, thus ruling out items such as acronyms, conversions, and metatalk due to their abrupt entry in the lexicon. This definition that regards gradualness as a crucial feature decisively contributed to complicating the whole picture (cf. Lehmann 1989; Wischer 2000; Brinton & Traugott 2005). To be sure, gradualness of development is not the only shared feature between lexicalization and grammaticalization. According to Lehmann (e.g. 1989) and Giacalone Ramat (1998: 121), for example, both processes entail a reductive component, understood as loss of autonomy and univerbation.

This theoretical chaos has been somewhat sorted out by highlighting that the semantic developments undergone by grammaticalized and lexicalized items are in fact opposite. On the one hand, grammaticalization implies generalization, and consequent host-class expansion (i.e. grammaticalized items are promiscuous, and usually show a high pattern and token productivity). On the other hand, lexicalization produces opacity (or fossilization, non-compositionality, idiosyncrasy), which results in host-class reduction (i.e. decrease in pattern productivity, and possibly in token productivity) (cf. Brinton & Traugott 2005: 96-110; Haas 2007: 34). Thus, for example, the Old Irish perfective marker *ro-* and empty preverb *no-* are grammaticalized, in that they (almost) systematically occur in certain morphosyntactic contexts (cf. Chapter 6). By contrast, there is no general consensus as to whether the development of Slavic preverbs into ‘boulder perfectives’ (in Bybee, Perkins & Pagliuca’s 1994 terms) can be regarded as an actual grammaticalization: first, there is not a single marker of perfectivity; second, specific preverbs allegedly perfectivize verbs belonging to specific semantic classes (cf. Chapter 5).

3. Describing the meanings and the functions of preverbs

3.1. *Semantic Roles*

In this work, the spatial and non-spatial meanings of Vedic, Homeric Greek, Old Church Slavonic, and Old Irish preverbs are described in terms of Semantic Roles (henceforth SRs), that is, roles played by the participants in an event (Kittilä, Västi & Ylikoski 2011: 7). Only when SRs labels are regarded as being too generic, more specific definitions will also be provided.

In the light of Haspelmath (1997) and Luraghi (2003), SRs are distinguished depending on their encoding strategies: when a SR is expressed in a specific way that it is not shared with related SRs, it is considered to be independent. Such choice is motivated by the fact that “it would be very difficult to base such a list [of SRs] on semantic criteria alone, because then there would be no way of constraining the possible proliferation of functions” (Haspelmath 1997: 10–11). In order not to multiply SRs, they are also assumed to be organized in prototypical categories (cf. Luraghi 2003). Prototypicality allows considering categories as groups of entities more or less representative for said categories; the ‘prototype’ is the most representative entity for a certain category (Lakoff 1987).¹² For example, the features of the prototypical Agent are humanity, causation, intentionality, control, and saliency (Givón 1984: 107; Fillmore 1968: 24–25; Jackendoff 1972: 32; Andrews 1985: 68; Luraghi 2003: 30). However, it is far from clear that an Agent always display all such features, as the following examples illustrate:

(5) *Luke ate an apple.*

(6) *Luke accidentally broke a vase.*

¹² Prototype theory was at first developed by the cognitive psychologist Eleanor Rosch in the 1970s (cf. e.g. Rosch 1973, 1975, 1978). On the application of the concept of prototype in linguistics, see Lakoff (1977) and Taylor (1989).

Both in (5) and in (6), the Agent is canonically encoded by the subject (*Luke*), as usually happens in languages in which the nominative case is highly grammaticalized, including Indo-European languages. However, the events described (5) and (6) are different: in (5), *Luke* intentionally causes a change of state to the *apple*. In (6), *Luke* similarly brings about a change of state to the *vase*; however, the action of breaking is not intentional, as the occurrence of the adverb *accidentally* shows. Therefore, in (6), *Luke* is a non-prototypical Agent, in that it lacks the features of intentionality and control.

In ancient Indo-European languages, both spatial and non-spatial relations are expressed by means of morphological cases, preverbs, and adpositions (cf. Luraghi & Narrog 2014: 1–22). Importantly, the relative contribution brought about by cases, preverbs and adpositions in carrying out this function can undergo variation along the diachrony of a certain language (cf. the relevant sections in Chapters 4–6). Notably, such historical developments are consistent with the organization of meanings in prototypical categories proposed by Cognitive Grammar. In addition, in Cognitive Grammar, metaphor and metonymy are regarded as cognitive tools by which human beings can conceptualize non-basic domains in terms of more basic ones such as space (cf. Section 1).

For reasons of space, I cannot thoroughly discuss all Vedic, Homeric Greek, Old Church Slavic and Old Irish SRs and their coding strategies, for which I refer to Chapters 3–6 and references therein. Here, I must limit myself to provide a non-exhaustive catalogue of SRs, and to associate to each of them a prototypical definition.¹³

- *Agent*: a prototypical Agent is an entity that performs and causes an action. Furthermore, Agent prototypically exercises a force over another entity (i.e. Patient) and is characterized by intentionality and control (cf. above in this Section; Section 3.2.3).
- *Patient*: prototypically, the SR of the entity that undergoes a change of state or location, performed by an Agent. It is usually coded by the accusative case in

¹³ A cross-linguistically valid catalogue including SRs and their definitions does not exist. However, for a proposal and a collection of typologically-oriented papers on semantic and diachronic aspects relating to SRs, I refer to Luraghi & Narrog (2014).

nominative-accusative languages. Its typical feature is a high degree of affectedness (cf. Section 3.2.3).

- *Recipient*: this SR is played by an animate entity that receives another entity. It is usually taken by the third argument of some trivalent predicates, typically of verbs of ‘giving’ (transaction verbs).
- *Addressee*: the SR played by an entity, most frequently a human being, which is the goal of a communication event.
- *Experiencer*: the SR of the (animate) entity that experiences a physical or a psychological process triggered by another entity or event (*Stimulus*). The Experiencer is often coded as a subject (cf. *Luke* in (7)), but occasionally it can also be associated with direct objects, as *me* in (8).

(7) *Luke always gets my jokes.*

(8) *Luke annoys me to no end.*

- *Possessor*: the SR of the (animate) entity that possesses another entity. In Indo-European languages, possession shows different encoding strategies, including the genitive case, the external possessor construction (Luraghi forthc. a), be it in the double accusative case (Luraghi & Zanchi forthc. on Ancient Greek) or in the dative case.¹⁴
- *Beneficiary*: this SR is taken by the (human) entity in favor of which an action is carried out. A sub-type of Beneficiary is Malefactive, which is the human entity against which an action is performed. Another sub-type of Beneficiary is Substitute, which relies on the idea of replacement: if *x* acts in *y*’s behalf, *x* is conceived as acting in *y*’s place.
- *Cause*: the SR of the referent that originates an event. Such referent can be a natural force, an emotion, an abstract notion, another type of inanimate entity, a human being, a state of affairs or an event. Cause expressions are often grounded on Source expressions according to the metaphor CAUSES ARE ORIGINS (Lakoff & Johnson 1980),

¹⁴ In external possession constructions, two NPs that are not in a relation of syntactic dependency indicate a *possessor* and a *possessum* (Luraghi forthc. a).

on Time expressions (an event that precedes another event can be understood as the cause of the subsequent event), and on Area expressions (cf. Area below).

- *Purpose*: this SR is taken by an entity, often a state of affairs, aimed by the intentional activity of an Agent. Such SR is often expressed through allative markers, or markers of Beneficiary or of Cause.
- *Instrument*: this SR is prototypically taken by an inanimate and manipulated entity that is used by an Agent to carry out an action. Being an inanimate entity, Instrument differs from Agent in the properties of intentionality and control.
- *Comitative*: this SR prototypically involves an animate Agent performing an action together with another animate individuated entity, which carries out the same action.
- *Location*: the SR of an entity (LM) that gives information about the position or the spatial orientation of another entity (TR).
- *Goal*: the SR of an entity (LM) that individuates a portion of space toward which another entity (TR) moves along a trajectory.
- *Source*: the SR of an entity (LM) that individuates a portion of space away from which another entity (TR) moves along a trajectory.
- *Path*: this SR describes the portion of space that a TR covers while performing a motion.
- *Time*: this SR describes either the temporal placement or the *Duration* (LM) of a certain event (TR). Notably, the event, conceived as a TR, appears either to be located within/before/after or to last a given time interval, conceived as a LM. Time cross-linguistically tends to be conceptualized in terms of space (Haspelmath 1997). These two conceptual domains are mapped by means of the metaphor TIME IS SPACE (Lakoff & Johnson 1980; Claudi & Heine 1986).
- *Manner*: this SR refers to the manner in which an action, a state of affairs, an experience or a process are brought about.
- *Area*: the SR of the thematic context or field within which an event is seen; it specifies the extent to which the state of affairs denoted by the verb applies. *Location*: the SR of an inanimate LM that gives information about the position or the spatial orientation of another entity or event (TR).

3.2. *Aspect, actionality, and transitivity*

3.2.1. Aspect and actionality: terminological and conceptual issues

Since their introduction in the linguistic terminology and discussion, the notions of ‘aspect’ and ‘actionality’ have long been confused and overlapped (cf. among others Viti 2008a; 2008b; Danesi 2009: 9 ff.).

The term aspect is the translational equivalent for Russian *vid*, which was first employed in Greč’s (1827) grammar of Russian to describe the ability of certain affixes to derive perfective and imperfective verbs from the same root. Later on, Curtius (1846) extended the notion of aspect to other Indo-European languages than Slavic, specifically to the Ancient Greek verbal system. Curtius’ terminology comprises the terms *Zeitart* (lit.) ‘temporal modality’, including past, present and future tenses, and *Zeitstufe* (lit.) ‘temporal layer’, including notions such as durativity, ingressivity, and completion. Brugmann (1885) and Delbrück (1897) introduced the terms *Aktion* and *Aktionsart* (lit.) ‘actional modality, actionality’, distinguishing among punctual, iterative, durative, and terminative events. The term *Aktionsart* was also used by Streitberg (1900), who ascribed to this category five different values, including the perfective.

In the early 20th century, the term *Aspekt* also officially entered the linguistic discussion thanks to the slavist Sigurd Agrell. In his grammar of Polish (Agrell 1908), he distinguished the categories of *Aspekt* ‘aspect’, which refers to the completeness-incompleteness of the action, and of *Aktionsart*, which describes the way in which the action is carried out (e.g., according to Agrell, definitive, effective, augmentative, perdurative, and others). These two notions were later on kept distinct, for example by Jacobsohn (1926), who assigned a subjective character to *Aspekt*, whereas an objective value to *Aktionsart* (cf. Section 3.2.2). Krause (1953) also separated the two notions on a similar account.

After the introduction of the concept of *Aspekt* early in the 20th century, the two categories of *Aspekt* ‘aspect’ and *Aktionsart* ‘actionality’ continued to be confused, and scholars exhibited – and to some extents still exhibit – little agreement on their definition,

scope, and values (cf. Bertinetto 1986; Bybee, Perkins & Pagliuca 1994; Sasse 2002; Tatevosov 2002; Croft 2012; and Filip 2012 for a thorough discussion of this issue). The confusion was especially clear in the 20th century's discussions on the Ancient Greek verbal system, in particular when it comes to the description of the dichotomy between aorist and present tenses, and to the role of preverbs (cf. Brugmann & Thumb 1913; Meillet 1922; Meillet & Vendryes 1924; Ruipérez 1954). Exactly because of this terminological fuzziness, perfectivizing value was ascribed to Ancient Greek (but also Vedic) preverbs (cf. Chapters 3 and 4), based on the much more grammaticalized perfective-imperfective opposition expressed through Slavic preverbs (i.e. 'prefixes', cf. Chapter 2 on terminology; Chapter 5 on Old Church Slavic).

In the last decades, the so-called bidimensional approach to aspect, which clearly distinguishes *Aspekt* and *Aktionsart*, has been the most widespread within the field of Indo-European studies (cf. Strunk 1994; Garcia Ramon 2002; Sasse 2002; Napoli 2006; Dahl 2010; Cotticelli-Kurras 2015; by contrast, cf. Inglese 2016, who, in his analysis of Hittite lexical aspect, adopted Croft's cognitive approach, on which see below). Within the bidimensional approach, on the one hand, aspect, or more precisely 'grammatical aspect', encodes the grammatical expression of speakers' viewpoint on events. On the other hand, *Aktionsart*, or 'lexical aspect', or 'actionality', is usually regarded as an objective, that is, inherent, feature of verbal roots, which can be classified into different categories accordingly (cf. Vendler 1957; Section 3.2.2). Recently, the bidimensional approach has been put into question within various theoretical frameworks, including Cognitive Grammar, which does not allow for any clear-cut distinction between the layers of lexicon and syntax (cf. Section 1). In Croft's (2012) recent monography, for example, grammatical and lexical aspects are accordingly not distinguished, as they both emerge from the interaction between the idiosyncratic facets of verbal semantics, and the specific semantics of the constructions in which verbs occur. In what follows, I provide very brief definitions for both aspect and actionality, I discuss their interplay (Section 3.2.2), as well as the interaction between actionality and transitivity (Section 3.2.3), inasmuch as is sufficient for the present work.

3.2.2. Aspect and actionality: definitions, values, and their interplay

The category of grammatical aspect expresses the way in which speakers view the event, that is, speakers' subjective perspective on the event, encoded through grammatical means (cf. Vendler 1957; Comrie 1976; Bertinetto 1986; Bybee, Perkins & Pagliuca 1994; Rothstein 2004). The notion of grammatical aspect is related to that of time, which expresses the relation between the moment of speaking and the time of the situation described. Present tense is seen as simultaneous to the moment of speaking, past tense as previous to the moment of speaking, and future tense as subsequent to the moment of speaking (Comrie 1976: 2). Thus, time is a deictic category, in that it is anchored to the spatiotemporal context created by the participants in a conversation (Lyons 1977: 637). By contrast, grammatical aspect has nothing to do with deixis, but rather interacts with speakers' perspective in a different way: "aspects are different ways of viewing the internal temporal constituency of a situation" (Comrie 1976: 3). Comrie thus points out two main factors defining the category, specifically (a) speakers' viewpoint, (b) the internal setting of a certain event itself (and not its temporal reference) (cf. also Bertinetto 1986: 76).

The two main values of aspect are what we call perfective (*John sang a song*) and imperfective (*John was singing a song*) aspects. On the one hand, perfective aspect implies a global, complete, and external viewpoint upon the event, including its starting point, its carrying out, and importantly its endpoint. On the other hand, imperfective aspect presupposes an internal viewpoint upon the event, of which an open window is profiled only, without any additional information on its temporal boundaries (e.g. Comrie 1976; Bertinetto 1986). Among tenses, present is usually regarded as inherently imperfective (i.e. ongoing), for example by Comrie (1976).¹⁵

The main instantiations of the imperfective are the progressive (*John is singing*) and the habitual (*John sings every Wednesday night*) aspects. The two values are distinct, but can co-occur in the same sentence, as in *John used to be writing poems* (Comrie 1976: 33):

¹⁵ Comrie (1976) argues for a primary time distinction between present and past, to which the perfective-imperfective aspectual distinction is added. This view is not supported by Dahl (1985), who first distinguishes perfective and imperfective, and secondarily superimposes the layer of time distinctions.

any single occurrence of a certain situation contribute to building the progressive aspect, whereas the sum of all these occurrences is conceptualized as habitual. Alongside with those outlined above, different scholars identified further language-specific values for the imperfective, including the so-called ‘continue’ (cf. Bertinetto 1986: 172 ff. on Italian), the ‘continuative’ aspects (cf. Bybee, Perkins & Pagliuca 1994: 127 on English), and the ‘non-progressive continuative’ (cf. Comrie 1976: 35 on English).

In traditional descriptions, actionality or lexical aspect has a semantic nature, and is defined as the internal temporal structure of state of affairs denoted by verbs, regardless of speakers’ view on the said state of affairs. As actionality is inherently associated to verbal roots, verbs denoting different states of affairs can be grouped based on it. Building on Vendler’s (1957) traditional proposal displayed in Table 2, based on the actional traits of durativity, dynamicity, and homogeneity (or telicity), different scholars later on refined his classification, on account of several semantic criteria and syntactic tests (e.g. Bertinetto 1986; Botne 2003; Croft 2012; Bertinetto & Civardi 2015).¹⁶

Table 2. Vendler’s (1957) actional classes

	DURATIVE	DYNAMIC	HOMOGENOUS (ATELIC)	EXAMPLE
<i>State</i>	+	-	+	<i>John stands still</i>
<i>Activity</i>	+	+	+	<i>John walks</i>
<i>Achievement</i>	-	+	-	<i>John heard the news</i>
<i>Accomplishment</i>	+	+	-	<i>John ate the apple</i>

As emerges from the previous discussion, the notions of aspect and actionality are well sorted out at a theoretical level. However, when it comes to the empirical analysis, bidimensional approaches often run into issues, which point out the deep interplay of the two domains (cf. Tatevosov 2002). To begin with, depending on the construction in which

¹⁶ The mentioned actional traits of homogeneity and telicity (called also *boundedness* in Jackendoff 1990 and *delimitedness* in Tenny 1994) overlap at the practical classificatory level. However, these labels profile two different actional properties of events: on the one hand, the lack of a change of state; on the other hand, the lack of temporal boundaries.

they occur, verbs can instantiate different actional classes, a behavior that Bertinetto (1986) calls ‘aspectual hybridism’:

(9) *John sings* (ACTIVITY) vs. *John sang a song* (ACCOMPLISHMENT).

As shown in (9), the addition of an event participant can turn an atelic activity into a telic accomplishment (cf. also Dowty 1979: 61). For this reason, a number of authors suggested to ascribe the trait of telicity to verbal phrases, and not simply to verbs, thus regarding telicity as a compositional phenomenon (cf. Dowty 1979; Hinrichs 1985; Verkuyl 1972, 1993, 2005).

Furthermore, specific features of event participants can also contribute to building actionality, though in principle it should be stored in the lexicon:

(10) *John sang a song* (ACCOMPLISHMENT) vs. *John sang songs* (ACTIVITY).

The examples in (10) show that the actional value is determined by the verbal participants: when they are numerable and specific, the actionality is telic; otherwise, indefinite plurals and mass nouns are not able to change an activity into a telic predicate (in other languages, such as Hungarian, this distinction is expressed morphologically, via accusative-genitive alternation; cf. Heinämäki 1984).

As a third and final example, non-homogeneity and telicity are almost exclusively realized in perfective contexts (cf. the discussion on the ‘Slavic-style aspect’ in Chapter 5). This is what Bertinetto (2001) calls the ‘telicity paradox’:

(11) *John draw a circle* (TELIC) vs. *John was drawing a circle* (ATELIC).

Overall, examples from (9) to (11) contribute to pointing out that the clear-cut distinction drawn by the proponents of bidimensional approaches between the categories of aspect and actionality is not easy to maintain, as it largely relies on non-trivial theoretical assumptions. First, the categorial distinction between aspect and actionality mirrors a more general

separation between the grammar and the lexicon, which has been put into question by Cognitive Grammar and grammaticalization theory (cf. Sections 1 and 2). Second, though Vendler’s classification of Table 2 is often regarded as cross-linguistically valid, typological studies have shown that this is not always the case (cf. Tatevosov 2002; Botne 2003).

3.2.3. Telicity and transitivity

The aspectual notion of telicity is connected with prototypical transitivity. Traditionally speaking, transitivity is understood as a global transfer of an activity from an Agent to a Patient, carrying out a number of effects on the Patient. Since the work by Hopper & Thompson (1980), this traditional notion of transitivity has been decomposed into the various parameters displayed in Table 3. The higher the degree reached by each parameter in Table 3, the higher or the more prototypical is the transitivity of a certain sentence.

Table 3. Hopper & Thompson’s parameters of transitivity
(adapted from Hopper & Thompson 1980: 252)*

	TRANSITIVITY	
	←	→
	HIGH	LOW
(a) PARTICIPANTS	2 or more participants, A and O	1 participant
(b) KINESIS	action	non-action
(c) ASPECT (i.e. ACTIONALITY)	telic	atelic
(d) PUNCTUALITY	punctual	non-punctual
(e) VOLITIONALITY	volitional	non-volitional
(f) AFFIRMATION	affirmative	negative
(g) MODE	realis	irrealis
(h) AGENCY	A high in potency	A low in potency
(i) AFFECTEDNESS OF O	O totally affected	O not affected
(j) INDIVIDUATION OF O	O highly individuated	O non-individuated

* Hopper & Thompson (1980) employs Dixon’s (1979) terminology: O(bject) and A(gent) refer to the participant in the transitive event.

b. KINESIS is the ability of certain events (e.g. actions) of being transferred from one participant to another.

d. PUNCTUALITY refers to the feature of some predicates that have no intermediate phase between inception and completion. Alongside with parameter (c), PUNCTUALITY can also be regarded as relating to actionality.

Among such parameters, telicity (parameter (c), highlighted in grey in Table 3) also plays a role, which is explained in the following terms: “An action viewed from its endpoint, i.e. a telic action, is more effectively transferred to a patient than one not provided with such an endpoint. In the telic sentence *I ate up*, the activity is viewed as completed, and the transferral is carried out in its entirety; but in the atelic *I am eating it*, the transferral is only partially carried out” (Hopper & Thompson 1980: 252). In addition, with telic predicates, given the entirety of transferral, the object is also highly affected (parameter (i)), and individuated (parameter (j)). Both completeness and individuation in turn contribute to linking telicity and transitivity with topicality, as argued in Viti (2008a, 2008b). This linkage is crucial to account for the pragmatic properties of and the grammaticalization undergone by ancient Indo-European preverbs, which find a thorough general discussion in Chapter 2 language-specific treatments in Chapters from 3 to 6, and a summary in Chapter 7.

2 Preverbs: an overview

1. Preverbs in Indo-European

1.1. *Preverbs: definition and functions*

Preverbs are uninflected morphemes that occur in front of a verbal stem and modify its meaning, as shown in (1).

(1) <u>Simplex verb</u>	<u>Composite verb</u>
a. Ved. \sqrt{i} - ‘go, walk’	<i>pra</i> \sqrt{i} - ‘come forth , go on , begin’
b. AG <i>eîmi</i> ‘come, go’	<i>pró-eimi</i> ‘go forward , advance’
c. OCS <i>iti</i> ‘go, come’	<i>pro-iti</i> ‘go through ’
d. OIr. \sqrt{icc} - ‘reach’	<i>ro-\sqrt{icc}</i> - ‘come, attain, reach, succeed’

Examples (1)a-d contain the reflexes of the Proto-Indo-European local adverb **pr-ó* ‘forward, forth’ (LIPP II: 636-637) occurring in front of a motion verb, and modifying its meaning accordingly.¹ Vedic, Ancient Greek, and Old Church Slavic motion verbs of (1)a-d go back to the same PIE root, i.e. **h₁ej-* ‘go, walk’ (IEW: 293–296; LIV²: 232), whereas the Old Irish one is related to PIE **h₂nek-* ‘reach’ (IEW: 316–318; LIV²: 282).

Though the notion of preverb was coined, and is traditionally employed, in the field of Indo-European studies (Booij & Van Kamenade 2003: 1), many non-Indo-European languages also exhibit an array of uninflected morphemes that have the same functions as Indo-European preverbs (cf. Section 3). The functions of Indo-European preverbs are described in what follows (cf. Bader 1997; Booij & Van Kamenade 2003). In the first place, preverbs operate at the semantic level: they modify in different ways the meaning of

¹ Example (1)d shows one of the few Old Irish composites in which the preverb *ro* (< **pró* ‘forward, forth’) retains its etymological spatial semantics. Usually, *ro* functions as an aspectual marker in Old Irish (cf. Chapter 6).

the verb onto which they attach. They primarily provide a verbal root with spatial information: preverbs can give indication to location events, or specify the direction of motion. For example, the Ancient Greek and Old Irish simplex caused motion verbs *phérō* ‘bring, carry’ and *beirid* ‘carry, bring’ (< PIE **b^her-* ‘carry, bring’; cf. IEW: 128 ff.; LIV²: 76 ff.) can be combined with a number of preverbs, resulting in the different composites displayed in (2) and (3) (the list of composites is not exhaustive for either language; the added preverb and its semantic contributions are highlighted in bold):

- (2) AG composites with *phérō* ‘bring, carry’
- a. *ana-phérō* ‘bring **up**, bring **back**, report’
 - b. *apo-phérō* ‘bring **away**, bring **back**, hand in’
 - c. *dia-phérō* ‘carry **in different ways**, differ’
 - d. *ek-phérō* ‘carry **out of**’
 - e. *em-phérō* ‘carry **in**’
 - f. *eis-phérō* ‘carry **in(to)**, contribute, introduce’
 - g. *epi-phérō* ‘bring **upon**’
 - h. *kata-phérō* ‘bring **down**’
 - i. *meta-phérō* ‘carry **across**, translate’
 - j. *pro-phérō* ‘bring **forward**, utter’
 - k. *pros-phérō* ‘bring **to**, offer, pay’
 - l. *huper-phérō* ‘carry **over**, be preeminent’
- (3) OIr. composites with *beirid* ‘bring, carry’
- a. *ar·beir* (lit.) ‘**before** bring → live, eat, use’
 - b. *as·beir* (lit.) ‘**out_of** bring → say, speak’
 - c. *con·beir* ‘bring **together**, conceive’
 - d. *do·beir* ‘bring **to**, give’
 - e. *fo·beir* ‘bring **under**, subdue’
 - f. *for·beir* (lit.) ‘bring **over** → grow, surpass’
 - g. *fris·beir* (lit.) ‘bring **against** → oppose, resist, obstruct’
 - h. *imm·beir* ‘carry **around**, put, employ’

Preverb-verb combinations can result in non-compositional (idiomatic or unpredictable) meanings: put another way, the meaning of the resulting composite verbs cannot always be inferred from the sum of the meanings of their elements. Among composites in (2) and (3), the following show non-compositional semantics: AG *ana-phérō*

‘report’, *apo-phérō* ‘hand in’, *dia-phérō* ‘differ’, *meta-phérō* ‘translate’, *pro-phérō* ‘utter’, and *huper-phérō* ‘be preeminent’; OIr. *ar-beir* ‘live, eat, use’, *as-beir* ‘say, speak’, *con-beir* ‘conceive’, *for-beir* ‘grow, surpass’, *imm-beir* ‘employ’. A number of similar non-compositional developments occur across different languages: for example, in both Ancient Greek and Old Irish, the root for ‘bring’, combined with different preverbs (AG *pro-* ‘forth, forward’, OIr. *ess-* ‘out of’), produces a communication verb (*pro-phérō* ‘utter’(2)j); *as-beir* ‘say, speak’ (3)b; cf. also Rus. *pro-iz-nosit* ‘**forth-out_of**-bring → say, pronounce, utter’ that contains the Slavic equivalents for both preverbs, and a verbal base for bringing). These similarities are arguably byproducts of the lexicalization of the so-called Container metaphor, according to which human body is conceptualized as a container (cf. Chapter 1). In a number of formations, preverbs develop further lexical meanings than the etymological spatial ones: for example, the preverb *apó-* ‘away from’ basically expresses ablativity, but it comes to mean ‘back’ in *apo-phérō* ‘bring **back**’. The same preverb also gains more abstract meanings. For example, in combination with the communication verb *eîpon* ‘say’, *apo-* expresses refusal, such as in *ap-eîpon* ‘deny’ (< *apo-* ‘away’ + *eîpon* ‘say’).

Notably, preverbs can also carry out more grammatical functions than those outlined above. To begin with, preverbs frequently modify the actionality or lexical aspect of the verb onto which they attach, from durative to punctual, or from atelic to telic. This function has been ascribed to preverbs of Indo-European languages, including Vedic, Homeric Greek, Old Church Slavic, and Old Irish (cf. the relative discussions in Chapters 3–6). Relevant examples also come from other Indo-European languages, both ancient and modern, as is shown in (4):

(4) The telic value of preverbs

a.		‘drink’	‘drink up ’
	Lat.	<i>bibo</i>	<i>con-bibo</i>
	Germ.	<i>trinken</i>	<i>aus-trinken</i>
b.		‘eat’	‘eat up’
	Lat.	<i>edo</i>	<i>com-edo</i> ²
	Germ.	<i>essen</i>	<i>auf-essen</i>

² On the actional value of Latin preverbs, cf. Haverling 2003, 2008, 2010; Pompei 2010.

In addition, preverbs can bring about other types of actional meanings such as iterative (e.g. AG *ana-metrěsthai* ‘start **again**’), distributive (OR *po-jati* ‘take **for multiple times**’), delimitative (OR *po-sěděti* ‘sit **for a while**’), and ingressive (e.g. Ved. *prá* √*an* ‘**start** breathing’, *ní* √*svap-* ‘**fall** asleep’; AG *hupo-perkázō* ‘**begin inch by inch** to assume a dark color’; OCS *vbs-po-męnęti* ‘**start** remembering’; OR *raz-bolętisja* ‘**fall** ill’).

In Slavic languages, it is noteworthy that preverbs not only modify the lexical aspect of verbs, but eventually developed into fully-fledged markers of grammatical aspect: preverbs underwent grammaticalization into ‘boulder perfectives’ (Bybee 1985; Dahl 1985; Bybee & Dahl 1989; Bybee, Perkins & Pagliuca 1994; cf. the thorough collection of references contained in Ruvolletto 2016: 8–33). Such a typologically unusual development and its motivations are discussed in Chapter 5: even in the most anciently attested variety of Slavic, Old Church Slavic, one can find evidence for the subsequent expansion of the so-called ‘Slavic-style aspect’ (cf. also Eckhoff & Haug 2015; Wiemer & Seržant forthc.). As is shown in Chapter 6, Old Irish preverbs also carry out grammatical functions: specifically, the preverb *ro* (< PIE **pr-ō* ‘forward, forth’) is paradigmaticized to express perfectivity; the contentless preverb *no* (< PIE **nú* ‘now’; LIPP II: 577) behaves as a verbal auxiliary under certain morphosyntactic conditions.

Since the work by Hopper & Thompson (1980), it is acknowledged that a linkage exists between telicity-perfectivity and transitivity: in particular, a high degree of telicity-perfectivity is implied by prototypical transitivity (cf. Chapter 1, Section 3.2.3). Therefore, as preverbs can mark telicity and perfectivity, they are also candidates to function as so-called applicative markers. Applicatives are overt verbal morphemes that “allow the coding of a thematically peripheral argument or adjunct as a core-object argument” (Peterson 2007: 1). In (5), an example from Ainu (isolated, Hokkaido, Japan) is shown:

(5) Applicative construction in Ainu (from Shibantani 1996: 159)

- | | | | | |
|----|-------------|-------------|-----------------|---------------|
| a. | <i>poro</i> | <i>cise</i> | <i>ta</i> | <i>horari</i> |
| | big | house | in | live |
| b. | <i>poro</i> | <i>cise</i> | <i>e-horari</i> | |
| | big | house | APP-live | |

‘He lives in a big house.’

The same state of affairs is denoted in (5)a-b: in the former example, on the one hand, Location is expressed through a PP introduced by *ta* ‘in’; in the latter sentence, on the other hand, Location is promoted to direct object of the composite verb *e-horari*, which crucially contains the applicative prefix *e-*.

A typological parallel has been drawn between Indo-European preverbs and applicatives, as Indo-European preverbs also seem to be able to promote an adjunct to argumental status (on Vedic, cf. Chapter 3; Danesi 2009; and reference therein; on Ancient Greek, cf. Chapter 4; Horrocks 1981; Viti 2008a; on Lithuanian, cf. Kozhanov 2016). In (6), it is shown that Lithuanian preverbs can function in the same way as the applicatives in (5): the simplex verb *eiti* ‘go’ is intransitive, and takes an optional PP *per*+ACC expressing Path in (6)a. By contrast, the same morpheme *per* occurs in front of *eiti* as a preverb in (6)b: accordingly, the Path-participant is promoted to direct object.

(6) Applicative construction in Lithuanian (from Kozhanov 2016: 370)

- a. *ei-ti* *per* *gatv-ę*
go-INF across street.ACC
‘to go across the street’
- b. *per-ei-ti* *gatv-ę*
APP-go-INF street.ACC
‘to cross the street’

The preverb/applicative *per-* of Lithuanian is etymologically connected with the corresponding preposition *per*: they both go back to the same Proto-Indo-European adverb **pér* (LIPP II: 607). The linkage just outlined between Lithuanian preverbs/applicatives and prepositions is common within the Indo-European languages, in which preverbs can usually also function as adpositions (that is, pre- and postpositions) and adverbs (cf. Sections 1.2 and 1.3), and also displays typological parallels: the same morphemes that function as applicatives can also occur out of the preverbal context, as adpositions or adverbs, in non-

Indo-European languages, including for example Ayoreo (Zamucoan, Paraguay, Bolivia; Prof. Pier Marco Bertinetto, p.c.). Switching to the diachronic plane, it is worth mentioning that adpositions constitute one of the possible sources for applicatives (cf. Seiter 1979 on Oceanic languages; Weir 1986 on Nadëb, Nadahup, Amazonas, Brazil; Craig & Hale 1988 on Algoquian languages; Peterson 2007: 125 ff.). This development is accounted for as a discourse-oriented grammaticalization: according to Craig & Hale (1988), what has triggered the reanalysis of an adposition as a preverb (i.e. applicative) is allegedly the null anaphora of the noun phrase taken by the preposition. Though a grammaticalization path triggered by null anaphora is difficult to hypothesize for Indo-European preverbs, due to the presence of a developed case system that contributes to complicate the whole picture, a number of scholars also believe that pragmatic features, such as topicality, are crucial to account for certain developments of Indo-European preverbs (cf. Sections 1.1 below and 1.3; Viti 2008a, 2008b).

The assessment of the actual role played by Indo-European preverbs in promoting an adjunct to argumental status is complicated by the fact that Proto-Indo-European and many daughter languages possess the said casual systems. On the one hand, it is true that preverbs can centralize an adjunct, thus aligning themselves with applicatives. On the other hand, the centralized adjunct frequently does not exhibit all the coding and behavioral properties of direct objects proper: often, it does not receive the usual coding, and does not play the usual role for direct objects, i.e. an accusative case expressing the Patient (e.g. Viti 2008a); in addition, these putative direct objects cannot always be passivized (e.g. Kulikov 2012).

Moreover, in Proto-Indo-European and in a number of ancient Indo-European languages, cases not only serve the grammar (i.e. by distinguishing subjects from objects), but also retain part of their concrete meanings (cf. especially Kuryłowicz 1964: 179 ff. on the distinction between grammatical and concrete cases). Accordingly, in many contexts, preverbs are not strictly necessary to allow for an adpositionless second argument, though they certainly contribute to clarifying the meaning of verbs and adpositionless cases. For example, the usage of the adpositionless genitive *poliês halòs* ‘gray sea’ is allowed both

with a composite containing *ex-* ‘out of’ (*ex-ana-dúomai* ‘emerge **from**’) and with a composite lacking it (*ana-dúomai* ‘emerge’):

- (7) *hathróai heudousin, poliês halòs*
 close_together.NOM.PL sleep.PRS.3PL grey.GEN sea.GEN
ex-anadúsai
 from_emerge.PTCP.AOR.NOM.PL
 ‘(The seals) sleep close together, emerging from the grey sea.’ (*Od.*4.405)
- (8) *karpalímōs d’ anédu poliês halòs eût’ omikhlē*
 quickly PTC rise.AOR.3SG grey.GEN sea.GEN like fog.NOM
 ‘And (Thetis) rose from the grey sea like the fog.’ (*Il.*1.359)

In addition, the extension of the transitive construction seems to be not always triggered by the occurrence of preverbs, but rather by its own frequency. This is true, for example, for Ancient Greek (cf. Luraghi 2010). Horrocks (1981: 41), alleging the applicative usage of Ancient Greek preverbs, mentions the composite *pros-eîpon*, which can take an accusative argument (*tòn* ‘him’ expressing the Addressee) in the sense of ‘address someone’, as in (9):

- (9) *tòn d’ aûte pros-éiπε theà*
 him.ACC PTC then toward-say. AOR.3SG goddess.NOM
 ‘Then the goddess addressed him.’ (*Il.*1.206)

Horrocks remarks that the simplex *eîpon* cannot take a different direct object from the cognate *épos* ‘word’ (or its non-cognate synonym, *mûthon*) or the indefinite pronoun *ti* ‘something’. However, the passage in (10) contradicts this remark: the simplex verb *eîpon* takes the accusative of the Addressee, that is, *Héktora*.

- (10) *dē tôte Pouludámas thrasùn Héktora eîπε*
 PTC then P.NOM daring.ACC H.ACC say.AOR.3SG

parastás

stand_by.PTCP.AOR.NOM

‘Then Polydamas, standing by, addressed daring Hector.’ (*Il.*12.210)

As a matter of fact, it is undeniable that preverbs are connected with valency-related formations, at the very least, as they are involved in making up reciprocal constructions in different ancient Indo-European languages, as shown in (11)a-c:

(11) a. Hittite (from Inglese forthc.)

GAL ^{LÚ.MEŠ}UŠ.BAR SÍG BABBAR SÍG SA₅ *anda immiyazi*
chief weaver(PL) wool white wool red REC mix.PRS.3SG

‘The chief of the weaver mixed together white (and) red wool.’ (KUB 21.20 i 9–10)

b. Vedic (from Kulikov 2007: 718)

añj-áte vy añj-ate sám añj-ate
anoint.PRS-3PL.MID REC anoint.PRS-3PL.MID together anoint.PRS-3PL.MID
krátum rih-anti mádhunāᵛ abhy añj-ate
mental_power.ACC lick.PRS-3PL.MID sweetness.INST on anoint.PRS-3PL.MID

‘They (= waters) anoint themselves (with Soma), anoint each other (?), mix together with each other (?), lick (Soma’s) mental power, anoint themselves with (his) sweetness.’ (ṚV 9.86.43)

c. Old Irish (from Dedio & Widmer forthc.)

ní-mu-n-’accamar

NEG-REC-1PL-see.PST.1PL

‘we have not seen one another’ (Wb.18d3)

In (11)a from Hittite, the verb *imiya-* ‘mix’ and the preverb *anda* ‘in’ indicate an object-oriented spatial reciprocal situation. In (11)b from Vedic, a canonical intransitive reciprocal is expressed by means of the preverb *ví* ‘in two spaces, in two times, in different directions’. In the Old Irish passage in (11)c, a personal reciprocal construction is built with

the verb taking the plural verbal endings, and preceded by the preverb *imm-*, which in this context surfaces as *-mu-*.³

Alongside with the semantic and syntactic functions outlined above, preverbs can also serve discourse-related purposes. Specifically, Boley (2004: 56–58) describes Hittite, Vedic, and Homeric preverbs (i.e. *place words* in her terms; cf. Section 1.4.1) as elements able to draw anaphoric reference, and thus to contribute to textual cohesion. The following example from the *Odyssey* is instructive in this respect:

- (12) *en dé hoi askòn éthēke theà mélanos oínoio tòn*
in PTC DEM.DAT skin.ACC put.AOR.3SG goddess.NOM dark.GEN wine.GEN DEM.ACC
héteron, héteron d' húdatos mégan, en dè kai
one.ACC other.ACC PTC water.GEN big.ACC in PTC and
ēia kōrúkōi: en dé hoi
provisions_for_a_journey(PL).ACC sack.DAT in PTC DEM.DAT
ópsa títhei menoeikéa pollá
cooked.ACC.PL put.IMPF.3SG satisfying.ACC.PL many.ACC.PL
‘On (the raft) the goddess put for him one wineskin of black wine, and a big one of water; then, on (the raft she put) grain in a wallet; on (the raft) she put many cooked delicacies.’ (*Od.5.265–267*)

In (12), no overt referent occurs accompanying the preverbs *en* in tmesis position (cf. Section 1.2), though one understands from the preceding context that the preverbs *en* refer to a previously mentioned raft. Boley’s remark is backed up by the quantitative analysis carried out by Viti (2008a) on Homeric poems: Viti showed that the majority of referents linked to preverbs are topical, thus either previously mentioned in the discourse context, or known within speakers’ encyclopedic knowledge. The cohesive function of preverb

³ According to Thurneysen (GOI: 516–518) and O’Brien (1938: 242–244), the reciprocal marker *imm-(a-N)* is identical with the lexical preverb *imm-* ‘around, about’. Though the two are undoubtedly etymologically related (GOI 517; LIPP II: 36), Dedio & Widmer (forthc.) assume them to constitute synchronically two different lexemes.

repetition in Vedic and Homeric Greek has been investigated by Dunkel (1976, 1979), and Klein (e.g. 1987, 2007, 2008). A relevant Vedic example follows: in (13), the preverb *ní* ‘down’ is repeated three times in the stanza, specifically at the beginning of each verse.

- (13) *ní grāmāso a-vikṣata*
down inhabitant(PL).NOM **to**-enter.AOR.3PL
ní padvānto ní pakṣīṇaḥ
down having_feet.NOM.PL **down** winged.NOM.PL
ní śyenāsaś cid arthīnaḥ
down hawk.NOM.PL **even** greedy.NOM.PL
 ‘The villagers have gone **into** (their homes), **into** (their homes) the creatures with feet, into (their homes) those with wings, into (their homes) even the greedy hawks.’
 (RV 10.127.5)

1.2. *The positional properties of preverbs*

In Indo-European, the same morpheme that functions as a preverb can also occur outside the preverbal context as an adverb or as an adposition. Garde (2004: 104–105) lists a number of such morphemes from five Indo-European languages: Ancient Greek, Latin, German, Russian and Lithuanian. To Garde’s language sample, I add Vedic, Old Church Slavic, and Old Irish, which are relevant for this work (Whitney 1955[1879]: 396 ff.; and Renou 1952: 316 ff. for Vedic; Aitzetmüller: 1991: 154 ff.; and Lunt 1965: 82, 151 on Old Church Slavic; VKG II: 242 ff.; and GOI 495 ff. on Old Irish). After Garde, I mark the morphemes that can also function as prepositions differently from those that only occur in preverbal position: the former are assigned the label Prep, the latter Prev. Morphemes carrying both labels also feature both functions.⁴

⁴ For a full catalogue of Proto-Indo-European preverbs with cognates, see Beekes (1995: 247 ff.). In this respect, the indexes collecting all particles of Indo-European languages contained in LIPP I are of much use as well. As defining the category of preverbs is not straightforward, there is sometimes disagreement as to

(14) Preverb catalogue in a number of Indo-European languages

a. Vedic (cf. Chapter 3)

Prep-Prev – 17: *áchā, áti, ádhi, ánu, ántar, ápa, ápi, ábhi, áva, úpa, tirás, nís, pári, purás, prá, práti, sám*

Prep – 3: *upári, parás, púrā*

Prev – 4: *úd, ní, párā, ví*

b. Ancient Greek (cf. Chapter 4)

Prep-Prev – 19: *amphí, aná, antí, apó, diá, eis, ek, en, epí, katá, metá, pará, perí, pró, prós, sún, hupó, hupér*

c. Old Church Slavic (cf. Chapter 5)

Prep-Prev – 16: *bedъ, do, iz(ъ), na, nadъ, o(b), ot(ъ), po, podъ, předъ, pri, съ, vъ(n), vъz(ъ), u, za*

Prep – 1: *kъ*

Prev – 4: *prě-, pro-, raz-, vy-*

d. Old Irish (cf. Chapter 6)

Prep-Prev – 15: *air, com, dí, ess, eter, fo, for, frith, íar, imb, in, re, sech, tar, tri*

Prep – 1: *ó*

Prev – 6: *ad-, aith-, ne-, uss-, ro-, to-*

e. Latin

Prep-Prev – 14: *ab, ad, ante, cum/con-, de, ex, in, ob, per, prae, pro, sub, super, trans*

Prep – 1: *post*

Prev – 2: *dis-, red-*

f. German

Prep-Prev – 15: *ab, an, auf, bei, durch, in/ein-, mit, nach, über, um, unter, vor, wider, zu*

Prep – 5: *für, gegen, ohne, seit, von*

what items to be included in the preverb catalogue: for example, Vedic *áchā* ‘to, toward’ is included by Renou (1952), but not by Whitney (1955[1879]).

Prev – 5: *be-*, *ge-*, *ver-*, *zer-*

g. Russian

Prep-Prev – 15: *v*, *do*, *za*, *iz*, *na*, *nad*, *o/ob*, *ot*, *pered/pred-*, *po-*, *pod-*, *pri*, *pro*, *s*, *u*

Prep – 3: *bez*, *k*, *čerez*

Prev – 4: *vz-*, *vy-*, *pere-*, *raz-*

h. Lithuanian

Prep-Prev – 10: *ant-*, *apie/ap-*, *į*, *iš*, *nuo*, *po/pa-*, *per*, *prie*, *su*, *už*

Prep – 4: *arti*, *be*, *iki*, *tils*

PrevP – 1: *at-*

In a number of ancient Indo-European languages – notably in Hittite, Vedic, Old Avestan, Homeric Greek, Early Latin, Archaic Old Irish, and Gothic – preverbs can be separated from the verb that they modify, despite retaining their semantic cohesion with it. This apparent split is usually called *tmesis* (< AG *témnō* ‘cut’), and is exemplified in (15):

(15) Tmesis in Vedic (from Danesi 2013: 61)

a. *prá* *vām* *brahmāṇi* *kāravo* *bharante*
forth 2DU.DAT prayer.ACC.PL poet.NOM.PL bring.PRS.3PL.MID

‘To you the poets offer their prayers.’ (ṚV 7.72.4b)

b. *devo* *devebhir* *ā́* *gamat*
god.NOM god.INS.PL to go.SBJV.PRS.3SG

‘May the god come with the gods.’ (ṚV 1.1.5c)

In (15)a, the preverb *prá* modifies the meaning of the root $\sqrt{bhṛ}$ - ‘carry, bring’, resulting in ‘offer’. The two elements of the composite are displaced from one another: *prá* is sentence-initial, whereas the main verb *bharante* is sentence-final. In (15)b, instead, the preverb *ā́*, which reverses the deictic orientation of \sqrt{gam} - ‘go to, approach’, shows up immediately in front of the verb *gamat*, but remains an constituent independent of it, as is proved by accentuation. As demonstrated by Watkins (1963, 1964), in some ancient Indo-European languages, *tmesis* is not a literary artifact, but rather a testimony of the fuzzy categorial

status of a class of morphemes that fluctuate among being used as free adverbs, adpositions and preverbs (on tmesis, cf. further De Angelis 2004, and references therein; cf. Chapter 1, Section 1.3.2).⁵ Therefore, *tmesis* (lit.) ‘cutting apart’ is a misleading label that was assigned by ancient grammarians to the apparent split exemplified in (15)a.

The papers by Watkins (1963, 1964) describe the following types of verbal tmesis:⁶

1. #PN(E)...V(...)# (cf. (15)a).⁷ This type of tmesis has already been described by Wackernagel (1924: 171 f.; translation CZ): “From ancient times, tmesis mostly occurs if the preverb shows up at the beginning of the sentence.”⁸ In addition to Vedic, Hittite, Homeric Greek, Archaic Latin, and Archaic Old Irish allow this pattern (Watkins 1964).
2. #N(E)...PV(...)# (cf. (15)b). This type of *tmesis* is difficult to detect, as the preverb immediately precedes the verb, though the two are only juxtaposed, and do not constitute a single word. This type of tmesis is also allowed in Hittite, Homeric Greek, and archaic Old Irish.
3. #N(E)...VP(...)#, as in (16). In this passage, the preverb *sám* ‘with’ occurs in post-verbal position, and adds a telic nuance of meaning to the simplex verb. Watkins suspects this pattern of being a (purely poetic?) innovation of Vedic and Homeric Greek. This pattern is also called ‘reverse tmesis’ or ‘verbal anastrophe’ (cf. Petit 2017).

(16) *jáyema* *sám* *yudhí* *spṛdhaḥ*
 defeat.OPT.1PL with battle.LOC enemy.ACC.PL
 ‘May we conquer our enemies completely in battle.’ (ṚV 1.8.3c)

⁵ Among the languages investigated by Watkins (1963), Old Irish emerges as being problematic: there is no general consensus as to whether tmesis attests to an inherited but residual clausal configuration, or it is a mere literary artifact (cf. Chapter 6)

⁶ The concept of tmesis was also applied to PPs (‘prepositional tmesis’, whereby a preposition is split from the noun that it takes by one lexical word), and to words other than verbs including nouns or adverbs (‘defusional tmesis’; this terminology was coined by Petit’s (2017)).

⁷ Watkins’ (1964) abbreviations follow: # = sentence border, N = sentence connective, E = (enclitic) pronominal element, V = verb form, P = preverb.

⁸ “Von alters her tritt Tmesis am ehesten ein, wenn das Präverbium zugleich an der Spitze des Satzes steht.”

Later on, preverbs underwent what Watkins descriptively labelled as *univerbation* (Watkins 1963, 1964). In other words, preverbs developed into bound morphemes, that is, prefixes inseparable from the verb, occasionally with concomitant stress shifts, phonetic erosion, or even ultimate disappearance. Pinault (1995) represents the grammaticalization path covered by preverbs as in (17).

(17) independent preverb > left member of a verbal compound > prefix > (zero)

The path in (17) can be exemplified through Latin preverbs. In the light of some passages from early Latin prayers, Cuzzolin (1995) and Vincent (1999) discuss the fact that, while in Early Latin preverbs must be analyzed as independent constituents, these morphemes later on became left members of verbal compounds, and eventually developed into (bound) prefixes. These stages can be discerned based on two remarks on the early prayers by the grammarian Festus (Cuzzolin 1995: 130; Vincent 1999: 1118):

(18) ‘*Sub vos placo*, in *precibus fere cum*
 under 2PL.ACC reconcile.PRS.1SG in prayer.DAT.PL mostly when
dicitur, *significat id*, *quod* ‘*supplico*’
 say.PRS.3SG.PASS mean.PRS.3SG DEM.ACC REL.ACC implore.PRS.1SG
 ‘When people say, mostly in prayers, *sub vos placo*, it means the same as *supplico*
 [‘implore’].’ (Fest. 402; ed. Lindsay 1913)

(19) ‘*Ob vos sacro*, in *quibusdam precationibus*
 against 2PL.ACC devote.PRS.1SG in certain.DAT.PL prayer.DAT.PL
est, *pro* ‘*vos obsecro*, *ut* ‘*sub vos*
 be.PRS.3SG instead 2PL.ACC beseech.PRS.1SG as under 2PL.ACC
placo, *pro* ‘*supplico*’
 reconcile.PRS.1SG instead implore.PRS.1SG
 ‘*Ob vos sacro* in certain prayers stands for *vos obsecro*, just as *sub vos placo* stands
 for *supplico*.’ (Fest. 206; ed. Lindsay 1913)

Festus points out that, though in the early Latin varieties of Latin *sub* ‘under’ and *ob* ‘to, toward’ could occur outside the immediate preverbal context, these displaced preverbs already constituted a single lexical units with the verbs *placo* ‘reconcile’ and *sacro* ‘consecrate’. Festus’ remark finds an effective reformulation in Romagno (2004: 68): “univerbation is only the end point of a grammaticalization, whose semantic effects are far earlier visible.” Accordingly, Cuzzolin (1995: 133) sets out to replace the misleading term *tmesis* with *costituenza discontinua* ‘discontinuous constituency’: in fact, there are no univerbated compounds proper to ‘cut apart’; rather, preverb-verb discontinuous and continuous combinations are on their way to actual univerbation. Even if displaced, preverbs can modify the semantics of simple verbs, adding spatial or aspectual information: the meaning of the resulting composites can be no longer compositional. Going back to (18)-(19), how can the meanings of *supplico* ‘kneel down/humble one’s self, pray/beg humbly, beseech, implore, supplicate’ and *obsecro* ‘beseech, entreat, implore, supplicate, conjure’ be straightforwardly derived from *sub+placo* and *ob+sacro*?

Along the path of development in (17), preverbs can partially or entirely lose their local and concrete meanings (De Angelis & Gasbarra 2010: 153): for example, *sub* no longer means ‘under’ in *supplico*, as well as *ob* no longer means ‘to, toward’ in *obsecro*. To be sure, univerbation does not necessarily imply semantic bleaching: both in Sanskrit and in Classical Greek, verbal composites can be fully univerbated, but still retain spatial and compositional meanings. Thus, the so-called *tmesis* attests to a step within the grammaticalization process in (17), in which an independent morpheme has started gravitating toward a verbal stem, and modifying it semantically, but does not yet constitute a bound morpheme with it.

Examples from Vedic (15) and Latin (18)–(19) represent two different stages along the path of development covered by preverbs: on the one hand, we have a *tmesis* in which full lexical word(s) intervene(s) in between the preverb-verb combination. On the other hand, the Latin composites are split only by an enclitic pronoun. Precisely based on the type of material (lexical vs. grammatical) that interrupts the preverb-verb combinations, Bertrand (2014) distinguishes *lexical* and *non-lexical tmeses* (non-lexical *tmesis* being also called *clitic interposition*). Arguably, lexical *tmesis* mirrors a less advanced stage along the

continuum toward the grammaticalization and univerbation than that attested by non-lexical tmesis, as I explain in what follows.

One among the few generally accepted syntactic statements about Indo-European is Wackernagel's law, claiming that enclitics originally occupied the second position in the sentence (Watkins 1964: 1036). Wackernagel's formulation is based on the evidence of Greek, Indo-Iranian and Latin; its existence is also known from Celtic, and abundantly backed up by Anatolian and Balto-Slavic. Arguably, in cases of non-lexical tmesis, composites are 'split', exactly because the tendency toward univerbation runs against the stronger Wackernagel's law. In this light, non-lexical tmesis is a weaker indicator of independent constituency than lexical tmesis. Accordingly, the non-lexical tmesis pattern is allowed by a wider range of languages than those outlined above, including Hittite, Gothic, Old Irish, Lithuanian, and Ossetic for example:

(20) a.Hittite (adapted from Petit 2017)

Para=[m]a=aš pa-iz-zi.

P=and=3SG.NOM go.PRS.3SG

'He goes forward.'

b. Gothic (adapted from Conforti 2014: 17)

<i>.us</i>	= nu	= <i>gibit</i>	<i>to</i>	<i>kaisaris</i>	<i>kaisara</i>
back	PTC	pay.IMP.2PL	DEM.ACC.PL.N	C.GEN.SG	C.DAT.SG
<i>jah</i>	<i>to</i>	<i>gudis</i>	<i>guda.</i>		
CONJ	DEM.ACC.PL.N	G.GEN.SG	G.DAT.SG		

'Pay back to Caesar what (is) Caesar's, to God what (is) God's.' (Lc. 20.25)

c. Old Irish

at-[t]at=chigestar a=dæ

to-2SG=see.FUT.3SG.PASS O=G.VOC

'You will be seen, o God.' (Ml.59c12)

d. Old/non-standard Lithuanian (from Rosinas 1995: 10)

ap-mi-šviesk akis

up/on/to-1SG-illuminate eyes

‘illuminate my eyes (lit. the eyes on/to me)’

e. Ossetic (Digor dialect) (adapted from Petit 2017)

Æra=sæ=farsta.

P=3PL.ACC=ask.PST.3SG

‘He asked them.’

In (20)a from Hittite, the interposition of the clitics *-ma-* ‘and’ and *-aš* ‘he’ occurs in between *para-...paizzi* ‘he goes forward’. In (20)b from Gothic, the enclitic connective *=nu* intervenes between the preverb *us-* and the verb *=gibit* (for a thorough catalogue of the elements that can occur in tmesis position in Gothic, cf. Conforti 2014). In (20)c from Old Irish, a second person enclitic pronoun separates *at-* ‘to, toward’ from *=chigestar* ‘will be seen’. In (20)d from Old/Non-standard Lithuanian, a first person pronoun encoding the animate Goal-participant ‘cuts’ the composite (in Modern Standard Lithuanian, reflexive pronoun only can occur in tmesis position; cf. Chapter 5). In (20)e from Ossetic, the composite *æra-...farsta* ‘he asked’ is split by the interposition of the clitic *-sæ-* ‘them’.

Composite verbs and moveable preverbs of some modern Germanic languages, in particular West-Germanic, which have received attention in the recent literature (cf. e.g. Ackerman & Webelhuth 1998; McIntyre 2000, 2001, 2002, 2003; Dehé and Wanner 2001; Lüdeling 2001; Zeller 2001; Booij 2002a, 2002b; Dehé et al. 2002; Van Kemenade & Los 2003), seem to represent a different development. Van Kamenade & Los (2003: 79 ff.) call the productive preverb-verb combination in such languages *separable complex verb*. “Separable complex verbs in the present-day West-Germanic languages typically consist of a verbal base, and a non-verbal part, often but not always a ‘particle’” (Van Kamenade & Los 2003: 80). Such a prefix/particle is part of a separable complex verb that, though constituted by morphemes separable by syntactic processes, operates as a single lexical unit. Dutch and German, for example, feature two different word orders, specifically SVOP in main clauses (21)a, and SOV in subordinate clauses (21)b. By way of example, let us consider the Dutch verb *op-bellen* ‘call **up**’ in (21)a-b:

(21) Word orders in Dutch: main vs. subordinate clauses

a. *Jan belt zijn moeder morgen op*

John rings his mother tomorrow **up**

‘John will phone his mother tomorrow.’

b. *Jan zegt dat hij morgen zijn moeder op-belt*

J. says that he tomorrow his mother **up-rings**

‘John says that he will phone his mother tomorrow.’

(adapted from Booij 1990)

As Booij & Van Kamenade (2003: 6) remark, the separability of separable complex verbs also manifests itself in the position of the infinitival particle *te*, which occurs between the two elements of separable complex verbs (e.g. *op te bellen* ‘to call up’), as well as in the form of the perfect passive participle, with the prefix *ge-* placed in between the preverb and the verbal stem (*op-ge-beld* ‘called up’). Separable complex verbs also behave similarly in derivational morphology: for example, the *ge-*nominalization of *opbellen* is *op-ge-bel* ‘phone call’, with the nominalizing prefix occurring in between the preverb and the verbal base.

1.3. *The origin of preverbs*

As discussed in Sections 1.1 and 1.2, in a number of Indo-European languages, the same set of morphemes can occur in adverbial, preverbal and adpositional (pre- and post-positional) position. Especially from Kuryłowicz (1964: 171) onward, the relation among adverbs, preverbs and adpositions is interpreted at the diachronic level as follows: “The fact that in the Indo-European languages many an indeclinable may function both as preverb and as preposition has been a sufficient reason for attributing to them an *adverbial* origin. Such an assumption fully accounts for their subsequent functional bifurcation. On the one hand, a group consisting of *adverb* + *verb* may develop into a compound [...]. On the other hand, within a construction [(verb + adverb) + oblique case] a syntactic shift may entail a new articulation [verb + (adverb + oblique case)], i.e. (preposition + oblique case)” (italics is

Kuryłowicz's). Before Kuryłowicz, the adverbial origin of Indo-European preverbs was also posed by Brugmann (1890: 758 ff.), Meillet (1903: 193, 158 ff.), Saussure (1922: 246 ff.), Wackernagel (1924: 153 ff.). After Kuryłowicz, many scholars embraced his theory, including Chantraine (1953: 82 ff.), Baldi (1979), Beekes (1995: 218), Rousseau (1995:12), Hoenigswald (1998: 257), and Fortson (2004: 139).

Thus, in the early stages of Indo-European, preverbs used to be independent constituents of an adverbial character. Later on, these adverbs started gravitating semantically toward a verb, or toward an inflected NP: adverbs either came to modify the meaning of a verb, or to specify the value of a case. After such adverb+verb or adverb+NP combinations became conventionalized, adverbs began to lose their autonomy, and to be part of proper syntactic constituents with verbs or noun phrases: they underwent grammaticalization. The functional bifurcation of local adverbs into preverbs or adpositions is mirrored by their increasing obligatorification for the structure of the constituents in which they occur.

From the adpositional side, such an obligatorification undergone by previously free-standing adverbs has been interpreted as a piece of evidence in favor of the rise of configurational syntax among Indo-European languages (cf. Hewson & Bubenik 2006; Luraghi 2009, 2010, *forthc.b*, *forthc.c*; Reinöhl 2016, and references therein). The grammaticalization of adpositions can thus be framed within a larger picture, whereby non-configurational languages, exhibiting originally (i) free constituent order, (ii) discontinuous nominal expressions, and (iii) null anaphora (Hale 1983), such as ancient Indo-European languages, undergo a series of changes that bring about features of configurationality. In fact, a number of scholars (Meillet & Vendryes 1924: 520; Hewson & Bubenik 2006) regard the creation of adpositional phrases as crucial in creating configurationality in Indo-European.

As even in the oldest Indo-European languages it is relatively infrequent for these morphemes to display the purely adverbial function (cf. e.g. Dunkel 1976, 1980; Luraghi 2001), preverb+verb and adposition+NP combinations have been assumed for Proto-Indo-European itself. Specifically, in his pioneering works on Old Indo-Aryan and Proto-Indo-European word order, Delbrück (1878: 13, 1888: 15–16) formulated the following rule:

preverb/adposition usually precedes its verb, but follows its case (cf. further McCone 2006: 41 ff.). However, Delbrück’s remark on word order, whether correct or not (cf. fn. 13, and Chapter 3 on Vedic), does not imply that either bound preverbs (i.e. prefixes) proper or adpositions proper (i.e. obligatory adpositions selecting the case that accompanies them) can be assumed for Proto-Indo-European (on the rise of configurational syntax and the internal structure of Indo-European PPs, see Hewson & Bubenik 2006; Luraghi 2009, 2010, forthc.b, forthc.c; Reinöhl 2016, and references therein). Rather, in the oldest branches of Indo-European, the relationship that holds between preverbs+verbs and adpositions+NPs can mostly be described as modification, rather than as specification or government (cf. further Boley 2004: 34; Chapters 3 and 4). In her work on tmesis in Hittite, Vedic and Homeric Greek, Boley (2004: 52) summarizes this view as follows: “the preverb/preposition [PW, *place word* in her terminology] is clearly an addition to what we regard as a basic sentence.” By contrast, in most ancient Indo-European languages, including Old Church Slavic and Old Irish (Chapters 5 and 6), adpositions seem to already function as heads of the phrases in which they occur: their omission brings about agrammaticality and/or alterations in meaning.

1.4. *Preverbs as a typological and a terminological problem*

1.4.1. *The terminological side of the issue*

As discussed in Sections 1.2 and 1.3, the same Proto-Indo-European morphemes that developed into preverbs, also developed into adpositions in later languages. In addition, these morphemes originally used to function as free constituents of an adverbial character, being thus able to modify whole sentences, nouns and verbs. Furthermore, preverbs encompass a wide range of meanings and functions per se, different from their basic contribute of adding spatial specifications to verbal stems (cf. Section 1.1). This multiplicity of functions is mirrored in a high uncertainty in the terminology referring to these morphemes, as I discuss in what follows.

Precisely because of such variety of placements, meanings, and functions, Cuzzolin et al. (2006) consider these morphemes as constituting a problematic morphological category. Accordingly, the authors call the morphemes that belong to this category ‘adverbs-adpositions-preverbs’ (ADV_S-ADP_S-PREV_S). Equally descriptive labels are employed by Bolinger (1971) and Friederich (1987): the former, in his work on English, uses the abbreviation *adprep* to combine their adverbial and prepositional function; the latter employs the same label to refer to these morphemes in the whole Indo-European language family.

Friederich (1987), in the heading of the same paper, explains what he means by *adprep*: in the subheading, within brackets, he adds the term *spatio-temporal auxiliaries*. The *spatio-temporal* part specifies the original semantics of these elements, whereas the *auxiliaries* part points out the fact that they are usually added as adverbial modifiers to a predicate or a noun. The primary spatial value of Hittite, Vedic, and Homeric ADV_S-ADP_S-PREV_S also stands behind Boley’s (2004) choice, who calls these elements *place words* (PWs). The fact that ADV_S-ADP_S-PREV_S originally functioned as modifiers, and not as syntactic heads, is also emphasized in Ivanov (1973), and in another paper by Friederich (1976), who opt for *locative auxiliaries*. The label *satellites* also points out the fact that these elements functionally gravitate toward a verbal center as their modifiers. The term *satellite* is used in the literature on the typology of motion events as well (from Talmy 1983 onward), and occasionally in works on the Old Irish verbal complex (e.g. McCone 2006: vii titles a section of his monography “The Verb and its Satellites in Proto-Indo-European”). Patri (2007) also focuses on the modifier character of preverbs, by calling them *determinant adverbial* ‘adverbial determiner’.

As Papke (2010: 4) shows, in works on Old Indo-Aryan, the morphemes under discussion are called in very different ways, arguably on account of the functional ambiguity that they exhibit in the oldest varieties of this branch: *Präpositionen* ‘prepositions’ (Delbrück 1888); *adverbial prepositions* (Macdonell 1910, 1916); *words of direction, elements of an adverbial character, the so-called prepositions, verbal prefixes* (Whitney 1955[1879]; Kulikov 2012); *preverbs*, or even *semi-autonomous verbal morphemes* (Kulikov 2012); and *Lokalpartikeln* ‘local particles’ in the various publications

by Hettrich, Casaretto, and Scheider (cf. Chapter 3, Table 3 for exact references). Each among these terms points out a specific aspect relating to these morphemes: their ability of modifying nouns (*Präpositionen, adverbial prepositions, the so-called prepositions*), their etymological spatial meaning (*words of direction*), their original syntactic autonomy (*elements of an adverbial character, semi-autonomous verbal morphemes*), or their preverbal placement (*verbal prefixes*). Interestingly, no author names these morphemes as *postpositions*, though the Indo-Aryan branch later on develops secondary postpositions (cf. fn. 13; Reinhöl 2016; Chapter 3).

As Pompeo (2002) remarks, Chantraine (1953), in his Homeric grammar, tends to use the term *prepositions* ‘prepositions’, which is generally the usual one in the literature on Ancient Greek. As Chantraine (1953: 82) already pointed out, the label *pre-position*, a calque from the Greek term *pró-thesis* (*pro-* ‘in front of, forth’+ a derivate from the root **d^heh₁-* ‘put’), is inadequate, as it is a cover term that comprises *petits mots invariables* ‘small uninflected words’, which specify the value of cases and are variably used as adverbs, preverbs or adpositions. Nevertheless, Chantraine only switches to the label *particules* ‘particles’ in the passages in which he discusses the adverbial origins of these morphemes (Chantraine 1953: 82 ff.).

The term *particle* is often regarded as particularly confusing because of its genericity. This issue is clearly discussed by Schourup (1999: 229): the term “is sometimes used to refer to elements of those traditional word classes that are uninflecting (‘invariable’), such as conjunctions, prepositions, interjections, and adverbs; at other times it is applied to all invariables except adverbs, conjunctions, and prepositions (see Hartmann 1994: 2953); more often, [...it] is applied to items that do not fit easily into any well-established word class.” A number of authors, such as Hettrich and colleagues, try to remedy such an ambiguity by adding the modification *Lokal-* ‘locative’. Horrocks (1981) and Luraghi (2003) also opt for *local particle*, whenever they do not want to specify the part of speech of these small uninflected words. However, naming ADVS-ADPS-PREVS as *local particles* can also generate ambiguity: in Hittite, for example, this label is employed to describe a specific class of P2 clitics, which result from a grammaticalization process

undergone by Proto-Indo-European ADVs-ADPs-PREVs (cf. Luraghi 2001; fn. 13 in this Chapter).

Instead, the term *verbal prefixes* is the most widespread in works on Slavic, based on the fact that preverbs show the status of bound morphemes since the earliest attestations of this branch (i.e. tmesis is not attested; cf. Chapter 5). The term *prefixes* usually comprises more items than the ADV-ADP-PREV category, so as to include other types of preverbal morphemes such as the negation *ne-*. The same applies to the term *preverbs* in the literature on Old Irish, in which preverb is a cover-term for all morphemes occurring in preverbal position, including the negation, and the paradigmaticized perfective marker *ro-* (VGK II; Vendryes 1923; Lewis & Pedersen 1961[1937]; grammaticalized *ro-* is instead called *augment* in McCone 1997, 2006). As their Ancient Greek counterparts, Old Irish ADVs-ADPs-PREVs are frequently called *prepositions* as well (e.g. Pokorny 1914; GOI).

Preverbs also represent a terminological challenge because of the variety of functions that preverbal morphemes of different origin exhibit outside Indo-European. As Schultze-Berndt (2003: 145–146) points out, this issue is mirrored in the literature on Northern Australian languages: alongside with the terms *preverb* and *verb*, various others are also employed by some authors, and none is generally accepted to date. Without adding further details on the functions of preverbal morphemes in Northern Australian languages (cf. Section 3), it is sufficient to illustrate the range of terminological variation: Table 4 reports the selection of terms provided by Schultze-Berndt referring to the elements that constitute the Northern Australian verbal complex.

Table 4. Terms employed for the elements of Northern Australian complex verbs
(adapted from Schultze-Berndt 2003: 146)

UNINFLECTING ELEMENT	INFLECTING ELEMENT	REFERENCES
Preverb	Verb	Nash 1982, 1986; Simpson 1991
Verbal particle	Verb/Auxiliary	Hoddinott & Kofod 1976; Merlan 1994
Coverb	Verb	Kofod 1996; Wilson 1999; Carr 2000, Schultze-Berndt 2000, 2001
Uninflecting verb	Inflecting verb	McGregor 2002
Participle	Finite verb	Cook 1988
Base	Auxiliary	Capell 1979
(Main) verb	Auxiliary	Reid 1990; Walsh 1996

In addition, while the label *preverbs* is broadly accepted as adequate to define the preverbal morphemes of Algonquian languages (cf. Section 3), such term is far from being precise. Accordingly, a number of scholars call preverbs all elements that show up in front of a verb, while others restrict the definition based on semantic, functional, or etymological criteria.

1.4.2. *Terminology adopted in this work*

As this work deals with different ancient Indo-European languages, including Vedic, Homeric Greek, Old Church Slavic, and Old Irish, in which these morphemes exhibit quite different statuses and behaviors, terminological choices turned out to be particularly problematic: specifically, non-neutral terms such as *place words* or *prefixes* would be particularly inadequate. For example, *place words* as well as *local particles* are inappropriate to name Slavic and Old Irish preverbs, which are quite advanced in their grammaticalization and lexicalization processes, and thus only infrequently show mere spatial semantics. Conversely, the label *prefixes* is adequate for Slavic, in which preverbs exhibit the morphological status of bound morphemes. However, this choice would be totally confusing for Vedic and Homeric Greek, in which preverbs partly retain their syntactic independence, and partially misleading for Old Irish, in which the outermost preverb shows instead a clitic status.

Therefore, I opted for what I regarded as the most neutral terminological choices. The morphemes belonging to the category of ADVS-ADPS-PREVS are called *preverbs* (also in *tmesis* position), unless clearly noun-oriented. In that case, they are called *adpositions*. Instead, preverb-verb combinations are referred to as *composites*, and not as compounds, as the latter term usually implies a certain degree of univerbation.⁹ In Vedic and Homeric Greek, however, it is not the case that these preverb-verb combinations actually represent single words in all contexts.

⁹ The term *compound* seems to carry the idea of univerbation within the field of nominal composition as well. In fact, multi-word expressions such as Italian *ferro da stiro* ‘iron’ and the like tend to be called not simply *compounds*, but rather *phrasal* or *prepositional compounds* (or *phrasal lexemes* as in Masini 2009).

1.4.3. *The typological side of the issue*

The terminological peculiarity relating to the category of ADVS-ADPS-PREVS is discussed by Garde with an eye on its typological implications (Garde 2004: 103 ff.). Both *ad*-positions and *pre*-verbs are named after their positional properties.¹⁰ However, in the languages that feature both *pre*-verbs and *pre*-positions, this terminological consistency conceals a typological oddity.

Specifically, the category of *prepositions-preverbs* represents a two-fold paradox for word order typology. In the first place, the predominant phrase structure is reconstructed as centripetal (i.e. right-headed) for Indo-European (Garde 2004: 109).¹¹ However, prepositions contradict this generalization: prepositions function as heads of the phrases to which they belong, and are nevertheless placed on their left; by contrast, exclusively centripetal languages such as Turkish usually allow for postpositions only (cf. Garde 2004: 111). In the second place, in the majority of centrifugal (i.e. left-headed) languages, prepositions and preverbs are both allowed. However, in centrifugal languages, preverbal morphology usually plays a far greater role than in Indo-European; for example, prefixation is usually employed for derivational purposes, e.g. in Indonesian, in which the prefix *pe-* derives deverbal nouns (cf. Teselkin & Aleva 1960: 18, 57–58; Garde 2004: 111).

Furthermore, Garde (2004: 111) points out a paradox within the paradox: in particular, “the preposition and the preverb, though both preposed, exhibit divergent roles in the dependency relation, and accordingly in the order (i.e. centripetal or centrifugal) featured by the constituents in which they occur” (Garde 2004: 111, translation CZ).¹² The

¹⁰ “La préposition se signale d’abord, parmi toutes les « parties du discours » des grammaires classiques, par une particularité terminologique: dès les origines, elle a été nommée uniquement par la place qu’elle occupe” (Garde 2004: 103 ff.).

¹¹ The terms *centripetal* and *centrifugal* were coined by Tesnière (1959: 22). Though they sound a bit old-fashioned, I also keep them in this section, in order to conform to Garde’s (2004) terminology.

¹² “[...] la PP et le PV, tous deux préposés, s’opposent par leur place dans le rapport de dépendance, et donc par l’ordre (centripète ou centrifuge) appliqué dans les syntagmes qui les contiennent. Dans le syntagme

preposition functions as a head of the PP (i.e. centrifugal order), whereas the preverb works as a verbal modifier in the composite verb (i.e. centripetal order).

To solve this puzzle, I suggest that such an apparent typological paradox can be overtaken keeping in mind the adverbial origin that prepositions and preverbs share (cf. Friedrich 1976; Section 1.3). In combination with both nouns and verbs, preverbs-adpositions started out as adverbial modifiers, occurring in front of the modified noun or verb. In this light, the word order featured by prepositions and preverbs is consistently centripetal (i.e. right-headed): the modifier precedes the modified.¹³ Later on, these modifier-modified combinations underwent conventionalization, and accordingly the mutual relationships holding between these elements were arguably tightened until the eventual creation of a new continuous constituent or a bound composite.

2. Multiple preverbs

So far, I touched upon different aspects related with preverbs, including their functions, their positional properties, their origin, and their unclear categorial and typological statuses that are mirrored in the unclear relative terminology (cf. Section 1). What still needs to be discussed is the number of preverbs that can occur in front of a verbal stem.

Among Indo-European languages, single preverbs are widespread, whereas the same does not apply to multiple preverbs. However, Old Indic, Ancient Greek, Slavic and Old Irish, are noteworthy for allowing multiple preverbs. An example from each of the

prépositionnel la PP est le régissant du nom (ordre centrifuge), et dans le verbe préverbé le PV le subordonné du verbe (ordre centripète) [...].”

¹³ The fact that two of the oldest Indo-European branches, that is, Anatolian and Old Indic, are postpositional is only an apparent issue. In both subgroups, postpositions are arguably secondary formations partly going back to nominal forms (cf. Luraghi 2001 on Anatolian; Reinhöl 2016 and Chapter 3 on Old Indic). In Anatolian and Old Indic, the counterparts of Indo-European ADVs-ADPs-PREVs only underwent grammaticalization as P2 clitics or as preverbs proper, respectively (not all scholars agree on the outlined grammaticalization of Anatolian ADVs-ADPs-PREVs; for updated references, see Luraghi 2001; Melchert 2009).

mentioned branches is shown in (22); notably, all composites contain a Proto-Indo-European root for seeing or looking.¹⁴

- (22) Multiple preverb composites containing roots for ‘seeing, looking’:
**k^heis-*, **spek-*, **uejd-* (LIV²: 381, 575, 665)
- Ved. *ábhi ví √spāś-* ‘look at, view’ (RV 3, 62, 9; 10, 187, 4)
 - AG *eis-an-eîdon* ‘look upward to’ (Il.16.232, 24.307)
 - OCS *pro-po-věděti* ‘proclaim, predict’ (Mar.Mk.1.38, 16.15 etc.)
 - OIr. *imm-accai* (*imm-ad-√kwis-*) ‘look after, examine, consider’ (ML.114a15, 17b6)

The composites of (22) can be schematized as follows:

- (23) **P_n [exterior] (...P₂[medial]) P₁[interior] V**

According to my definition, multiple preverbs occur every time two or more of such morphemes are placed in front of a verbal base. Multiple preverbs can be either different, as in (22), or identical, as in AG *pro-pro-kulíndomai* ‘keep rolling in front of’ and OIr. *ess-ess-√rig-* ‘rise again’. The preverb farthest from the verbal stem (P_n) is called *exterior preverb* (EP), whereas the closest to it *interior preverb* (IP).¹⁵ All preverbs occurring in between the EP and IP are *medial preverbs* (MPs). For example, the Ancient Greek composite *ex-apo-bainō* ‘step out of’ contains *ex-* ‘out of’, which is the EP, and *apó-* ‘away from’, which is the IP. In case of more than two preverbs, such as in the composite *ex-up-an-ístēmi* ‘start up from under’, *ex-* is the EP, *hupo-* ‘under’ the MP, and *an(a)-* is IP.

¹⁴ Lexicalized composites containing multiple preverbs are also found in Latin: e.g. *exponō* ‘put out, set out’ < **(ex-)po-znō* < **(ex-)po-snō* < **(ex-)po-sinō* (Dunkel 1981b: 230 fn. 29; De Vaan 2008: 479).

¹⁵ I avoid the terms *external* and *internal preverbs*, as they are specifically used in the literature on Modern Slavic to distinguish two set of preverbs, featuring divergent semantic and behavioral properties. Multiple preverbs are very widespread in Modern Slavic languages, though they seem to constitute a quite different phenomenon from that investigated in this work (cf. Chapter 5). Cumulation of preverbs is also known from the closest branch to Slavic, that is, Baltic (on Lithuanian, e.g. cf. Nevis & Joseph 1992: 96).

The cumulation of preverbs exemplified in (22) and represented in (23), though possible, does not seem to be the favored procedure in old Indo-European languages (Kuryłowicz 1964: 174 ff.). In this respect, Old Irish constitutes an exception: three, four, and even five preverbs are occasionally put in front of a verbal base (cf. Chapter 6; Rossiter 2004; McCone 2006). Kuryłowicz accounts for the productivity of verbal composition in Old Irish as follows: in Old Irish, the EP is clearly separated from the rest of the composite by a clear-cut juncture #EP_n=MP₂-IP₁-V#, and has the status of a proclitic, instead of a prefix. Furthermore, the addition of a new preverb pushes such a juncture: #EP=MP₃-MP₂-IP₁-V#. Therefore, while in principle the other Indo-European languages including Vedic, Homeric Greek, and Old Church Slavic allow for two interpretations for sequences such as #EP-IP-V#, namely #EP-[IP-V]# and #[EP-IP]-V#, only the former interpretation is possible for Old Irish (on this issue, cf. also McCone 2006: 177–189). Thus, multiple preverbs in Old Irish do not belong to an ambiguous structure: the EP is always perceived as the determination of the remaining verbal form taken as a whole (cf. also the concept of ‘recomposition’ or ‘accretion’, introduced by McCone 1997, 2006, mentioned in the introduction, and discussed in Chapter 6). This lack of ambiguity arguably favored the productivity of multiple preverbs in Old Irish. In addition, the earliest attestations of this language (4th–5th centuries onward) go back to a chronological phase, when composites were advanced in their lexicalization process: this means that a good number of lexicalized composites must have been already available for ‘recomposition’ or ‘accretion’ (cf. Chapter 6).

3. Preverbs outside Indo-European

3.1. Preverbs in Finno-Ugric and Caucasian languages

In Eurasia, preverbs do not only occur in the Indo-European family: Finno-Ugric languages and the languages of the Caucasus also know preverbs (concerning Finno-Ugric, cf. among others Metslang 2001 on Estonian; Wälchli 2001 on Livonian and Southern Finnic in

general; Knittel 2015 on Hungarian; concerning Caucasian, cf. Harris 2003 on Georgian; Daniel & Rind-Pawłowski 2014 on Khinalug; Maisak 2014 on Agul).

Hungarian preverbs are detachable preverbal morphemes with a primary spatial meaning (in (24)–(26) below, cf. *át-* ‘across’, *el-* ‘away’, and *be-* ‘into’), but, at a synchronic level, their main function is to modify the lexical or the grammatical aspect of the verbs onto which they attach (cf. also Kiefer 1994). Examples of Hungarian composites are provided in (24)–(27):

- (24) a. *Péter* *át-men-t-ø2* *a* *híd-on.*
P. **across-go-PST-3SG.I** ART bridge-SUP
 ‘Peter went across the bridge.’
- b. *Be-járta* *az* *erdő-t*
into-walk.PST.3SG.D the forest-ACC
 ‘He roamed the forest.’
- (25) *Péter el-alud-t.*
P. **away-sleep-Past-3sgI**
 ‘Peter fell asleep.’
- (26) *Péter be-csomagol-t-a* *az* *ajándék-ot.*
P. **into-wrap -PST-3SG.D** ART gift-ACC
 ‘Peter wrapped the gift.’
- (27) *Meg-főztem*
P-cook-PST-1SGI
 ‘I cooked (the meal).’
 (adapted from Knittel 2015: 1–2)

Notably, in (24)a-b, the preverbs *át-* and *be-* bring about changes in the argument structure of simplex verbs (i.e. function as applicatives): they are responsible for the obligatorification of the locative arguments *a hídon* ‘the bridge’ and *az erdő-t* ‘the forest’ in the superessive and accusative case, respectively (Nyéki, 1988: 144). In (25), the preverb *el-* changes the actionality of the verb: whereas *alszik* means ‘to sleep’, *elalszik* has the

inchoative meaning of falling asleep. Instead, the preverbs in (26) and (27) express telicity and perfectivity.

Among Caucasian languages, I take Georgian (Kartvelian, South Caucasian) preverbs as an example (cf. Harris 2003: 61–78 for a thorough description of their meaning and functions). Georgian preverbs synchronically exhibit a number of functions strikingly similar to those of their Indo-European counterparts: preverbs modify the meaning of a verbal stem by adding spatial or aspectual information. In addition, more than one preverb can attach onto a verbal base: for example, directional preverbs can occur in association with *mo-* ‘hither’, which is also a preverb, making up together a *complex preverb*. Such functional similarity is mirrored in the similarity of preverbs’ sources in these two families. In Georgian and sibling languages, a number of preverbs have relatively recently developed from previous adverbs. Two-fold evidence confirms this claim: (i) the etymological sources of Kartvelian preverbs are related to adverbs; (ii) Old Georgian allows for tmesis, which suggests a residual independent constituency status for preverbs. In Modern Georgian, tmesis is no longer possible.

3.2. *Preverbs in Amerindian languages*

Beyond the boundaries of Eurasia, preverbs show a wider range of uses than their Indo-European, Finno-Ugric, and Caucasian counterparts. This is the case of some Amerindian languages, particularly of those belonging to the Algonquian family. Penteland (2005) provides an exhaustive description of the differences and similarities between Indo-European and Algonquian preverbs. As a matter of fact, they mostly have similar functions. Notably, as in Indo-European, Algonquian preverbs are also used as adpositions. However, as Penteland (2005) remarks, the Indo-European counterparts of Algonquian preverbs are generally limited to forms with spatio-temporal meanings. Instead, Algonquian preverbs display many other meanings, as shown through some composites from Severn Ojibwe (Ojibwe, Northern Ontario and Manitoba) in (28):

- (28) *pimi-taacipo* ‘crawl along’ vs. *taacipo* ‘crawl’
nihta-nikamo ‘skilled at singing’ vs. *nikamo* ‘sing’
ishi-naakosi ‘look like this’ vs. *naakosi* ‘be visible’
 (from Slavin 2006b)

The preverb *pimi-* is an adverbial element whose meaning is ‘along’. The preverb *nihta-* derives from a verbal root that means ‘do often or habitually’ and ‘be good at’. *Nihta-* is one of the so-called ‘modal preverbs’, which refer to an agent’s desire or ability to cause an event to happen (Slavin 2006a: 4). The preverb *ishi-* ‘in a certain time/place/manner’ belongs to the so-called class of *relative preverbs*. These preverbs that require an antecedent in the sentence, and “function to relate the verbal event to various associate circumstances, such as way in which it takes place, where it takes place, the reason it takes place, how long since it has taken place, how many times and how often” (Valentine 2001: 160).

Research on another Amerindian language, specifically Rama (Chibchan, Nicaragua), leads Craig & Hale (1988) to introduce a new type of preverbs: the so-called *relational preverbs*. These do not differ from the opposite group of *satellite preverbs* by virtue of their semantic properties, but rather by virtue of their syntactic and ordering properties (cf. Imbert & Grinevald 2004; Imbert 2008, 2009). Satellite preverbs are not syntactically linked to any particular argument in the sentence: instead, they are bound to the verb, and specify its lexical or semantic content. In a satellite preverb+verb combination, the verb functions as the syntactic head of the argument. Conversely, relational preverbs are elements that behave morphologically as preverbs, but syntactically as adpositions. In other words, relational preverbs select the argument taken by the verb (and determine its case). Precisely based on the evidence of relational preverbs, Craig & Hale (1988) argue for the postpositional origin of preverbs in Rama: *relational preverbs* are the endpoint of a grammaticalization process starting from previous postpositions.

3.3. *Preverbs in Northern Australian languages*

Preverbs characterize a number of languages of different genetic affiliation throughout Northern Australia (Schultze-Berndt 2003). In a large part of the linguistic area defined by the presence of preverbs, they form complex predicates that look strikingly similar to the separable complex verbs of Germanic languages. As Schultze-Berndt (2003: 145) points out, examples (29)a-b from Jaminjung (Australian, region around the Victoria River) have “straightforward translation equivalents in English”:

(29) a. Jaminjung: a spatial preverb

jag *yirr-ijga-ny* *binka-bina*

down 1PL.EXCL-go-PST river-ALL

‘We went down to the river.’

b. Jaminjung: an actional preverb

mangarra *burrb* *nganthi-w-ya!*

plant.food finish 2SG:3SG-POT-eat.IMPF

‘You should have eaten up your food!’

(adapted from Schultze-Berndt 2003: 145)

However, while Germanic preverbs form a closed word class, Northern Australian preverbs crucially constitute an open class comprising hundreds of members, including recent loans. The sources for preverbs are diverse: spatial adverbs (as in Indo-European), nouns, and verbal roots or stems.

From their open class status, it follows that Northern Australian preverbs cover a wider range of meanings than their Indo-European counterparts: alongside with expressing spatial path or completion, they are able to encode manner of motion, change of state, impact, very specific actions, and communicative events (for relevant examples and further discussion, see Schultze-Berndt 2003: 149–150). Interestingly, preverbs in Jaminjung and in all the neighboring languages, do not assign a deictic orientation to verbs, as do their Indo-European counterparts.

In Northern-Australian languages, the abundance of meanings just outlined also correlates with an even wider range of morphological and syntactic properties. With regard to morphology, Australian preverbs can constitute the input for several types of derivations, including reduplication, lexical aspect-changing derivations, and nominalizations. With regard to syntax, preverbs usually occur immediately to the left of the verb. But they may also be separated from the verb by other constituents (*tmesis* position), and show up postverbally. As in Indo-European, multiple preverbs are occasionally found within a single clause. In addition, Northern Australian preverbs do not only function as constituents of complex verbs, but show a wider range of syntactic functions, including that of main predicates in dependent clauses (cf. the so-called absolute usage of Vedic and Homeric preverbs, discussed in Chapters 3 and 4). Northern Australian preverbs can also affect the argument structure of composites.

3 Multiple preverbs in Vedic

1. Preverbs in Vedic

1.1. *State of the art*

Traditional grammars of Vedic and Sanskrit usually include a section devoted to preverbs, which are either called ‘preverbs’ or ‘prepositions’: this inconsistent terminological treatment mirrors their ambiguous categorial status (e.g. Delbrück 1888: 432 ff. uses the label ‘Präpositionen’; Renou 1935: 109 ff. ‘préverbes’; Whitney 1955[1879]: 414 ‘prepositions’; Macdonell 1916: 208, 210, 254, 266 ‘prepositions’ and ‘verbal prefixes’; cf. Section 1.2.1–1.2.4; Chapter 2). These grammars generally provide the list of preverbs with their basic usages as well as brief discussions on their phonetic, accentual, and positional properties. In addition, grammars exemplify the usages of each preverb in combination with a number of verbal stems, as well as with morphological cases.

Later investigations draw on the suggestions provided by traditional grammars to elaborate on specific features of Vedic preverbs. For example, the said grammars generally observe that, occasionally, preverbs completely change the meaning of base verbs; i.e. preverb-verb combinations can result in non-compositional composites (e.g. Whitney 1955[1879]: 396; Thumb 1905: 444; Renou 1935: 145). Building upon this observation, Sturm (2014) uses a construction-based approach to study preverb-verb combinations whose meaning is no longer transparently the sum of their parts. Sturm’s goal is to identify recurrent patterns of idiomaticization for Vedic preverb-verb constructions.

Renou (1935: 141) assigns actional values to Vedic preverbs: e.g. Renou describes *abhi* ‘to, unto, against’ and *nís* ‘out, forth’ as terminative, *á* as resultative, and *úpa* as inchoative.¹ Delbrück (1897: 146–147) also notes that Vedic and Sanskrit preverbs show these functions, but refers to them as *perfectivizing functions*: he thus regards preverbs as

¹ The basic translations of preverbs are Whitney’s (1955[1879]: 396 f.).

able to modify the grammatical, rather than the lexical aspect of verbs. Gonda (1962) reacts to Delbrück's approach, remarking that the function of preverbs pertains to the lexicon, and not to the grammar. Danesi's (2009) dissertation also proceeds along these lines: she describes the meanings of Vedic preverbs in association with a selected list of roots that can be ascribed to different actional classes (e.g. stative, activity, and resultative verbs). Danesi also addresses the issue of the valency changing ability of Vedic preverbs (on which, cf. further Kulikov 2012).

Delbrück (1888: 434–437) dedicates two sections of his grammar to combinations of two and three preverbs (the latter only attested in Classical Sanskrit). Multiple preverbs are also the focus of Papke's (2010) dissertation, which constitutes a diachronic investigation on these constructions from Vedic to Classical Sanskrit. Papke's aim is to understand the motivations for Sanskrit preverb ordering. To meet her goal, Papke compares the preverb ordering of Classical Sanskrit with that of Vedic and of other ancient Indo-European languages, including Homeric Greek and Old Irish (however, her Homeric and Old Irish data are secondarily taken from Imbert 2008 and McCone 1997, respectively).

A systematic investigation on almost all Vedic preverbs is offered in a series of papers by Hettrich, Casaretto, and Schneider, which have been published as outcomes of a project focused on local particles in the *Ṛg-Veda* (Casaretto 2010a, 2010b, 2011a, 2011b, 2011c, 2011d, 2012, 2013; Hettrich 1991, 1993, 2002; Hettrich et al. 2004; Schneider 2009, 2010a, 2010b, 2011, 2012, 2013a, 2013b, 2013c).² Apart from the pioneering papers by Hettrich (1991, 1993, 2002), all cited publications are consistently organized according to one single compositional scheme. After providing quantitative data on the frequency of each preverb, a section follows on the semantics of local particles in their adnominal and adverbial functions. Then, the authors describe the syntactic positioning of preverbs as well as their obligatoriness for the syntax of the Vedic sentence. Subsequently, the semantic modifications brought about by the local particle in its preverbal usage are tackled. Next,

² One can find the complete list of publications pertaining to the project at the following link: https://www.phil.uni-wuerzburg.de/fileadmin/04080400/Projekt_Publikationen.pdf.

the issues of the interaction of the local particle with similar morphemes and of the iteration of particles are faced. A brief discussion on the etymology of the preverb closes each paper.

Alongside with the systematic works mentioned above, many other papers focus on different aspects related to the syntax, the diachrony, the semantics, and the etymology of Vedic preverbs. For example, Kulikov (2012) investigates the (in)transitivizing potential of Vedic preverbs. Another series of papers, such as e.g. Renou (1956), Watkins (1964), Sathe (1993), and Pinault (1995), are concerned with their positional properties, occasionally also in the general framework of word order typology (e.g. Andersen 1979). Dunkel (1981a) and Klein (2003) concentrate on preverb iteration, whereas Klein (e.g. 1987, 2008, 2012) deals with the pragmatic function of verse-initial preverb repetition within the Vedic discourse.

Danesi (2013) investigates the grammaticalization of Vedic preverbs through the case study of *ápa* ‘away, forth, off’: in particular, she shows that preverb-verb constructions constitute a semantic unit, though both the preverb and the verb retain much of their syntactic independency from one another. Casaretto & Schneider (2014) is a more general study on the grammaticalization of Vedic local particles into adpositions and preverbs. An even broader view on the grammaticalization of postpositions and the rise of configurational syntax in Indo-Aryan is offered by Reinöhl (2016), whose results are summarized in Section 1.2.7.

A number of etymological studies on Vedic preverbs also appeared: a case in point is Dunkel (1982a; LIPP II, and references therein) that deals with the origin Vedic *á* ‘to, unto, at’. Gonda (1968) investigates the relatedness of the different usages of the preverb/particle *ápi* ‘unto, close upon, on’/ ‘and, too, moreover, also’.

1.2. *The categorial status of preverbs in Vedic*

In Vedic, preverbs display a high degree of syntactic and functional ambiguity, hovering between the status of adverbs, preverbs, and even adpositions. Such an ambiguity leads Renou to express skepticism as to the possibility, and even usefulness, of disambiguating the function of preverbs in the Vedic sentence: “it [i.e. assigning a clear-cut categorial function to preverbs] is a superimposition of our minds facing a linguistic structure that is

virtually ambiguous (Renou 1956: 119, translation CZ)” (cf. Chapter 1, Section 2.3.2 on the non-existence of theoretically given linguistic categories).³ This ambiguity is further explored in the next subsections, both from the standpoint of syntactic placement (Sections 1.2.1, 1.2.3, 1.2.4), and from that of accentuation (Section 1.2.5). Furthermore, I briefly touch upon the issues of the interaction between Vedic meter and preverb placement (Section 1.2.6), and of the grammaticalization of Indo-Aryan postpositions (Section 1.2.7).

1.2.1. *The free positioning of Vedic preverbs*

Differently from Classical Sanskrit preverbs, which are unverbated to the modified verb, Vedic preverbs still exhibit a wide syntactic freedom, and are not always unverbated to verbal stems. In particular, Vedic preverbs allow for the following placements (extensively described, among many others, by Delbrück 1888: 44–46; Macdonell 1910; Renou 1935; Watkins 1963: 1037; Pinault 1995).

(a) Tmesis position: #PN(E)...V(...)#:⁴ preverb(s) is(are) displaced from the verb, which occurs in sentence final position, and fronted at the beginning of the clause (1).⁵ In case of multiple preverbs, one of them is sentence initial, whereas the other allows for various positions: it rarely occurs at the beginning of the clause together with the former preverb (#PP...V#); it frequently shows up immediately in front of the verb (#P...PV#); it occasionally occurs in front of the verb, but not immediately (#P...P...V#; cf. (2)).

- (1) *prá* *nū́* *mahitvám* *vṛṣabhásya* *vocam*
 forward now greatness.ACC bull.GEN say. INJ.AOR.1SG
 ‘Now I proclaim the greatness of the bull [=Indra].’ (ṚV 1.59.6a)

³ “[...] qu’elle est une surérogation de notre esprit devant une structure linguistique qui était fondamentalement ambiguë.”

⁴ Watkins’ (1964) abbreviations follow: # = initial/endpoint of a sequence; P = preverb; N = noun; E = enclitic; V = verb (cf. Chapter 2, fn.7).

⁵ The text of the *Ṛg Veda* is the online version of the metrically restored text published by van Nooten & Holland (1994).

- (2) *prá vām máhi dyávī abhy úpastutim bharāmahe*
 forward 2DU.DAT great.VOC.N sky.VOC.DU to praise.ACC bring.PRS.1PL.MID
 ‘Great (Earth,) Sky, we bring our praise forward to you two.’ (ṚV 4.56.5ab)⁶

For multiple preverbs, Papke (2010: 84–85) provides the number of tokens and the percentages for each position described above (cf. Table 5 below).⁷

(b) Postverbal position: #N(E)...VP(...)#. Preverb(s) occur(s) immediately or non-immediately after the verb that they modify (3). In case of multiple preverbs, only one of them usually occurs after the verb, whereas the other occurs immediately before it (#...PV(...))P...#; cf. (4)) or is separated from the verb by one or more words (#...P...V(...))P...#).

- (3) *jáyema sám yudhí spṛdhaḥ*
 conquer.OPT.1PL together battle.LOC enemy.ACC.PL
 ‘May we conquer our enemies completely in battle.’ (ṚV 1.8.3c)

- (4) *utá śuṣṇasya dhṛṣṇuyā prá mṛkṣo abhí védanam*
 and S.GEN boldly forward anoint. INJ.AOR.2SG to property.ACC
 ‘And you boldly grab the property of Śuṣṇa.’ (ṚV 4.30.13ab)

Again, Papke’s (2010: 85–89) dissertation gives the number of tokens and the percentages for each position involving at least one preverb in postverbal placement. As the following

⁶ Example (2) displays difficult nominal syntax and irregularities: in particular, *dyávī* must be the only example of a form made from the stem *dyu-*, according to the neuter declension.

⁷ The total number of Papke’s occurrences comprises 387 Vedic passages. Papke’s (2010) data are taken from a manual search through Grassmann’s *Wörterbuch zum Rig-Veda* (1936[1873]). This is possible, as Grassmann’s dictionary provides, for each Vedic verbal root, the catalogue of preverbs or multiple preverbs that can modify it. Thus, Papke’s data rely on Grassmann’s judgements as to whether a specific preverb has nominal or verbal orientation. However, this matter is very controversial, and has not been systematically faced until the series of papers by Hettrich and colleagues (cf. Section 1.1), as explained in Section 1.2.4. Therefore, Grassmann’s evaluations, though precious, must be taken with caution.

quantitative data show, the orders whereby both preverbs occur after the verb are extremely rare (each is < 1%) (cf. Table 5).

(c) Immediate preverbal position without actual univerbation: #N(E)...**PV**(...)#. The preverb (5) or preverbs (6) directly occur(s) in front of the verb that it(they) modifies(modify). The occurrence or lack of univerbation depends on various factors, including the type of clause (main vs. subordinate), and the type of verbal form (finite vs. non-finite) (cf. Section 1.2.5).

(5) *índrasya nú vīryāṇi prá vocam*
 Indra.GEN now manly_deed.ACC P tell.INJ.1SG
 ‘Now I proclaim the manly deeds of Indra.’ (ṚV 1.32.1a)

(6) *tāvām abhí prá nonumo jētāram áparājitam*
 2SG.ACC to forward roar.INTENS.PRS.1PLconqueror.ACC unconquered.ACC
 ‘We keep crying out to you, the unconquered conqueror.’ (ṚV 1.11.2cd)

As Papke (2010: 84) points out, the order in (6), with two immediately preverbal preverbs, is the most common one (153 occurrences out of 387 (40%)). Overall, the quantitative data provided by Papke (2010) show that multiple preverbs tend to occur in immediate or non-immediate preverbal position. By contrast, the postverbal position is usually selected by only one preverb, and only rarely by both of them.

Papke’s data are summarized in Table 5 and in Table 6. Each of them provides the reader with a different viewpoint on the same Vedic data: Table 5 focuses on preverbs’ proximity to the verb, whereas Table 6 on preverbs’ relative positioning with respect to the verb.

Table 5. The positioning of Vedic multiple preverbs ((i) relative proximity to the verb)

POSITIONING OF PREVERBS	FREQUENCY
(a) Tmesis position	172 (45%)
#PP...V#	7 (2%)
#P...PV#	127 (33%)
#P...P...V#	38 (10%)
(b) Postverbal position	62 (15%)
#...PVP...#	21 (5%)
#...PV...P...#	15 (4%)
#...P...VP...#	12 (3%)
#...P...V...P...#	11 (3%)
#...V...PP...#	1 (< 1%)
#...VP...P...#	1 (< 1%)
#...VPP...#	1 (< 1%)
(c) Immediate preverbal position #...PPV#	153 (40%)
TOTAL	387

Table 6. The positioning of Vedic multiple preverbs ((ii) relative positioning with respect to the verb) (adapted from Papke 2010: 84–89)

POSITIONING OF PREVERBS	FREQUENCY
Both preverbs before the verb	325 (84%)
One preverb after the verb	59 (15%)
Both preverbs after the verb	3 (1%)
TOTAL	387

1.2.2. Vedic verbal composites: syntactic or lexical units?

In Vedic, preverb-verb combinations still seem to operate at the syntactic, rather than at the lexical level: verbal composition is a quite productive process within Vedic verbal system. As Whitney (1955[1879]: 395) highlights, in Vedic, every verbal root virtually combines with preverbs. Delbrück (1888: 433) provides a short catalogue of verbal roots that are never attested in combinations with preverbs.⁸

⁸ Delbrück's (1888: 433) list of non-preverbed roots consists of \sqrt{is} - 'be master', \sqrt{kar} - 'praise, commemorate', \sqrt{krudh} - 'be angry', \sqrt{gras} - 'devour', $\sqrt{trā}$ - 'rescue', $\sqrt{tviṣ}$ - 'be stirred', $\sqrt{dakṣ}$ - 'be able', \sqrt{dhraj} - 'sweep', \sqrt{dhvan} - 'sound', \sqrt{dhvar} - 'injure', $\sqrt{nāth}$ - 'seek aid', $\sqrt{nimṣ}$ - 'kiss', \sqrt{bhand} - 'be greeted with praise', \sqrt{bharv} - 'chew', $\sqrt{bhām}$ - 'be angry' (probably a non-existent root extracted from a denominative, see EWAia II: 261), $\sqrt{bhikṣ}$ - 'beg', $\sqrt{bhrī}$ - 'hurt', $\sqrt{bhreṣ}$ - 'totter', \sqrt{ramh} - 'hasten', \sqrt{ran} - 'rejoice', \sqrt{rup} - 'feel pain (esp. of stomach pain)', $\sqrt{vrādh}$ - 'be great', $\sqrt{śad}$ - 'fall', $\sqrt{śam}^i$ - 'be quiet', \sqrt{sas} - 'sleep', \sqrt{sparh} - 'be eager', \sqrt{sridh} - 'blunder', \sqrt{sriv} - 'fail (of miscarriage)', and $\sqrt{hrī}$ - 'be ashamed'.

Moreover, as Danesi (2013: 62) points out, the free positioning of preverbs described in Section 1.2.1 has no effects on the whole meaning of the composite. The comparison between (1) and (5) is instructive in this respect: both examples contain the root \sqrt{vac} - ‘speak’ in combination with the preverb *prá* ‘forward, onward, forth, fore-’, resulting in the meaning ‘announce, proclaim’ (‘fore-tell, tell **openly**’ → ‘proclaim’). In both passages, the poet is telling, in a solemn way, about the heroic actions of god Indra. As Pinault (1995: 47, translation CZ) puts it, “[...] the semantic modification undergone by the verb as the result of the combination with a preverb does not depend on the immediate proximity of the preverb and the verb” (cf. also Romagno’s 2004: 68 remark, Chapter 2, Section 1.2).⁹ Thus, semantic shifts to the metaphorical plane do not require univerbation. In parallel, univerbation does not imply either semantic shift from the basic spatial meaning or lexicalization, as shown in (7):

- (7) *ápāhan [ápa-ahan] vṛtrám paridhúm nadīnām*
 away-strike.AOR.3SG V.ACC encloser.ACC river.GEN.PL
 ‘He has smashed away Vṛtra, the encloser of the rivers.’ (ṚV 3.33.6b)

In (7), the preverb *ápa* ‘away, forth, off’ and the verb *ahan* (AOR.3SG) ‘has striken’ are univerbated in initial position. Nevertheless, they do not make up a non-compositional composite: the semantic contributions brought about by both elements are still recognizable. Accordingly, Casaretto & Schneider (2014: 232) call combinations of this type ‘syntactic compounds’, as they are still analyzable and do not result in a new lexical entry.¹⁰

The evidence provided so far suggests that Vedic composites are better analyzed as syntactic units, rather than as lexical units. By contrast, however, there are also composites whose meanings are non-compositional (i.e. idiomatic; cf. Chapter 2 on terminology). Non-

⁹ “[...] la modification sémantique du verbe par le préverbe ne dépend pas de la proximité immédiate du préverbe et du verbe.”

¹⁰ On the difference between syntactic composition, tmesis, univerbation, on the one hand, and lexicalization, on the other hand, cf. Hettrich (2007: B.b.IV.2), Pinault (1995: 42–43), and Watkins (1963).

compositionality points toward lexicalization and irregular semantic shifts that blur connection with the base verb. One such composite is shown in (8):

- (8) *yádi stutásya maruto adhīthá [adhi-ithá]*
 if praise.GEN M.VOC.PL above-go.PRS.2PL
 ‘If you, O Maruts, are aware of the praise...’ (ṚV 7.56.15a)

In (8), the combination of *adhi-* ‘above, over, on, onto’ and *ithá* (go:PRS.2PL) ‘go’ results in the unpredictable meaning of being aware.¹¹ Lexicalized composites of this kind are by no means infrequent in Vedic (cf. Sturm 2014).

Alongside with the lexicalization, the incipient grammaticalization undergone by a number of Vedic preverbs also indicates closeness to the verb. A number of Vedic preverbs, such as *prá* ‘forward, onward, forth, fore-’ and *sám* ‘along, with, together’, can modify lexical aspect, bringing about notions such as those of ingressivity or completion (Renou 1935; Gonda 1962; Danesi 2009; Casaretto & Schneider 2014: 246 ff.). In particular, *prá* occasionally develops ingressive meanings (Delbrück 1888: 460; Renou 1935: 144; Gonda 1962: 232–241): in (9), the composite *prá-√i-* means ‘begin, start’, whereas the simplex verb *√i-* means ‘go’ (*prá* ‘forward, onward’ > ‘at the beginning of’).¹²

- (9) *pra-yatí yajñé asmín*
 forward-go.PTCP.PRS.LOC sacrifice.LOC this.LOC
 ‘...during this sacrifice which begins.’ (ṚV 3.29.16a)

¹¹ The fact that the composite exhibits an unpredictable meaning does not imply that the semantic shift undergone by *adhi-√i-* ‘above-go’ → ‘be aware’ cannot be retrospectively explained. The composite might describe the metaphorical movement of a metaphorical TR, i.e. Maruts’ mind, toward a metaphorical LM, i.e. the praise. It is not infrequent that preverbs having the basic spatial meaning of ‘over, above’ come to introduce the semantic role of Area (cf. Gr. *hupér* ‘over’; Engl. *over*; Germ. *über*).

¹² On this passage, see also Delbrück (1888: 461), and Danesi (2013: 66).

Instead, *sám* ‘with, together’ often expresses completion, even displaced from the verb with which it combines (Gonda 1962: 225 ff.). This actional meaning is based on the common semantic shift according to which COMPLETION can be thought of as TOGETHERNESS (Gonda 1962: 225 defines these as “two realizations of the same basic meaning”). In (10), the composite *sám-√dah-* means ‘consume by fire’, whereas *dah-* *per se* means ‘burn’; the completive meaning of *sám* is further emphasized by the indefinite *viśvaṃ:ACC* ‘every’.¹³

- (10) *viśvaṃ sám atrīṇaṃ daha*
 every.ACC with demon.ACC burn.IMP.2SG
 ‘Burn completely every demon.’(RV 1.36.14b)

Moreover, Vedic preverbs can sometimes behave as applicatives: the addition of preverbs has sometimes the side-effect of centralizing the peripheral argument(s) taken by a verb.¹⁴ A case in point is the transitive composite *abhi-√vṛt* ‘roll against > overcome’ (11), which contains the preverb *ábhi* ‘to, unto, against’, and the intransitive manner of motion verb *√vṛt-* ‘roll’.¹⁵

- (11) *abhi-vṛtya sapátnān abhí yá no árātayaḥ*
 to-roll.ABS rival.ACC.PL to REL.ACC.PL 1PL.GEN evil_spirit.ACC.PL

¹³ As remembered in Section 1.1, Delbrück (1897) assigns more of a perfectivizing function (i.e. pertaining grammatical aspect) to Vedic preverbs. Gonda (1962: 229) firmly opposes to Delbrück’s view, and remarks that “‘Perfektivierung’ is a question of semantics and lexicology.” Such a confusion between lexical and grammatical aspect has long characterized the discussions on preverbs and perfectivization/telicization (e.g. in Ernout & Thomas 1964; Brunel 1939; for similar remarks, see Chapter 1, as references therein).

¹⁴Applicatives are “a means some languages have for structuring clauses which allow the coding of a thematically peripheral argument or adjunct as a core-object argument. Such constructions are signaled by overt verbal morphology” (Peterson 2007: 1; cf. Chapter 2).

¹⁵ Example (11) also contains *abhí* ‘to’ in absolute position (on this usage of Vedic preverbs, see Section 1.2.3). Moreover, in this context, this free-standing preverb seems to have the function of anaphorically recalling the just mentioned spatial relation (on the pragmatic functions of preverbs, cf. Chapter 2).

‘Having overcome the rivals and (having overcome those) who (are) our enemies...’
(RV 10.174.2ab)

As pointed out by Danesi (2013: 67) and Casaretto & Schneider (2014: 244 ff.), transitivity is the consequence of the semantic contribution brought about by the preverb *abhí* ‘to, toward, over’, which centralized the Goal-participant, thus building a transitive composite out of an intransitive manner of motion verb (for further remarks on this issue, cf. Section 5.3).

1.2.3. Vedic preverbs with adnominal, adverbial, and absolute positions

Besides modifying a verb, a number of Vedic preverbs can also function as noun modifiers, i.e. as *quasi*-adpositions.¹⁶ As pointed out e.g. by Whitney (1955[1879]: 414) and Casaretto & Schneider (2014), no Vedic preverb seems to function as an adposition proper, in that no preverb combines the following features: (i.) ability of determining the case of the noun to which it is juxtaposed; (ii.) syntactic obligatoriness; (iii.) compulsory adjacency to the noun that it modifies (on the criteria for detecting prepositional phrases, cf. also e.g. Hagège 2010; Luraghi 2010). Nevertheless, many Vedic preverbs occur in constructions that show one of the features just outlined (Casaretto & Schneider 2014: 233 ff.).

As nominal modifiers, preverbs can occur both before (12) and after (13) the modified noun (Casaretto & Schneider 2014: 241), though the *prenominal* position is usual for Vedic preverbs with nominal orientation (Reinöhl 2016: 75, who summarizes results obtained by Hettrich and his research group).

(12)	<i>dvimātá</i>	<i>hótā</i>	<i>vidátheṣu</i>	<i>samráḷ</i>
	born_of_two_mothers.NOM	hotar.NOM	worship.LOC.PL	sovereign.king.NOM

¹⁶ As pointed out in Chapter 2 and in Section 1.1, for this reason, Vedic preverbs are often called ‘prepositions’ in reference works: ‘prepositional prefixes’ (Whitney 1955[1879]: 396); ‘prepositions compounded with roots’ (Macdonell 1916: 265); *die Präpositionen in Verbindung mit Verben* ‘prepositions in connection with verbs’ (Delbrück 1888: 440).

ánu ágram cárati kṣéti budhnáḥ
 along top.ACC go.PRS.3SG remains.PRS.3SG bottom.NOM

‘The hotar (priest, or the sacrificial flame), born of two mothers, is the sovereign king during the worships; he goes to the top, the bottom remains (still).’

(ṚV 3.55.7ab)

- (13) *svastí pánthām ánu carema sūryācandramāsāv iva*
 happilypath.ACC along walk.OPT.PRS.1PL sun_and_moon.NOM.DU like
 ‘Happily we may walk along (our) path like the sun and the moon.’ (ṚV 5.51.15ab)

In (12), the preverb *ánu* ‘after, along, toward’ precedes the noun in the accusative case *ágram* ‘top’. The combination of *ánu*+ACC expresses Goal. In (13), instead, the postposed *ánu* ‘after, along, toward’ contributes to the expression of Path together with the accusative of extension *pánthām* ‘path’. Both the accusative of Goal and the accusative of Path can also occur adpositionless. However, without the further specification of a preposition, the usual reading for an adpositionless accusative is that of Goal. Thus, in order to express the Path, the adpositionless accusative can be regarded as an exception to the far more frequent construction involving an adposition, such as *ánu* ‘after, along, toward’ (Hettrich 2007; Casaretto 2011a: 39–40; Casaretto & Schneider 2014: 235).

In other passages, the presence of an adposition is not syntactically compulsory, but adds the specification of the spatial region to the generic directional meaning of an adpositionless case. This is the case in (14) below, in which *ádhi* ‘above, over, on, onto’ clarifies that the direction of movement is ‘**onto**’, rather than simply ‘to’ (Casaretto & Schneider 2014: 226; for similar considerations, cf. also Boley 2004).

- (14) *tíṣṭhā rátham ádhi táṃ*
 stand.IMP.2SG chariot.ACC above DEM.ACC
 ‘Mount that chariot!’ (ṚV 5.33.3c)

Without an accompanying noun phrase, Vedic preverbs can also behave as adverbs. Adverbial is the function of *úpa* ‘to, unto, toward’ in (15):

- (15) *tāni narā jujuṣāṇā úpa yātam*
 DEM.NOM.PL hero.VOC.PL enjoy.PTCP.PRF.VOC.PL.MID toward drive.IMP.2PL
 ‘Having enjoyed those [praises], o heroes, drive hither!’ (ṚV 2.39.8c)

The syntactic freedom of Vedic preverbs is also shown by their usage in what is generally called absolute position, i.e. as ‘substitutes’ of verbal forms. ‘Omitted’ verbal forms can be recovered either from the previous linguistic material (16) or from the extralinguistic context (17).

- (16) *saptá svásāro abhí mātāraḥ śísuṃ*
 seven sister.NOM.PL to mother.NOM.PL babe.ACC
 ‘The seven sisters (rush) as mothers to the babe.’ (ṚV 9.86.36a)

- (17) *prá te nāvam ná sámāne vacasyúvam*
 forward 2SG.DAT ship.ACC like assembly.LOC eloquent.ACC
 ‘In the assembly, I (set in motion my chant) forward to you as an eloquent ship.’
 (ṚV 2.16.7a)

For the passage in (16), Renou (1935: 60) assumes the verbal form *arṣanti*:PRS.3PL ‘flow’ (from $\sqrt{rṣ}$ - ‘flow’), which can be recovered from the preceding stanza. Instead, for (17), the implied verbal form cannot be retrieved so easily: a possibility is *iyarmi*:PRS.1SG (from \sqrt{y} - ‘go, move, set in motion’), as suggested by Renou (1935: 61) based on similar formulaic expressions occurring elsewhere in the hymns.

According to Danesi (2013: 65), the absolute usages just outlined tell, on the one hand, that there is a high degree of syntactic autonomy holding between preverbs and verbs; on the other hand, that certain preverb-verb combinations must be stored as single units in speakers’ mental lexicon: otherwise, the recovery of the missing verbal form would have been impossible. In my opinion, Danesi’s latter suggestion is not completely convincing. All in all, it takes for granted the compulsory presence of a verbal form in every context. Moreover, for passages such as (16) above, mental storage is an unnecessary assumption, as the missing verbal form shows up in the immediate previous material, and

anaphoric reference is thus easy to draw. Then, for cases such as (17), the assumed motion verb could be easily replaced by another generic motion verb, thus making it difficult to argue for lexical storage.¹⁷

1.2.4. *The ambiguous status of Vedic preverbs*

In Sections 1.2.1–1.2.3, I have shown that Vedic preverbs still exhibit (a) a high degree of syntactic freedom as to their positioning; (b) no binding syntactic relations with any other element within the sentence. For these reasons, Vedic preverbs frequently represent functionally ambiguous elements, whose nominal or verbal orientation is difficult to determine. An instructive passage in this respect is provided in (18):

- (18) *síndhor* *ūrmāv* *ádhi* *śritáh*
 river.GEN wave.LOC above lean.PTCP.PST.NOM.PASS
 ‘(the wise one) leaning on the wave of the river’ (RV 9.14.1b)

As Hettrich et al. (2004: 20) explain, one cannot decide whether, in (18), *ádhi* ‘above, over, on, on to’ is constructed with the preceding noun (*ūrmāv*:LOC ‘wave’) or with the following verb (*śritáh*:PTCP.PST.NOM.PASS ‘leaning’).

¹⁷ In order to clarify my position on the matter, it can be useful to provide an example from a contemporary language, such as Russian (example (i) comes from the *Spoken Corpus* of the *Russian National Corpus* (Aleksej Popogrebskij. *Prostye veši*, k/f [2006]), see <http://www.ruscorpora.ru/en/>).

- (i) a. “Ty *kuda?*” (Vasin, Ivan Švedov, Muž, 37, 1969)
 2SG.NOM to_where
 b. “V *metro*” [Sergej, Sergej Puskepalis, Muž, 40, 1966]
 into metro.ACC
 “‘Where (are) you (going)?’” “‘To the subway.’”

In spoken Russian, in many contexts such as that in (i), the overt expression of motion via a motion verb is unnecessary. In (i.a), the interrogative adverb *kuda* unambiguously expresses Goal, as does the prepositional phrase *v+ACC* in (i.b). Further specifications of motion are not required.

Though examples such as (18) are frequent in Vedic, and thus it can be very difficult, or even pointless, to assign Vedic preverbs a clear-cut functional category (Renou 1956), attempts have been made in this direction, in particular by Hettrich, Casaretto, and Schneider. In a series of papers, Hettrich and colleagues try to complete such a difficult classificatory task, based on the following assumptions (Hettrich et al. 2004: 20):

- (i) clause-initial position is the marked option for verbal orientation (cf. (1), (2));
- (ii) immediate preverbal position is the *unmarked* option for verbal orientation (cf. (5), (6));
- (iii) adjacent placement to a noun, either pre- or post-nominal, indicates nominal orientation (cf. (12)–(14));

The orientations and possible positions of Vedic preverbs are summarized in Table 7. Positions from 2a to 4 indicate verbal orientation, with different degrees of markedness. Hettrich and colleagues regard as ambiguous positions 5a-c even in contexts where, from a semantic standpoint, preverbs clearly display verbal or nominal orientation.

Table 7. Possible orientations and positions of Vedic preverbs

<i>Abbreviation</i>	<i>Orientation</i>	<i>Position</i>
1a	nominal	immediate prenominal
1b	nominal	immediate postnominal
2a	verbal	immediate preverbal, unverbated
2b	verbal	immediate postverbal
3	verbal	clause-initial (tmesis #P(E)...V#)
4	verbal	other position within the sentence
5a	ambiguous	NP_preverb_V
5b	ambiguous	preverb_NP...V
5c	ambiguous	V_preverb_NP

The results of the analysis performed by Hettrich and colleagues are summarized in Table 8. Overall, the verbal orientation prevails over the nominal orientation in Vedic. The preverbs showing a strong preference for the verbal orientation are highlighted in gray (i.e. *ápa, áva, úd, ní, nís, párā, purás, prá, sám, ví*).

Table 8. The positions and orientations of Vedic preverbs*

Preverb	POSITION										ORIENTATION			Frequency
	1a	1b	2a	2b	3	4	5a	5b	5c	Nominal (1a-b)	Verbal (2a-b, 3, 4)	Unclear (5a-c)		
āchā	25	57	17	16	26	13	11	9	0	82	72	20	174	
āti	50	17	49	2	7	15	32	8	19	67	73	59	199	
ānu	165	83	99	9	34	29	66	22	0	248	171	88	507	
āpa	2	1	107	2	80	35	3	4	1	3	224	8	235	
āpa	14	10	39	3	6	8	17	9	1	24	56	27	107	
ābhi	165	70	260	11	70	52	99	74	0	235	393	173	801	
āva	8	10	133	4	47	12	22	7	0	18	196	29	243	
ūd	0	1	162	2	125	3	15	4	0	1	292	19	312	
ūpa	98	34	126	11	17	13	81	45	0	132	167	126	425	
tīrás	33	5	3	2	2	4	0	4	6	38	11	10	59	
nī	23	3	468	11	100	9	31	20	0	26	588	51	665	
nīs	6	3	62	3	31	6	13	4	0	9	102	17	128	
pārā	0	1	62	0	23	1	7	0	0	1	86	7	94	
parás	17	8	5	0	6	6	0	0	0	25	17	0	42	
purás	6	3	12	8	1	21	1	0	0	9	42	1	52	
pūrā	12	1	0	0	0	46	0	0	0	13	46	0	59	
prā	54	14	579	466	156	34	69	0	68	1201	103	1372		
prāti	52	9	91	2	32	32	25	21	0	61	157	46	264	
sām	8	3	390	19	161	19	41	42	6	12	589	89	690	
vī	15	5	624	41	179	94	73	13	5	20	938	91	1049	

*The data of Table 8 are taken from Casaretto (2010a, 2010b, 2011a, 2011b, 2011c, 2011d, 2012, 2013), Hettrich et al. (2004), and Schneider (2009, 2010a, 2010b, 2011, 2012, 2013a, 2013b, 2013c). The data on *ā* are not included in the table, as they are not published yet (all R̥g-Vedic occurrences of *ā* however are reported in the relevant entry of the RIVELEX II). The data related to *ādhi*, *ántar* and *pāri* are published (Hettrich 1991, 1993, 2002), but not analyzed according to the categories described in Table 7 and employed in later publications. Thus, I also did not include those in Table 8.

1.2.5. *The accentual properties of Vedic preverbs*

As Vedic grammars point out (e.g. Macdonell 1910: 76 ff.; Whitney 1955[1879]: 28 ff.), Vedic has a pitch accent of musical nature. Moreover, as a basic rule, every word bears its own accent. This rule however admits a number of exceptions: there are words that never take an accent (i.e. enclitic pronouns and particles including =*ca* ‘and’, =*u* ‘on the other hand’, *iva* ‘like’, etc.), as well as words that lose their accent under certain syntactic conditions. Both Vedic verbs and Vedic preverbs belong to the latter group; their accentual properties can vary and are interrelated, as explained in what follows.

Vedic verbs bear no accent in main clauses, except when the verb occurs in sentence- or *pāda*-initial position.¹⁸ By contrast, verbs are accented in subordinate clauses (Macdonell 1910: 107 ff.). Accordingly, in main clauses, whatever their positioning, preverbs usually behave as independent words and bear an independent accent, while the verbal form is unaccented. By contrast, in subordinate clauses, preverbs tend to lean onto the verbs that they modify, which are accented, and to make up actual composites with them. As far as multiple preverbs are concerned, they usually also instantiate the pattern outlined above and schematized below:

(a) main clauses: verb → unaccented; preverb(s) → accented (19);

(b) subordinate clauses: verb → accented; preverb(s) → unaccented (20).

- (19) *yunájmi* *te* *bráhmanā* *keśínā*
yoke.PRS.1SG 2SG.ACC prayer.INS hairy.INS
hárī *úpa* *prá* *yāhi*
fawn-coloured.ACC.DU toward forward proceed.IMP.2SG
‘With holy prayer, I yoke your long-maned pair of Bays: drive toward (them).’
(ṚV 1.82.6ab)
- (20) *yūyám* *hí* *devīr* *ṛtayúgbhir* *ásvaiḥ*
2PL.NOM for goddess.VOC.PL properly_harnessed.INS.PL horse.INS.PL

¹⁸ A *pāda*, or foot, is the minimal unit of the Vedic meter (see 1.2.6).

‘Rise up, O Agni! Stretch out against (the enemy)! Burn down the foes, O (god) with the sharp weapons!’(ṚV 4.4.4ab)

In a single passage, the combination of *úpa* ‘to, unto, toward’ and *áva* ‘down, off’ behaves as a combination containing *á* ‘to, unto, at’, in that *úpa* loses its accent, and is unverbated to the following *áva* (*upávasṛja*:IMP.2SG, ṚV 10.110.10a).

As for verbs occurring in subordinate clauses, besides featuring the usual order shown in (20), they also allow for the displacement of the EP (*sám* ‘along, with, together’ in (23)), which is separated from the remaining composite IP-V, and retains its accent:¹⁹

- (23) *só* *agnír* *yó* *vásur* *grṇé* *sám* *yám*
 DEM.NOM A.NOM REL.NOM V.NOM call.STAT.3SG with REL.ACC
āyánti *dhenávaḥ*
 come.PRS.3PL milk_cow.NOM.PL

‘He is Agni, who is praised as the Vasu, to whom the milk-cows come together.’
 (ṚV 5.6.2ab)

However, separations such as that in (23) are by no means frequent, and in any case never go further than one *pāda* (Renou 1935: 51; Danesi 2013).²⁰ In addition, when separation occurs, the linguistic element splitting the composite frequently happens to be the subordinator (e.g. ṚV 5.56.4; 8.6.8; etc.). Furthermore, in cases of multiple preverbs, the word order whereby both preverbs occur separated from the verb and accented is extremely rare in subordinate clauses. One such rare example is provided in (24):

- (24) *prá* *yát* *stotá* *jaritá* *túrṇyartho*
 forward when praising.NOM invoker.NOM pursuing_an_object.NOM

¹⁹ For the composite *sám á* √i- ‘come together’, the order [EP IP V] is also attested in main clauses (ṚV 7.40.70; 10.85.33).

²⁰ Cf. fn. 18.

vṛṣāyāmāṇa *úpa* *gīrbhír* *ítte*
 eager_as_a_bull.PTCP.PRS.NOM to song.INS.PL implore.PRS.3SG.MID
 ‘...what time the praising invoker, keen of purpose and eager as a bull, with songs
 implores you.’ (ṚV 3.52.5cd)

Preverb(s) is(are) usually unverbated in negative clauses, as well as with non-finite verbal forms. In case of multiple preverbs, however, the EP can be displaced, thus keeping its own accent (#P...P-V_[non-finite]#, cf. ṚV 5.1.1cd; 7.104.21ab). Rarely, both preverbs are either separated from the verb (#P...P...V_[non-finite]#, cf. ṚV 10.70.9cd), or separated *and* unverbated to one another (#P-P...V_[non-finite]#, cf. ṚV 10.70.9cd).

To sum up, in main clauses, the accentual properties of preverbs strongly suggest that they retain much of their original adverbial status. This also holds true for other types of clauses, though to a lesser extent. In subordinate and negative clauses, as well as with non-finite verbal forms, preverbs are usually unaccented and unverbated, and only occasionally occur displaced from the verb that they modify.

1.2.6. *Stylistic and metrical reasons for preverb placement*

In Sections 1.2.1–1.2.5, I explained that the constraints driving the placement of preverbs are mainly syntactic in nature. We have also seen that the development of non-compositional meanings is not necessarily linked to the unverbation of the composite. In this section, I briefly tackle the issue as to what extent the positioning of preverbs can be influenced by the stylistic and metrical features of the Vedic hymns.

The *Ṛg-Veda* consists of poetic texts composed in metrical structure, and organized in books, hymns, stanzas, and verses (cf. Introduction). Their basic unit is the *pāda* ‘foot’, that is, each verse, or line, that constitutes a stanza.²¹ Such verses are formed by five (rarely), eight, eleven, or twelve syllables. The more or less regular alternations of long and short syllables constitute the Vedic meter. Even syllables (second, fourth, etc.) are generally

²¹ The Vedic ‘foot’ is not the same metrical unit as the Ancient Greek ‘foot’.

long, and the general look of the Vedic meter is iambic. The last part of the Vedic verses, called ‘cadence’, is clearly separated from the rest. Verses of eleven and twelve syllables are also split by a further metrical pause after the fourth or fifth syllable (Macdonell 1916: 436 ff.). The most common Vedic stanzas are formed by three or four dimeter (eight syllables) or trimeter (eleven/twelve syllables verses).

Does this metrical structure influence the placement of preverbs? A general answer is that the position of preverbs does not seem to depend on the meter (Papke 2010: 98 ff.). Monosyllabic preverbs can virtually occur in any position that allows for their quantity. In addition, the *sandhi* rules of Vedic can lengthen a short final syllable of a disyllabic preverb, if required by the metrical structure (cf. Section 3.1).

The displacement of preverbs seems to be more a matter of style and poetic diction. As Renou (1935: 52–53) points out, for example, preverbs are very likely to be fronted in invocations or prayers, thus gaining the pragmatic function of emphasizing the initial impetus. This is the case of examples (1) and (2) above, both starting with the preverb *prá* ‘forward, onward, forth, fore-’. In addition, the pragmatic value of preverb repetition in initial position has been investigated by Dunkel (1979) and Klein (e.g. 1987, 2007, 2008, 2012), who describe this anaphora as a kind of cohesive process of human language.

In any case, the displacement of preverbs usually leads them in clause-initial (or *pāda*-initial) position, which is the position in which preverbs in general also tend to occur. Thus, the possibilities of displacement remain within the boundaries of Vedic grammar.

1.2.7. *The ongoing grammaticalization of Vedic adpositions*

As remarked in Section 1.2.3, in Vedic, there are no binding syntactic relations between adpositions and the noun phrases that they modify (e.g. Hewson & Bubenik 2006: 102: ff.; Casaretto & Schneider 2014; Reinöhl 2016: 65–84, and references therein). Further indications in this respect are provided in what follows.

To begin with, adpositions are non-obligatory to express many spatial and non-spatial concepts. In parallel, Vedic morphological cases preserve their concrete values better than most other ancient Indo-European languages (Macdonell 1916: 298 ff.; Hewson

& Bubenik 2006: 102 ff.; Hettrich 2007; Casaretto & Schneider 2014, and references therein). As mentioned in Section 1.2.3, the prepositionless accusative can express Goal (frequently, e.g. ṚV 1.162.21), Path (rarely, e.g. ṚV 2.16.3), and Duration (rarely, e.g. ṚV 10.161.4). The instrumental case is also employed to express Path (e.g. ṚV 2.33.1) and Duration (e.g. ṚV 1.86.6), besides Comitative and Instrument. The ablative can mean separation or distance based on the semantics of the verb that takes it (dynamic or stative, cf. Hettrich 2007: C.a.IV, 2; e.g. ṚV 2.33.1). The locative case indicates Location (e.g. ṚV 1.32.2), Goal (cf. below), and Time (e.g. ṚV 10.53.3).

Frequently, the function of the adposition is only to specify the spatial region in which a certain event occurs (cf. example (14) above, in which the preverb *ádhi* ‘on’ clarifies that the motion is directed ‘onto’ a certain LM, and not simply ‘to’ it). In such examples, the preverb is syntactically unnecessary, though it provides a clear semantic contribution. By contrast, this is not the case for the following passage, in which the semantic contribution of *úpa* ‘toward’ is unclear, as its allative semantics overlaps with the allative semantics of the accusative case (*índram*).

- (25) *gíro* *ma* *índram* *úpa* *yanti*
praise.NOM.PL POSS.1SG I.ACC toward go.PRS.3PL
‘My praises go **toward Indra.**’ (ṚV 3.51.2b)

There are only a few contexts in which the lack of a preverb totally changes the meaning of the sentence. A case in point follows:

- (26) *imé* *jīvá* *ví* *mṛtáir* *āvavṛtran*
DEM.NOM.PL living.NOM.PL asunder dead.INS.PL hither_turn.AOR.3PL.MID
‘These living ones have separated themselves **from the dead ones.**’
(ṚV 10.18.3a)²²

²² The verbal form *āvavṛtran* is difficult and certainly irregular; it can either be a reduplicated aorist or a pluperfect.

In combination with *ví* ‘asunder’, the instrumental case indicates separation, whereas the adpositionless instrumental would express a Comitative meaning. Instead, the adpositionless case employed to convey a similar meaning of separation would be the ablative (Casaretto & Schneider 2014: 240), as shown in example (27):

- (27) *mā nah sūryasya saṁdṛśo yuyothāḥ*
 NEG 1PL.ACC sun.GEN sight.ABL keep_away.SBJV.PRS.2SG.MID
 ‘Don’t keep us away **from the sight** of the sun!’ (ṚV 2.33.1b)

Overall, the few Vedic preverbs that preferably select the nominal orientation (e.g. *ānu* ‘along, after’, *tiráś* ‘over, through’, *parás* ‘off’; cf. Table 8) tend to occur in *prenominal* position, though postnominal placement is by no means infrequent (cf. Sections 1.2.3 and 1.2.4). Despite this tendency to prenominal placement in Vedic, Indo-Aryan languages later on developed fully grammaticalized *postpositions*, rather than prepositions. These postpositions, however, do not continue the ancient Vedic preverbs, but go back to different etymological sources: cf. e.g. Hindi *mē* ‘in’ < Ved. *mádhya*:LOC ‘in the middle’ (Casaretto & Schneider 2014: 254; Reinöhl 2016: 65–84, and references therein). Thus, Indo-Aryan does not fit the general Indo-European pattern of development, whereby original free-standing locative adverbs undergo a functional bifurcation into preverbs or adpositions (*contra* Hewson & Bubenik 2006: 102 ff.). The reasons why in Vedic local adverbs do not develop into adpositions is explained by Reinöhl (2016: 80 ff.) in terms of a mismatch between the prosody and the semantics of local adverbs. In Vedic, even noun-oriented local adverbs could encliticize onto verbal forms because of Vedic prosodic rules (cf. Section 1.2.5). Such a mismatch between functional and prosodic affiliation arguably blocked the grammaticalization of Vedic local adverbs into proper adpositions.

2. Multiple preverbs in numbers

2.1. Composites with multiple preverbs

Table 9 contains Vedic multiple preverb composites. In order to identify such composites, I used Grassmann's dictionary (1936[1873]) as a starting point (cf. fn. 7). Then, I exclusively selected those combinations of multiple preverbs-verbs that at least once attest to both preverbs in preverbal position (#P_P_V#). This methodology is based on Hettrich et al.'s (2004: 20) remark, according to which direct preverbal position is the unmarked option for local adverbs with verbal orientation (cf. Section 1.2.4). This selection process resulted in 116 composites occurring in 186 Ṛg-Vedic passages. Thus, my criteria are stricter than Papke's (2010), who individuated as many as 387 composites (cf. fn. 7).

Table 9. Vedic composites with multiple preverbs and their frequency*

COMPOSITE	MEANING	FREQUENCY
<i>abhí prá</i> √arc-	sing loudly of	1
<i>áchā párá</i> √i-	go away toward	1
<i>ánu áva</i> √i-	go down after, follow	1
<i>ánu párá</i> √i-	go away after	1
<i>ánu prá</i> √i-	go after, follow	1
<i>ápa pára</i> √i-	go off	1
<i>abhí prá</i> √i-	go near to, approach	3
<i>abhí sám</i> √i-	approach together, come together at	2
<i>abhí ví</i> √i-	come toward from different parts	1
<i>abhí á</i> √i-	come to, approach	1
<i>á áva</i> √i-	rush down upon	1
<i>á nís</i> √i-	go off, depart	1
<i>úpa prá</i> √i-	march on, go toward	9
<i>nís á</i> √i-	go off, depart	3
<i>pári á</i> √i-	circulate	1
<i>pári prá</i> √i-	run through on all sides	1
<i>práti úd</i> √i-	rise and go toward	1
<i>sám á</i> √i-	come together, approach together, meet at/in/with	2
<i>ví párá</i> √i-	go back again	1
<i>ví prá</i> √i-	go forth in different directions, disperse, spread out	1
<i>ní á</i> √īr-	set someone down	5
<i>sám á</i> √īr-	put together, create	1
<i>sám prá</i> √īr-	come forth together	1
<i>ní á</i> √kṛ-	hold back	1
<i>sám á</i> √kṛ-	bring together, gather, prepare	3
<i>ví á</i> √kṛ-	undo, sever, divide, separate from	1
<i>adhí ví</i> √kṣar-	pour out, flow out	1
<i>abhí prá</i> √gāh-	dig into, penetrate	1

<i>áva á</i> √gam-	undertake, begin	1
<i>ádhi sám</i> √gam-	go up to, approach together	1
<i>úpa á</i> √gam-	come near, come to	2
<i>abhí á</i> √gā-	approach, come to	1
<i>úpa prá</i> √gā-	step near to, proceed to	3
<i>abhí prá</i> √gā₂- (√gai-)	encourage to start singing about, begin to praise	5
<i>abhi prá</i> √cakṣ-	see	1
<i>ánu sám</i> √car-	walk alongside, visit, seek after	2
<i>abhí á</i> √car-	come up, approach	1
<i>abhí úd</i> √car-	rise over	1
<i>abhí sám</i> √car-	go together to, seek for	5
<i>úd á</i> √car-	rise out of	1
<i>úpa á</i> √car-	come near to, attend upon	2
<i>úpa prá</i> √jinv-	please or gratify in approaching	1
<i>ánu prá</i> √jñā-	trace, discover	1
<i>áti nís</i> √tan-	penetrate with rays	1
<i>práti á</i> √tan-	extend in the direction of, shine upon/against	1
<i>abhí á</i> √tap-	torment, pain	1
<i>abhí á</i> √tṛ-	pass through to, come up to	1
<i>ádhi á</i> √dā-	take away from above	1
<i>abhí á</i> √diś-	aim at (in hostile manner)	1
<i>á nís</i> √duh-	create out of	1
<i>abhí prá</i> √dṛ-	put forth by bursting or opening	1
<i>á prá</i> √dru-	run forth here	1
<i>pári prá</i> √dhanv-	flow forth around	1
<i>adhí sám</i> √dhā-	store up	1
<i>adhí ní</i> √dhā-	deposit for	1
<i>abhí sám</i> √dhā-	compose the mind at	1
<i>antár á</i> √dhā-	receive into, contain	1
<i>ánu á</i> √nū-	sound here through	1
<i>abhí prá</i> √nū-	praise highly to	6
<i>abhí sám</i> √nū-	rejoice together at	5
<i>úpa ní</i> √pad-	lie down beside	1
<i>ánu á</i> √phaṅ-	jump	1
<i>antár ví</i> √bhā-	shine in different directions between	1
<i>ánu prá</i> √bhū-	spread over	2
<i>abhí prá</i> √bhū-	assist, help	1
<i>abhí sám</i> √bhū-	enter, reach, come to	1
<i>ánu prá</i> √bhūṣ-	serve	1
<i>abhí prá</i> √bhṛ-	bring forth to, offer to	1
<i>pári á</i> √bhṛ-	carry near, fetch from	1
<i>abhí prá</i> √mand-	feverishly await, confuse, infatuate	4
<i>ánu prá</i> √muc-	let loose successively	1
<i>abhí prá</i> √mṛś-	seize, grasp	1
<i>prá abhí</i> √mṛś-	seize, grasp	1
<i>ánu prá</i> √yaj-	win for oneself	1
<i>abhí á</i> √yam-	aim at	1
<i>sám á</i> √yam-	draw, pull, stretch	1
<i>sám prá</i> √yam-	offer together/mutually, give to	1
<i>áti á</i> √yā-	drive by	2
<i>ábhi sám</i> √yā-	visit, approach to	1
<i>úpa á</i> √yā-	come near, approach	2
<i>úpa prá</i> √yā-	proceed toward	2
<i>pári prá</i> √yā-	go forth around	1

<i>prá ā</i> √yā-	come near, approach	1
<i>prāti prá</i> √yā-	go back, return	2
<i>ánu sám</i> √rabh-	take hold of	1
<i>abhí sám</i> √rabh-	take hold of	2
<i>ánu ā</i> √labh-	lay hold of, grasp, handle, take in the hand	1
<i>ápa ní</i> √lī-	hide oneself, disappear completely	1
<i>ánu prá</i> √vah-	go, get forward	1
<i>abhí ā</i> √van-	strive, seek to win	1
<i>ánu prá</i> √vid-	understand backward and forward	1
<i>ā ví</i> √vid-	know by distinguishing	1
<i>úpa prá</i> √vid-	understand	1
<i>ā pári</i> √vy-	surround with	1
<i>ápa ā</i> √vyj-	wipe out, bring away	1
<i>ánu ā</i> √vyt-	roll near along	1
<i>ánu prá</i> √vyt-	proceed along/after	1
<i>abhí ā</i> √vyt-	roll toward, hurry toward	4
<i>pári ā</i> √vyt-	turn round, turn away from, return to	2
<i>prāti ā</i> √vyt-	turn against	1
<i>sám ā</i> √vyt-	turn back, come back, return	1
<i>āti prá</i> √vrdh-	outgrow	1
<i>antár pári</i> √vyā -	hide in	1
<i>āti prá</i> √śrdh-	bring in front of in excess	1
<i>abhí prá</i> √sad-	sit down, settle along	1
<i>ā ní</i> √sad-	sit down on, cause to sit down, establish	12
<i>āti prá</i> √sṛ-	outstrip, surpass	1
<i>ví ā</i> √sṛ-	run through	1
<i>ví prá</i> √sṛ-	spread	1
<i>úpa áva</i> √sṛj-	reach over, give, bestow	1
<i>ánu ví</i> √sthā-	extend over	1
<i>ābhi prá</i> √sthā-	advance toward, reach, surpass	3
<i>ābhi ví</i> √spaś-	look at, view, look hither	2
<i>pári prá</i> √syand-	gush around, flow forth or round	2
<i>abhí prá</i> √han-	overpower	1
<i>pári sám</i> √hā ₂ -	rise up from	1
TOTAL		186

*In all the tables of this Chapter, composites are sorted by root. This choice is motivated by the fact that, in Vedic, univerbation is only at its onset. Within a group of composites containing the same root, the EP determines the order. The last criterion for ordering is the IP. The alphabetical order is that of the Devanāgarī script.

The high number of composites (116), the high number of roots modified by multiple preverbs (56, cf. Table 10 below), and the high number of preverb combinations that can accompany many different verbal roots (52, cf. Table 11 below) all contribute to suggesting that multiple preverbs did not constitute an infrequent pattern in Vedic. As shown in Table 9, 88 out of 116 composites occur only once in the *Ṛg-Veda*, and only one composite, i.e. *ā ní* √sad- ‘sit down on, cause to sit down, establish’, shows up in more than

10 occurrences (on the productivity of verbal composition in Vedic, cf. Danesi 2013: 62 and Section 1.2.1).

Table 10 contains those composites that are also attested elsewhere than the *R̥g-Veda*, along with their *R̥g-Vedic* and post-*R̥g-Vedic* meanings. As Table 10 shows, out of 116 composites, only 45 are attested in later texts. Post-*R̥g-Vedic* attestation is significant, as it suggests a certain degree of conventionalization and stability in the lexicon. In addition, it allows for interesting comparisons. Going from the Vedic to the post-Vedic period, composites often come to acquire less concrete and more non-compositional meanings. Some cases in point are the following: *abhí prá √i-* ‘go near to, approach’ > ‘think of, aim, intend’; *ví á √kar-* ‘undo, sever, divide, separate from’ > ‘explain, predict, declare’; *abhí á √gā-* ‘approach, come to’ > ‘visit, begin to’; *abhí á √car-* ‘come up, approach’ > ‘undertake, practice’; *ánu á √vart-* ‘roll near/along, move after/along’ > ‘revolve, move after, follow, change’; *abhí á √vart-* ‘roll toward, hurry toward’ > ‘repeat’; *pári á √vart-* ‘turn round, turn away from, return to’ > ‘be changed into, get possessed of’. In other cases, composites gain a more specialized meaning from the Vedic to the post-Vedic period: *sám á √i-* ‘come together, approach together, meet at/in/with’ > ‘unite in marriage, enter, emulate, form an alliance with’; *abhí sám √bhū-* ‘enter, reach, come to’ > ‘obtain the shape of’. Semantic shifts of this type are expected: all of them involve semantic bleaching of the elements making up the composite, which lose part of their original spatial value.

2.2. Verbal roots modified by multiple preverbs

Table 11 displays the 56 Vedic verbal roots modified by multiple preverbs occurring in immediate preverbal position and their meanings, their PIE roots with their meanings, and their frequencies, that is, the number of composites containing each root. The rightmost column specifies the verb type. For my purposes, a coarse-grained semantic classification of verbs suffices.²³

²³ Other scholars, including Levin (1993) and Sausa (2015), proposed more fine-grained semantic classifications for English and Ancient Greek verbs, respectively.

Table 10. Vedic composites attested after the *R̥g-Veda* and their meanings*

<i>Composite</i>	<i>Meaning in the RV</i>	<i>Post-R̥Vedic meaning</i>
<i>ánu pára</i> √i-	go away after	follow in walking off
<i>ánu prá</i> √i-	go after, follow	follow in death, seek after
<i>abhí á</i> √i-	come to, approach	go near, come to, approach
<i>abhí prá</i> √i-	go near to, approach	think of, aim, intend
<i>abhí sám</i> √i-	approach together, come together at	invade
<i>úpa prá</i> √i-	march on, go toward	march on, go toward, undertake an activity
<i>nís á</i> √i-	go off, depart	go off, depart
<i>pári á</i> √i-	circulate	roam about, go around, return
<i>práti úd</i> √i-	rise and go toward	ascend to
<i>sám á</i> √i-	come together, approach together, meet at/in/with	unite in marriage, enter, emulate, form an alliance with
<i>ví prá</i> √i-	go forth in different directions disperse, spread out	go away, depart
<i>sám prá</i> √ir-	come forth together	(CAUS) drive, push forward
<i>sám á</i> √kr-	bring together, gather, prepare	bring together, gather, prepare
<i>ví á</i> √kr-	undo, sever, divide, separate from	explain, predict, declare
<i>úpa á</i> √gam-	come near, come to	come back, approach, enter in a condition, be subject to, occur
<i>abhí á</i> √gā-	approach, come to	visit, begin to
<i>úpa prá</i> √gā-	step near to, proceed to	step near to, proceed to
<i>abhí prá</i> √gāh-	dig into, penetrate	immerse
<i>abhí á</i> √car-	come up, approach	undertake, practice
<i>úpa á</i> √car-	come near to, attend upon	come near to, attend upon
<i>práti á</i> √tan-	extend in the direction of, shine upon/against	extend in the direction of, shine upon/against
<i>abhí prá</i> √d̥-	put forth by bursting or opening	(PASS) be scattered/divided asunder
<i>abhí sám</i> √dhā-	compose the mind at	take aim at, overcome, win, associate with
<i>úpa ní</i> √pad-	lie down beside	lie down beside
<i>abhí sám</i> √bhū-	enter, reach, come to	obtain the shape of
<i>abhí á</i> √yam-	aim at	lengthen, draw, pull, assume
<i>sám á</i> √yam-	draw, pull, stretch	draw together, contract
<i>sám prá</i> √yam-	offer together/mutually, give to	give in marriage, give back
<i>abhí sám</i> √yā-	visit, approach to	approach in hostile manner
<i>úpa á</i> √yā-	come near, approach	come near, approach, undergo
<i>úpa prá</i> √yā-	go toward, proceed toward	go toward, proceed toward
<i>ánu sám</i> √rabh-	take hold of	take hold of mutually
<i>ánu á</i> √labh-	lay hold of grasp, handle, take in the hand	lay hold of grasp, handle, take in the hand
<i>ápa ní</i> √lī-	hide oneself, disappear completely	hide oneself, disappear
<i>ánu á</i> √v̥rt-	roll near along	revolve, move after, follow, change
<i>abhí á</i> √v̥rt-	roll toward, hurry toward	repeat
<i>pári á</i> √v̥rt-	turn round, turn away from, return to	be changed into, get possessed of
<i>práti á</i> √v̥rt-	turn against	return, come back
<i>sám á</i> √v̥rt-	turn back, come back, return	return home, approach, succeed, perish, dismiss, repeat
<i>abhí prá</i> √sad-	sit down, settle along	(CAUS) cause to be gracious
<i>ví prá</i> √sr-	spread	spread
<i>úpa áva</i> √s̥j-	reach over, give, bestow	dismiss toward, let loose, let go toward
<i>ábhi prá</i> √sthā-	advance toward, reach, surpass	start/advance toward, reach, surpass
<i>ábhi ví</i> √spaś-	look at, view, look hither	look at, view, look hither
<i>abhí prá</i> √han-	overpower	overpower

Motion verbs are regarded so as to include, beside motion or location verbs proper (e.g. \sqrt{i} - ‘walk, go’), manner of motion verbs (e.g. \sqrt{muc} - ‘loose, set free from’), verbs of caused motion (e.g. \sqrt{dhan} - ‘cause to run’), transfer verbs (which can be assimilated to verbs of caused motion; e.g. $\sqrt{dā}$ - ‘give’), and verbs of putting and removing (which can be assimilated to verbs of caused motion; e.g. $\sqrt{dhā}$ - ‘put’, \sqrt{labh} - ‘take’). Location verbs include posture verbs (e.g. \sqrt{sad} - ‘sit’), verbs of existence (e.g. $\sqrt{bhū}$ - ‘be, become, happen’), and verbs of holding/keeping (e.g. \sqrt{yam} -). These verb classes comprise the most of Vedic verbal roots modified by multiple preverbs (35 out of 56).

Besides location and motion verbs, there is also one change of state verb, i.e. $\sqrt{vṛdh}$ - ‘increase, grow’: this verb can be easily assimilated to motion verbs, as increasing and growing can be metaphorically regarded as an upward motion. The remaining verbal roots indicate events in which a certain concrete or abstract TR is directed away from or toward (or both) a LM. The following verb classes belong to this group: (a) perception verbs, as eyes can follow a certain direction ($\sqrt{spaś}$ - ‘watch, see, observe’; cf. Danesi 2009: 107–116); (b) emission verbs, by which the TR is the warmth, the light, a substance, or a sound (\sqrt{arc} - ‘shine’, \sqrt{tap} - ‘give out heat’, \sqrt{duh} - ‘milk’, $\sqrt{nū}$ - ‘sound’, $\sqrt{bhā}$ - ‘shine’, $\sqrt{cakṣ}$ - ‘shine, emit light’) (cf. also RIVELEX II: 32, fn. 3; Danesi 2009: 64–75); (c) communication verbs, as words and utterances go from the speaker toward his/her addressee ($\sqrt{gā_2}$ - ‘sing’, $\sqrt{diś}$ - ‘show a direction’, $\sqrt{śṛdh}$ - ‘mock at’; Danesi 2009: 119–121); (d) verbs of impact, in which hits or blows behave as moving entities (\sqrt{han} - ‘strike, beat’; cf. Danesi 2009: 158–175); (e) creation verbs, in which the event of creating is directed toward a certain Beneficiary ($\sqrt{kṛ}$ - ‘do, make’); (f) verbs of mental state, whereby emotions or other mental states, such as effort, joy, veneration, and attraction, can be directed toward a certain LM ($\sqrt{bhūṣ}$ - ‘strive after, use efforts for’, \sqrt{mand} - ‘rejoice’, \sqrt{yaj} - ‘venerate’; $\sqrt{vivāṣ}$ - ‘attract’; Danesi 2009: 60–64; 76–83). There are two other verbs of mental state left: one of them, \sqrt{vid} - ‘know’, goes back to a PIE root with the meaning of seeing (perception verb > verb of mental state), whereas another one, $\sqrt{jñā}$ - ‘know’, goes back to a PIE root meaning ‘discern, distinguish’.

Table 11. Vedic verbal roots modified by multiple preverbs*

Verbal root	Meaning	PIE root	Meaning	Frequency	Verb type
<i>arc-</i> (<i>rc-</i>)	shine, sing, praise (Gōto: 97-99)	* <i>h₁er^k</i> - (LIV ² : 240-241)	shine, sing	1	emission
<i>i-</i> (<i>qr-</i>)	walk, go	* <i>h₁erj-</i> (LIV ² : 232)	go	19	motion
<i>ir-</i>	go, move, rise, arise from	* <i>h₁er-</i> (LIV ² : 299)	put in motion	3	caused motion
<i>kṛ-</i>	do, make	* <i>k^rer-</i> (LIV ² : 391)	cut off, carve	3	creation
<i>kṣar-</i>	flow, stream	* <i>g^her-</i> (LIV ² : 213)	drift in water, flow	1	manner of motion
<i>gam-</i>	go to, approach	* <i>g^hem-</i> (LIV ² : 209)	go, come (to)	3	motion
<i>gā-</i>	go to, approach	* <i>g^heh₁-</i> (LIV ² : 205)	step, put your foot on	2	motion
<i>gā-</i> (<i>gai-</i>)	sing, recite	* <i>g^herH(i)-</i> (LIV ² : 183)	sing	1	communication
<i>gāh-</i>	dive into, bathe in, plunge into	* <i>g^her^heg^h-</i> (LIV ² : 183)	force into water	1	caused motion
<i>cakṣ-</i>	shine, emit light	* <i>k^rek-</i> (LIV ² : 383)	see, catch sight of	1	emission
<i>car-</i>	go, walk	* <i>k^relh₁-</i> (LIV ² : 386)	turn	6	motion
<i>jiṃv-</i>	move oneself, annoy	* <i>g^hieh₁-</i> (LIV ² : 215)	live	1	caused motion
<i>jñā-</i>	know	* <i>ǵneh₁-</i> (LIV ² : 168)	discern	1	mental activity
<i>tan-</i>	extend, spread, be diffused (light)	* <i>ten-</i> (LIV ² : 626)	stretch	2	motion
<i>tap-</i>	give out heat, be hot, shine (warmth)	* <i>tep-</i> (LIV ² : 630)	be warm, be hot	1	emission
<i>tar-</i>	pass across, cross over	* <i>terh₁-</i> (LIV ² : 633)	come through, cross	1	motion
<i>dā-</i>	give	* <i>deh₁-</i> (LIV ² : 105)	give	1	transfer
<i>dī-</i>	show a direction	* <i>deik-</i> (LIV ² : 108)	show, point	1	communication
<i>dūh-</i>	milk, squeeze	* <i>d^heiǵ-</i> (LIV ² : 148)	meet	1	emission
<i>dṛā-</i>	run, make haste	* <i>dreh₁-</i> (LIV ² : 127)	run (away)	1	manner of motion
<i>dru-</i>	run, hasten	* <i>dreu-</i> (LIV ² : 129)	run	2	manner of motion
<i>dhan-</i>	cause to run, move quickly	* <i>d^herh₁-</i> (LIV ² : 144)	put in rapid motion	1	caused motion
<i>dhā-</i>	put	* <i>d^heh₁-</i> (LIV ² : 136)	put	4	putting
<i>nī-</i> (<i>ni-</i>)	sound, shout	* <i>neiH-</i> (LIV ² : 436)	yell	3	emission
<i>pad-</i>	fall	* <i>ped-</i> (LIV ² : 438)	step, fall, sink	1	motion
<i>phan-</i>	go, leap	?*(<i>g</i>)/(<i>h</i>)er-(<i>d</i>)-	flutter	1	manner of motion
<i>bhā-</i>	shine, glow	* <i>ǵar^h</i> - (EWAia II: 199-200)	move fast, lively		
<i>bhī-</i>	become, happen, be	* <i>b^herh₁-</i> (LIV ² : 68)	shine	1	emission
		* <i>b^herh₂-</i> (LIV ² : 98)	grow; become	3	existence

<i>Verbal root</i>	<i>Meaning</i>	<i>PIE root</i>	<i>Meaning</i>	<i>Frequency</i>	<i>Verb type</i>
<i>bhūṣ-</i>	strive after, use efforts for	* <i>b^hueh₂-</i> (LIV ⁹ : 98)	grow, become	1	mental activity
<i>bhū-</i>	bear, bring	* <i>b^her-</i> (LIV ⁹ : 76)	bring, carry	2	caused motion
<i>mand-</i>	rejoice	* <i>med-</i> (LIV ⁹ : 423)	become full	1	mental activity
<i>muc-</i>	loose, set free from	* <i>meuk-</i> (LIV ⁹ : 443)	loose, take off	1	caused motion
<i>mṣ-</i>	touch, consider	* <i>Hmelk-</i> (LIV ⁹ : 226)	spread, touch	1	contact
<i>yaj-</i>	venerate	* <i>Hjag-</i> (LIV ⁹ : 224)	admire	1	mental activity
<i>yam-</i>	sustain, hold	* <i>jem-</i> (LIV ⁹ : 312)	extend, stretch	3	holding/keeping
<i>yā-</i>	go, move	* <i>ieh₂-</i> (LIV ⁹ : 309)	pull to, lead	7	motion
<i>rabh-</i>	take hold of, grasp	?* <i>reb^h-</i> (LIV ⁹ : 496)	move	2	removing
<i>labh-</i>	take, seize, catch	?* <i>reb^h-</i> (LIV ⁹ : 496)	move	1	removing
<i>hi- (vi-)</i>	set free	* <i>h₁eiH-</i> (LIV ⁹ : 305)	bubble, spin	1	caused motion
<i>vah-</i>	carry, convey	* <i>ueHig^h-</i> (LIV ⁹ : 663)	recognize, respect	1	caused motion
<i>vid-</i>	know, understand	* <i>ueid-</i> (LIV ⁹ : 665)	catch sight of	3	mental activity
<i>vivās-</i>	attract (desiderative of <i>van-</i> 'like')	* <i>uen-</i> (LIV ⁹ : 680)	overpower, win	1	mental activity
<i>vj-</i>	cover, screen	* <i>Huer-</i> (LIV ⁹ : 227)	shut, put in(to),	1	putting
<i>vj-</i>	turn, twist off	* <i>h₂ueg-</i> (LIV ⁹ : 290)	turn	1	manner of motion
<i>vjt-</i>	roll	* <i>uer-</i> (LIV ⁹ : 691)	turn	6	manner of motion
<i>vjdh-</i>	increase, strengthen	* <i>HueRd^h-</i> (LIV ⁹ : 227)	bind	1	change of state
<i>vṣā- (vṣ-)</i>	cover, wrap	* <i>ueeh₁-</i> (LIV ⁹ : 695)	wrap, envelop	1	putting
<i>śṛdh-</i>	mock at	?uncertain	?uncertain	1	communication
<i>sad-</i>	sit down	Mayrhofer (II: 619–620)	sit	2	posture
<i>sar-</i>	run, flow	* <i>sed-</i> (LIV ⁹ : 513)	shoot out, jump	3	manner of motion
<i>śj-</i>	let go, let fly, discharge	* <i>sel-</i> (LIV ⁹ : 496)	loose, send to	1	caused motion
<i>sthā-</i>	stand	* <i>selg-</i> (LIV ⁹ : 528)	step to, stand up	2	posture
<i>spās- (pās-)</i>	see, observe	* <i>steh₂-</i> (LIV ⁹ : 590)	look at	1	perception verb
<i>śvad- (śvamd-)</i>	move/flow on rapidly, drive	* <i>pek-</i> (LIV ⁹ : 575)	?uncertain	1	caused motion
<i>han-</i>	strike, beat	?uncertain ? <i>psmd-</i> (EWAia II: 781–782)	?uncertain	1	caused motion
<i>hā-</i>	start/spring forward	* <i>g^hen-</i> (LIV ⁹ : 218)	hit	1	contact/impact
		* <i>g^heh-</i> (LIV ⁹ : 172)	change one's posture, move	1	motion

*Roots are cited as in Grassmann's (1936[1873]) dictionary; alternative forms in brackets are those of Monier-Williams (1899), in case they differ from Grassmann's.

2.3. Attested combinations of preverbs

In Vedic, there are as many as 52 combinations of multiple preverbs. These are displayed in Table 12, as well as their frequencies, that is, the number of composites that contain a certain combination.

Table 12. Vedic combinations of preverbs and their frequencies*

<i>Exterior preverb</i>	<i>Interior preverb</i>	<i>Frequency</i>
<i>áchā</i>	<i>pārā</i>	1
<i>āti</i>	<i>ā</i>	1
<i>āti</i>	<i>nīṣ</i>	1
<i>āti</i>	<i>prá</i>	3
<i>adhí</i>	<i>ā</i>	1
<i>adhí</i>	<i>ní</i>	1
<i>ádhi</i>	<i>sám</i>	2
<i>adhí</i>	<i>ví</i>	1
<i>ánu</i>	<i>ā</i>	4
<i>ánu</i>	<i>áva</i>	1
<i>ánu</i>	<i>pārā</i>	1
<i>ánu</i>	<i>prá</i>	9
<i>ánu</i>	<i>sám</i>	2
<i>ánu</i>	<i>ví</i>	1
<i>abhí</i>	<i>ā</i>	9
<i>antár</i>	<i>ā</i>	1
<i>antár</i>	<i>ví</i>	1
<i>antár</i>	<i>pári</i>	1
<i>ápa</i>	<i>ā</i>	1
<i>ápa</i>	<i>ní</i>	1
<i>ápa</i>	<i>pārā</i>	1
<i>abhí</i>	<i>prá</i>	14
<i>abhí</i>	<i>sám</i>	7
<i>abhí</i>	<i>úd</i>	1
<i>abhí</i>	<i>ví</i>	2
<i>áva</i>	<i>ā</i>	1
<i>ā</i>	<i>áva</i>	1
<i>ā</i>	<i>ní</i>	1
<i>ā</i>	<i>nīs</i>	2
<i>ā</i>	<i>pári</i>	1
<i>ā</i>	<i>prá</i>	1
<i>ā</i>	<i>ví</i>	1
<i>ní</i>	<i>ā</i>	2
<i>nīs</i>	<i>ā</i>	1
<i>pári</i>	<i>ā</i>	3
<i>pári</i>	<i>prá</i>	4
<i>pári</i>	<i>sám</i>	1
<i>prá</i>	<i>abhí</i>	1
<i>prá</i>	<i>ā</i>	1
<i>práti</i>	<i>ā</i>	2

<i>práti</i>	<i>úd</i>	1
<i>práti</i>	<i>prá</i>	1
<i>sám</i>	<i>á</i>	5
<i>sám</i>	<i>prá</i>	2
<i>úd</i>	<i>á</i>	1
<i>úpa</i>	<i>á</i>	3
<i>úpa</i>	<i>áva</i>	1
<i>úpa</i>	<i>ní</i>	1
<i>úpa</i>	<i>prá</i>	5
<i>ví</i>	<i>á</i>	2
<i>ví</i>	<i>párā</i>	1
<i>ví</i>	<i>prá</i>	2

*The first combination of Table 12. includes the preverb *áchā* ‘to, unto’, with which e.g. Maddonell (1916: 352) deals separately from the other preverbs based on its more restricted use (this preverb is “tolerably frequent in R̥V [...], but already very rare in AV”).

As shown in Table 12, in the *R̥g-Veda*, combinations of more than two preverbs are not attested.²⁴ Most combinations (32 out of 52) only occur with one verb; 9 out of 52 combinations are attested in two composites; the remaining 11 combinations are instantiated by more than two verbs (the most frequent combination has a frequency of 14 composites). These data also contribute to suggesting a low degree of conventionalization and a high degree of productivity for multiple preverbs.

The most frequent combinations, that is, *abhí+prá* ‘to, unto, against+forward, onward, forth, fore-’ (14 times), *abhí+á* ‘to, unto, against+to, unto, at’ (9 times), *ánu+prá* ‘after, along, toward+forward, onward, forth, fore-’ (9 times), *úpa+prá* ‘to, unto, toward+forward, onward, forth, fore-’ (5 times), and *sám+á* ‘along, with, together+to, unto, against’ (5 times), contain either *prá* or *á* as IPs. The preverbs *prá* and *á* are the most frequent ones in the *R̥g-Veda* for a total of 1372 and 3347 occurrences, respectively (Casaretto 2012, 2013). These preverbs seem to be particularly prone to stack: 11 out of 56 combinations contain *prá*; 22 out of 56 combinations contain *á*; together they cover more than a half of the combinations. Their high frequency as multiple preverbs might be related to their high absolute frequency. In addition, their generic semantics might also have played

²⁴ Combinations of three preverbs are known in later Vedic, as well as in Classical Sanskrit (Delbrück 1888: 435–437).

a role in their tendency to combine with other spatial specifications. The preverb *prá* indicates a generic forward motion (Path) without any inherent Goal. Instead, the preverb *á* expresses a generic movement directed toward the speaker, or toward the general location of the event (RIVELEX II: 1 ff.; Casaretto 2013: 15; Grassmann 1936[1873]).

No Vedic preverbs constitute stable double prepositions or adverbs. However, two of the most frequent preverb combinations also occur together outside the preverbal context, as exemplified in (28) and (29):

(28) Non-immediately preverbal *abhí+prá*

<i>nṛ̥ṇám</i>	<i>u</i>	<i>tvā</i>	<i>nṛ̥tamam</i>	<i>gṛ̥bhír</i>	<i>ukthair</i>
man.GEN.PL	and	2SG.ACC	most_manly.ACC	praise.INS.PL	verse.INS.PL
<i>abhí</i>	<i>prá</i>	<i>vīrám</i>	<i>arcata</i>	<i>sabādhaḥ</i>	
to	forward	man.ACC	sing.IMP.2PL	afflicted.NOM.PL	

‘Priests, glorify you, the hero, the most heroic of the heroes, with songs and praises.’ (ṚV 3.51.4b)²⁵

(29) Non-immediately preverbal *ánu+prá*

<i>pūṣann</i>	<i>ánu</i>	<i>prá</i>	<i>gá</i>	<i>ihí</i>
P.VOC	after	forward	cow.ACC.PL	go.IMP.2SG
<i>yájamānasya</i>	<i>sunvatáḥ</i>			
sacrificer.GEN	pressing_out.GEN			

‘O Pūṣan, go forth after the cows of him who sacrifices and presses Soma.’
(ṚV 6.54.6a)

In the *Ṛg-Veda*, no preverb is iterated in preverbal position. In other positions, however, preverb iteration is relatively common, as shown by Dunkel (1981a). If iterated, preverbs are univerted, and treated as compound words or *amreḍita* according to the Indian tradition (e.g. *ápāpa* ṚV 5.34.3; *abhyàbhi* ṚV 9.110.5; *údud* ṚV 4.21.9; *úpopa* ṚV 1.126.7; 8.51.7; 8.74.9; *pārāparā* ṚV 1.38.6; *práp̥ra* ṚV 1.40.7; 1.129.8; 1.138.1; 1.150.3;

²⁵ Cf. also ṚV 8.49.1 and 8.69.4.

3.9.3; 5.5.5; 5.58.5; 6.48.1; 7.6.3; 7.8.4; 8.69.1; 9.9.2; *sámsam* ṚV 10.191.1.). In spite of the lack of preverb iteration in preverbal position, there are composites in which two quasi-equivalent preverbs modify a single verbal root. A case in point is the combination *ápa+párā* ‘away+away’ in *ápa pára* √*i-* ‘go off’, shown in example (30), in which two preverbs indicate Source. Both the composite containing only the EP *ápa* √*i-* (31)a and the composite containing only the IP *párā* √*i-* (31)b show the similar meaning of ‘run away’ (Grassmann 1936[1873]: 192 ff.).

(30) *abhāgáḥ* ... *ápa* *páreto* *asmi*
 having_no_share.NOM away go_away.PTCP.PRF.NOM be.PRS.1SG
 ‘I have departed without a portion.’ (ṚV 10.83.5a)

(31) a. Composite with the EP only: *ápa* √*i-*
ápa-iti *asyāḥ* *prati-cákṣiyeva* [*praticákṣiya iva*]
 away_go.PRS.3SG 2SG.GEN.F against-shine.ABS like
 ‘She goes away like a girl to be gazed upon.’ (ṚV 1.124.8b)

b. Composite with the IP only: *párā* √*i-*
párā *ca* *yánti* *púnar á* *ca* *yanti*
 away and go.PRS.3PL back to and go.PRS.3PL
 ‘(The Dawns) go away and come again.’ (ṚV 1.123.12c)

In addition, the combinations *abhí+á* ‘to+to’ and *úpa+á* ‘to+to’ contain two Goal preverbs with partially overlapping meanings (Casaretto 2010b: 98, fn. 3, and references therein). These combinations are instantiated in eight composites (i.e. *abhí á* √*gā-* ‘approach, come to’, *abhí á* √*car-* ‘come up, approach’, *abhí á* √*tī-* ‘pass through to, come up to’, *abhí á* √*yam-* ‘aim at, attract’, *abhí á* √*vṛt-* ‘roll toward’; *úpa á* √*gam-* ‘come near, come to’, *úpa á* √*yā-* ‘approach, drive near’, *úpa á* √*car-* ‘come near to, attend upon’).

3. The form of composites

In Section 1.2.5, I discussed the accentual properties of Vedic preverbs. In what follows, I describe the rules of vowel and consonant combinations affecting Vedic composites (Section 3.1), and the principles governing the interactions of preverbs with other preverbal morphology (Section 3.2).

3.1. *Sandhi phenomena*

The juxtaposition of preverbs and verbal stems results in various consonant and vowel clusters undergoing various assimilatory effects, i.e. the so-called *sandhi* effects (< *sám* ‘along, with, together’ + $\sqrt{dhā}$ ‘put’). Old Indo-Aryan is noteworthy in marking some of these *sandhi* effects in the Devanāgarī script (for an overview of Old Indo-Aryan *sandhi* rules, see e.g. Whitney 1955[1879]: 34 ff.; Macdonell 1916: 20 ff.; Renou 1935: 32 ff.).

Between the elements that constitute multiple preverb composites, the behavior of consonant and vowel clusters follows the rules of external (i.e. occurring at word-boundaries) *sandhi*, whenever they mismatch from those of internal (i.e. occurring at morpheme-boundaries) *sandhi*.²⁶ Some combinations are exemplified in (32):

(32)	<i>Sandhi Rule</i>	<i>Composite</i>	<i>Occurring verbal form</i>
a.	a + i → -e-	<i>ní á</i> \sqrt{ir} -	<i>nieriré</i> :PRF.3PL.MID (RV 8.19.18b)
b.	a + a → -ā-	<i>úpa á</i> $\sqrt{yā}$ -	<i>upāyātam</i> :IMP.2DU (RV 7.71.2a)
c.	m → ṃ _C	<i>ádhi sám</i> \sqrt{gam} -	<i>ádhi sámṃgata</i> :PTCP.PRF.VOC (RV 7.76.5a)
d.	d → c _c	<i>abhí úd</i> \sqrt{car} -	<i>abhí úc cara</i> :IMP.2SG (RV 8.25.21c)
e.	r → ḥ _C(-voice)	<i>antár pári</i> $\sqrt{vyā}$ -	<i>antáḥ párivīta</i> :IMP.2PL (RV 4.1.7c)

²⁶ This is not often the case, as most preverb-preverb combinations involve vowel clusters. The rules governing the coalescence of vowels are nearly the same both in internal and in external *sandhi* (Whitney 1955[1879]: 42).

Occasionally, however, *sandhi* effects that Macdonell (1916: 42, 45) classifies as internal also occur between the IP and the verbal stem (cf. also Whitney 1955[1879]: 63). These are shown in (33):

(33)	<i>Sandhi Rule</i>	<i>Composite</i>	<i>Occurring verbal form</i>
a.	$C_{(dental)} \rightarrow C_{(cerebral)} C_{(cerebral)}$	<i>áti níš √tan-</i>	<i>áti níš †tatanyuh̄:PRF.3PL</i> (RV 1.141.13d)
b.	$s \rightarrow \text{ṣ} V_{(\tilde{a})}, k, r, s$	<i>á ní √sad-</i>	<i>á ní ṣīda:IMP.2SG</i> (RV1.104.1b) ²⁷

It is of particular significance that the boundary between the IP *ní* ‘down, in, into’ and the root \sqrt{sad} - ‘sit down’ (33) is somehow perceived as internal. The semantics of *ní* and \sqrt{sad} - is characterized by high solidarity, to such an extent that *ní* is able to push the preverb *á* ‘to, unto, at’ farther from the verbal root (whereas *á* usually selects the interior position, cf. Section 6; Papke 2010: 101; for similar effects on Homeric Greek and Old Irish composites, see McCone 2006: 181; cf. further Chapters 4 and 6).

The sound coalescence of *sandhi* occasionally obscures the morphological segmentation of composites, as in (34). Taken in isolation, the form of (34) allows for two morphological analyses: a former (a) including *á* ‘to, unto, at’ as IP; a latter (b) lacking it.²⁸

(34)	<u>Morphological ambiguity due to <i>sandhi</i></u>	
	<i>upácarat</i> (RV 1.46.14b) ‘came here’	
	a. <i>upa-ā-acarat</i>	b. <i>upa-acarat</i>
	P-P-walk.IMP.F.3SG	P-walk.IMP.F.3SG

²⁷ Cf. also RV 1.22.8, 3.35.6, 6. 9.4, 6.40.1, 9.63.2, 9.99.8, 9.104.1, 10.104.5, 10.15.2, 10.73.9, 10.80.6, all attesting to the same composite as in (33).

²⁸ Perhaps the form in (34) allows for a third reading, if one considers the injunctive with two preverbs.

However, the form *upácarat* is by no means ambiguous in main clauses, such as in RV 1.46.14b: without the IP, the accent would have occurred on the preverb *úpa* ‘to, unto, toward’ in a main clause (cf. Section 1.2.5).

3.2. *The position of preverbs with respect to inflectional affixes*

As happens in Homeric Greek (cf. Chapter 4), the position of Vedic preverbs interacts with that of the rest of the preverbal morphology. In Vedic, preverbal morphology includes reduplication and augment. Preverbs usually occur more externally than either, as exemplified in (35):

(35) a. Preverbs and reduplication

abhí pra-ta-sth-úḥ

EP IP-RED-stand-3PL

‘(they) advanced toward’ (RV 10.65.15b)

b. Preverbs and augment

úpa prágāt [pra-a-gā-t]

EP IP-AUG-go-3SG

‘(he) proceeded to’ (RV 1.162.7a)

Reduplication appears in the following formations: the present stems of a certain class (e.g. *píparti*:PRS.3SG ‘fills’, class III stem from $\sqrt{p\bar{r}}$ - ‘fill’), nearly all perfect stems (e.g. (35)), a large number of aorist stems (e.g. *ájījanat*:AOR.3SG ‘(he) has generated’, a reduplicated aorist from \sqrt{jan} - ‘generate’), and the intensive and desiderative secondary conjugations (e.g. (36)). For roots beginning with consonants, reduplication consists of the initial consonant of the verbal root and a vowel.²⁹ With roots beginning with vowels, it consists of that vowel, either alone or with a following consonant (Whitney 1955[1879]:

²⁹ If the initial consonant of the root is aspirated, reduplication contains the corresponding non-aspirated consonant (Grassmann’s Law).

222; Macdonell 1916: 147). Thus, the phonetic shape of reduplication depends on that of the reduplicated verbal root (cf. further Janda & Joseph 1991).

Because of this phonetic consistency, reduplication not surprisingly constitutes the innermost piece of verbal morphology. As shown by the form in (36), in which two preverbs, the augment, and reduplication simultaneously occur, reduplication is also more interior than the augment:

(36) Preverbs, reduplication, and augment

pári prásiṣyadat [pra-a-si-ṣyada-t]

EP IP-AUG-RED-flow_rapidly-3SG (CAUSATIVE STEM)

‘(he) gushed around’ (ṚV 9.14.1)

The augment marks past time reference, and characterizes the Vedic imperfect, pluperfect, and aorist, alongside with the conditional mood (Whitney 1955[1879]: 220 ff.). It possibly goes back to an independent particle (**h₁e-* ‘then, at that time’; e.g. Beekes 2011: 252), which assumes the shape of a short *a-* in Old Indic. The augment usually occurs between the preverb(s) and the verbal stem. In the *Ṛg-Veda*, there are no exceptions to this rule.

However, in later Vedic, the augment rarely occurs between the EP and the IP (but never before the EP) (Whitney 1955[1879]: 400). A number of these anomalous formations are given in (37):

(37) a. *ud-a-pra-patat*:IMPF.3SG ‘flew forth onto’ (AitBr.)

b. *anv-a-saṃ-carat*:IMPF.3SG ‘walked alongside’ (MBh.)

c. *abhy-a-ni-mantrayat*:IMPF.3SG ‘invited’ (Har.)

In the later forms in (37)a-c, the placement of the augment points to a strong association between the IP and the verb.

Instead, what does the positioning of the augment suggest as regards the morphological status of *Ṛg-Vedic* multiple preverbs? First, preverbs were probably not

considered part of the verb, as they occur more externally than the usual outermost piece of verbal morphology, i.e. the augment.³⁰ Second, as prosodic (Section 1.2.5), and syntactic (Section 5) evidence confirms, multiple preverbs have mostly the status of clitics in Vedic (for similar considerations on Classical Sanskrit and Homeric Greek, see Whitney 1955[1879]: 354 ff.; Papke 2010: 9, 94; Chapter 4).

4. The semantics of multiple preverbs

4.1. *Preverbs with spatial, abstract and actional meanings*

From a semantic standpoint, Vedic preverbs show the following behaviors: (a) they retain their spatial basic usages; (b) they develop further spatial usages or other types of lexical meanings, i.e. they make up non-compositional composites together with the verbs that they modify; (c) they develop actional – and, in particular, telic/atelic – meanings, thus undergoing grammaticalization into actional markers. These different functions are not mutually exclusive: on the contrary, by adding an inherent point to a spatial event (or to an event which is comparable to a spatial event; cf. Section 2.2), preverbs at once add telic/atelic nuances to (non-)telic predicates (cf., in particular, Viti 2008a, 2008b on Homeric Greek; Danesi 2009 on Vedic; Ruvoletto 2016 on Old Russian).

In combination with a motion verb (e.g. \sqrt{i} - ‘walk, go’) or with a verb comparable to a motion verb (e.g. $\sqrt{bhā}$ - ‘shine’; see Section 2.2), multiple preverbs can either profile two different portions of the trajectory (38), or add semantic specifications to the same portion of it (39).³¹ In the latter case, their meanings can partially overlap. For example, both composites of (39)a and (40) contain two Goal-preverbs, that is, *antár+ví* ‘between, among, within+apart, asunder, away, out’ (39)a and *úpa+á* ‘to, unto, toward+to, unto, at’ (40).

³⁰ The robust cross-linguistic tendency according to which inflectional affixes are the farthest from the root is usually referred to as ‘relevance’ or ‘scope principle’, on which see e.g. Bybee 1985; Rice 2000.

³¹ In Homeric Greek, multiple preverbs usually, though by no means exclusively, profile the same portion of the trajectory (cf. Chapter 4, Section 4.1; Iacobini et al. 2017).

Whereas the preverbs of the combination in (39)a profile two different spatial regions of the Goal (i.e. ‘inside’, ‘toward different directions’) and thus do not semantically overlap, the preverbs of the combination in (40) show high semantic solidarity with respect to each other.

(38) a. Goal+Source: *abhí ví* √*i*- ‘go toward from different parts’

ékaṃ *krátum* ***abhí ví*** *yanti* *sādhú*
single.ACC purpose.ACC to asunder go.PRS.3PL straight

‘(They), from different parts, go straightly toward a single purpose.’ (ṚV 6.9.5d)

b. Goal+Path: *úpa prá* √*i*- ‘march on, go toward’

úpa prá *yantu* *marútaḥ* *sudā́nava*
to forth go.IMP.3PL M.NOM.PL munificent.NOM.PL

‘May the munificent Maruts come forth to (us).’ (ṚV 1.40.1c)

c. Path+Source: *ánu párá* √*i*- ‘come away along’

páram *mṛtyo* ***ánu párehi*** [*parā-ihī*] *pánthām*
far.ACC death.VOC along away-go.IMP.2SG way.GEN.PL

‘O Death, go away farther along the way...’ (ṚV 10.18.1a)

(39) a. Goal+Goal: *antár ví* √*bhā*- ‘shine in different directions between’

dyāvā-kṣámā *rukṃó* ***antár ví*** *bhāti*
heaven-earth.ACC.DU golden.NOM between asunder shine.PRS.3SG

‘Golden, (he) shines in between the heaven and the earth.’ (ṚV 1.96.5c)³²

b. Source+Source: *ápa párá* √*i*- ‘pass over, go off’

(ṚV 10.83.5 = (30))

(40) *úpa ā* √*gam*- ‘come near to’ (ṚV 1.91.10 = (21))

In other composites, the IP – typically *ā* ‘to, unto, at’ – possibly reverses the deictic orientation of the base motion verb, whereas the EP adds a further spatial specification (41). Danesi (2009: 212–240) rather argues that *ā* only implies the achievement of a Goal, and is

³² As pointed out by Leonid Kulikov (p.c.), in this context, *antár* and *ví* might also profile Path, rather than Goal. In fact, the distinction between these two spatial roles is not always clear-cut.

not able to change the deictic orientation of motion verbs from itive to venitive. According to Danesi, the venitive reading is allegedly a byproduct of \acute{a} frequently indicating a Goal located in the speaker's vicinity. As a matter of fact, \acute{a} clearly changes the deictic orientations of the transfer verb $\sqrt{d\bar{a}}$ - 'give' into $\acute{a} \sqrt{d\bar{a}}$ - 'take, receive, such as in $\acute{a}dhi \acute{a} \sqrt{d\bar{a}}$ - 'take away from above' (41)c, and of the verb of putting $\sqrt{dh\bar{a}}$ - 'put' into $\acute{a} \sqrt{dh\bar{a}}$ - 'receive' (41)d.³³

- | | | |
|--|-----|--|
| (41) a. <i>nís</i> $\acute{a} \sqrt{i}$ - 'come out, come forward' | vs. | <i>nís</i> \sqrt{i} - 'go out' |
| b. <i>úpa</i> $\acute{a} \sqrt{gam}$ - 'come near, come to' | vs. | <i>úpa</i> \sqrt{gam} - 'go near to' |
| c. <i>ádhi</i> $\acute{a} \sqrt{d\bar{a}}$ - 'take away from above' | vs. | $\sqrt{d\bar{a}}$ - 'give' |
| d. <i>antár</i> $\acute{a} \sqrt{dh\bar{a}}$ - 'receive into, contain' | vs. | $\sqrt{dh\bar{a}}$ - 'put' |

It also happens that a preverb retaining a spatial meaning combines with another preverb developing a lexical meaning of a different type. Neither meaning exclusively selects the interior or the exterior position.³⁴ So, for example, in (42), the EPs show abstract meanings, whereas the IP spatial meanings; for (43), the opposite is true. However, the EP usually retains a spatial meaning when the spatial notion is further specified by a noun phrase, such as *ananté:LOC* 'boundless (region)' in (43).

(42) EP= non-spatial; IP = spatial

- a. Comitative+Goal: *sám* $\acute{a} \sqrt{i}$ - 'come together, approach together'
b. Again+Path: *práti prá* $\sqrt{y\bar{a}_2}$ - 'go back, return'
c. Successively+Path: *ánu prá* \sqrt{muc} - 'let loose successively'

yát sīm ánu prá mucó badbadhānā
when them after forward loose.INJ.2SG strike.PTCP.PRF.ACC.PL

'When you let go forth the prisoned ones successively.' (RV 4.22.7c)

(43) EP = spatial; IP = non-spatial

antár pári $\sqrt{vy\bar{a}}$ - 'hide in'

³³ The composite $\acute{a} \sqrt{dh\bar{a}}$ - also has other meanings in the *R̥g-Veda* that do not imply a change in its orientation.

³⁴ Cf. fn. 22, Chapter 2.

comes to indicate the way ‘back’ (cf. the Greek Source-preverb *apo-* ‘away from’, which can also undergo the same semantic shift). The EP *ví* ‘apart, asunder, away, out’ is etymologically connected to a PIE adverb **duis* ‘in two’ (cf. Kulikov 2007: 723). Accordingly, it frequently means ‘in two different places’ or – shifting to the temporal domain – ‘in two different times’, as it seems to do in (44)c.³⁵

As remarked in Section 1.2.2, Vedic preverbs occasionally also behave as actional markers. This is particularly evident for Goal-preverbs, which are able to specify the endpoint of a motion event. The following comparison is instructive between the composites *á prá √dru-* (45)a and *prá √dru-* (45)b:

- (45) a. *prá tú drava mátsvā sutásya gómataḥ*
 forth PTC run.IMP.2SG rejoice.IMP.2SG soma_juice.GEN mixed_with_milk.GEN
 ‘Run forth, rejoice of the juice mixed with milk!’ (ṚV 8.13.14ab)³⁶
- b. *á prá drava harivo*
 to forth run.IMP.2SG possessing_bay_horses.VOC
 ‘Run forth to (us), Lord of Bays! (Be not ungracious: visit us, lover of gold-hued oblation).’ (ṚV 5.31.2a)

The root *√dru-* encodes an intransitive and atelic manner of motion verb (Danesi 2009: 135). In combination with the Path-preverb *prá* ‘forward, onward, forth, fore-’, the predicate remains atelic, and means ‘go/come forth’ (45). With the further addition of the Goal-preverb *á* ‘to, unto, at’, however, a Goal of motion close to the speaker’s position

³⁵ As remarked by Leonid Kulikov (p.c.), the composite *ví párá √i-* only occurs in ṚV 10.85.33, the so-called wedding-hymn. Thus, as a *hápax*, its meaning is not completely straightforward: e.g. Geldner (1951–1957) interprets it as ‘go away and asunder’. In the latter case, the two preverbs would profile two different portions of the trajectory, i.e. Source+Goal (cf. (38)a).

³⁶ The composite *prá √dru-* is interrupted by the particle *tú*, in this passage. This type of interruption, or tmesis, is however less significant than a tmesis involving lexical words. On the difference between the so-called lexical and non-lexical tmesis in Greek, see Chapter 4, and Bertrand (2014).

Other types of actional meanings are also be expressed by both EPs and IPs. In (48)a-b, for example, the EPs *áva* ‘down, off’ and *prá* ‘forward, onward, forth, fore-’ have ingressive values.

- (48) a. *máhi* *stotrám* *áva* *áḡanma* *sūrér*
 great.ACC praise.ACC down begin.AOR.1PL learned_man.GEN.PL
 ‘We have begun the great praise of the learned men.’ (ṚV 3.31.14c)
- b. *índram* *abhí* *prá* *gāyata*
 I.ACC to forth sing.IMP.2PL
 ‘(Here, come here, sit down.) Start singing to Indra!’ (ṚV 1.5.1b)

4.2. Same (combination of) preverbs, different meanings

Preverbs are polysemous elements, whose meaning can change based on the verbal root on which they attach: for example, we have seen that *prá* can indicate Path (cf. (38)b and (45)a-b), and metaphorical Path (cf. (44)b) with motion verbs or verbs that can be assimilated to motion verbs. The same preverb can also mean ‘loudly’ with communication verbs (cf. (44)a), or undergo grammaticalization into a marker of ingressivity (cf. (48)b).

The uses outlined so far do not cover the range of functions that *prá* can carry out in the *Ṛg-Veda* (cf. the summary in Table 16). From its basic usage of ‘forward, onward’, two abstract meanings derive: (a) ‘before’ in the sense of being *pre*-posed to something, as in *abhí prá √bhū-* ‘to_before_be’ → ‘assist, help’; (b) ‘before’ in the sense of being metaphorically ‘in front of’, as in *áti prá √śṛdh-* ‘bring in front of in excess’ (this composite is used to describe an extremely zealous priest, who boldly sings his praises to Indra; cf. ṚV 8.13.6b). The latter meaning ‘in front of’ provides the link from the basic meaning of *prá* and its Beneficiary reading, attested in *ánu prá √yaj-* ‘win for oneself’. In this composite, *ánu* has a resultative meaning, whereas *prá* centralizes the Beneficiary of the event of winning or offering (cf. *prá √yaj-* ‘offer’(+ACC)). Lastly, *prá* is bleached so as to function as a mere intensifier in *abhí prá √mand-* ‘feverishly await, confuse, infatuate’ (cf. *√mand-* ‘rejoice’).

For reasons of space, it is impossible to discuss all the semantic shifts undergone by each preverb occurring in multiple preverb composites. These developments are summarized in Table 16. Here, I only focus on particularly interesting cases, i.e. those of *ní* ‘down, in, into’, *pári* ‘round about, around’, and *ví* ‘apart, asunder, away, out’, which I explain in what follows. A first intriguing preverb is *ní*. It retains its basic spatial usage ‘downward’ both in exterior and in interior positions, as in *ní á √ír-* ‘set someone down’ and in *á ní √sad-* ‘sit down on, cause to sit down, establish’. Shifting to the metaphorical plane, *ní* can indicate lack of control, according to the following cluster of metaphors: HAVING CONTROL OR FORCE IS UP, BEING SUBJECT TO CONTROL OR FORCE IS DOWN (Lakoff & Johnson 1980: 15). Such a metaphorical meaning is instantiated in *ní á √kṛ-* ‘hold back’ (cf. *á √kṛ-* ‘drive near’). Lastly, an entity (TR) placed in a lower position can happen to be difficult to see: hence, the meaning that *ní* exhibits in *ápa ní √lī-* ‘hide oneself, disappear completely’ (cf. *ní √lī-* ‘hide oneself, conceal oneself from (+ABL)').

The preverb *pári* also shows very interesting semantic developments. Its basic usage is instantiated in the composite *pári prá √dhanv-* ‘flow forth **around**’, in which the Goal-preverb *pári* ‘around’ and the Path-preverb *prá* ‘forth’ are added to the manner of motion verb *√dhanv-* ‘flow, move rapidly’. It also conveys a telic nuance of meaning in *á pári √vyṛ-* (lit.) ‘to_around_cover’ → ‘surround with’: surrounding means totally covering around a certain entity (the telic reading is probably triggered by the overlap of the semantics of *pári* ‘around’ with the meaning of the verbal root *√vyṛ-* ‘cover’; cf. Section 6.2 and Chapter 5 on the so-called Vey-Schooneveld effect). Another composite, that is, *antár pári √vyā-* ‘hide in’ demonstrates that *ní* ‘down, in, into’ is not the only preverb associated to the notion of lack of visibility. The preverb *pári* also carries this semantic contribution, via the metaphorical shift that can be schematized as follows: AROUND > ALL AROUND > COVERING > LACK OF VISIBILITY (cf. Section 4.1). Lastly, *pári* can indicate the Source of movement, as in *pári sám √hā₂-* ‘rise up from’. However, this meaning is tied to the simultaneous occurrence of a noun phrase in the ablative case (cf. (47); see also Sections 1.2.7 and 5.2 on the still widespread concrete usages of Vedic adpositionless cases).

As already remarked in Section 4.1, the preverb *ví* can probably be traced back to the PIE adverb **duis* ‘in two’ (cf. Lubotsky 1994: 202 ff.; Kulikov 2007: 723; *contra*

EWAia II: 550). Accordingly, it can indicate an activity oriented toward (two) different Goals, as in *ví prá* \sqrt{i} - ‘go forth in different directions, disperse, spread out’ (in exterior position), or a Source from different directions, as in *abhí ví* \sqrt{i} - ‘come toward from different parts’ (in interior position). From this basic meaning, the notion of covering can be easily derived via the following shift: ‘in two directions’ > ‘in all directions’, as happens in *ví prá* \sqrt{s} - ‘spread’ (cf. Gr. *amphí* ‘on both sides’ > ‘on all sides’ > ‘around’; Luraghi 2003: 256; Chapter 4). The meaning of ‘through’, instantiated in *ví á* \sqrt{s} - ‘run through’, is also connected to the basic meaning: the way ‘through’ is the shortest way connecting Goal₁ and Goal₂ (cf. Zanchi 2017). Moreover, the preverb *ví* indicates division or separation, as in *ví á* \sqrt{k} - ‘divide, separate from’: ‘in two directions’ > ‘in two *different* directions’. Its usage as a Source-preverb (cf. *adhí ví* \sqrt{k} *sar*- ‘pour out, flow out’) is linked to the generic meaning of separation just outlined. Separation and division can also result in distinction, which is another possible semantic development of *ví*, exemplified in *á ví* \sqrt{vid} - ‘know by distinguishing’. Moving from the spatial to the temporal plane, i.e. ‘in two directions’ > ‘in two times’ (cf. fn. 35), one easily gets to the meaning of ‘again’, as in the composite *ví párá* \sqrt{i} - ‘go back again’. Both this temporal meaning and its Source usage contribute to explaining the very widespread reversative employment of *ví*. This use is instantiated in the polysemous composite *ví á* \sqrt{k} -, which can also mean ‘undo’ (some of the meanings just outlined are also discussed in Kulikov 2007).

Obviously, as preverbs are polysemous morphemes, their combinations are also polysemous. For example, *abhí+prá* shows different meanings if combined with motion verbs, such as \sqrt{i} - ‘walk, go’, or with communication verbs, such as \sqrt{arc} - ‘sing’ or $\sqrt{nnū}$ - ‘roar, yell’. With \sqrt{i} -, the preverbs indicate Goal+Path, whereas with \sqrt{arc} - and $\sqrt{nnū}$ - the EP introduces the Addressee of singing, the IP means ‘loudly’ (cf. (44)). With another communication verb, i.e. $\sqrt{gā_2}$ - (*gai*-) ‘sing’, the same combination shows a different meaning, as the IP expresses ingressivity (cf. (48)). With $\sqrt{cakṣ}$ - ‘shine, see, appear’, *abhí* points to the entity that is seen (Stimulus), whereas *prá* to the fictive Path of the eye directed toward that certain Stimulus. Together, these elements make up the composite *abhí prá* $\sqrt{cakṣ}$ - ‘look at, see’. All in all, what these data clearly suggest is that each preverb independently develops a range of meanings, and that these meanings contribute to the

formation of multiple preverb composites as independent units. There do not seem to be specific meanings associated to specific combinations of preverbs.

4.3. *Different degrees of compositionality*

It is not always easy to assess the degree of compositionality of Vedic composites. To begin with, multiple preverb composites can show different meanings in different contexts, which can also exhibit various degree of compositionality. Among such polysemous composites are the following ones: *ví prá √i-* ‘go forth in different directions (compositional), disperse, spread out (non-compositional)’; *sám á √kṛ-* ‘bring together, gather (compositional), prepare (non-compositional)’; *abhí sám √car-* ‘go together to (compositional), seek for (non-compositional) (cf. examples (49)a-b)’; *upá á √car-* ‘come near to (compositional), attend upon (non-compositional)’; *á ní √sad-* ‘sit down on, cause to sit down, establish (non-compositional)’.

(49) a. Compositional *abhí sám √car-* ‘go together to’

samānām vatsām abhí saṃ-cāranī
 same.ACC calf.ACC to with-go.PRS.3PL

‘They go together to (their) common calf.’ (ṚV 1.146.3a)

b. Non-compositional *abhí sám √car* ‘seek for’

anyāsya cittām abhí saṃcarēṇiyam
 another.GEN thinking.ACC to seek_for.PTCP.FUT.ACC.PASS

‘(We must) seek for another’s thought.’ (ṚV 1.170.1c)

In addition, though a certain composite results in a non-compositional formation, it might be the case that the semantic contribution brought about by each of its parts is still traceable (certainly by the linguist, and possibly by the speaker as well). For example, this is the case with *anú ví √sthā-* (lit.) ‘along_in different directions _stay’ → ‘extend over’ and *āti prá √sy-* (lit.) ‘beyond_forth_run’ → ‘outstrip, surpass’. Lastly, the semantic contribution of certain preverbs, though detectable, is redundant. A good example for that is

Table 13. Vedic partially compositional composites

COMPOSITE	MEANING
<i>ápa pára</i> √i-	go off
<i>abhí á</i> √i-	come to, approach
<i>á nis</i> √i-	go off, depart
<i>nís á</i> √i-	go off, depart
<i>pári á</i> √i-	circulate
<i>ví prá</i> √i-	go forth in different directions, disperse, spread out
<i>ní á</i> √īr-	set someone down
<i>sám á</i> √īr-	put together, create
<i>sám á</i> √kṛ-	bring together, gather, prepare
<i>ví á</i> √kṛ-	undo, sever, divide, separate from
<i>adhí ví</i> √kṣar-	pour out, flow out
<i>ádhi sám</i> √gam-	go up to, approach together
<i>úpa á</i> √gam-	come near, come to
<i>abhí á</i> √gā-	approach, come to
<i>ánu sám</i> √car-	walk alongside, visit, seek after
<i>abhí á</i> √car-	come up, approach
<i>abhí sám</i> √car-	go together to, seek for
<i>úd á</i> √car-	rise out of
<i>úpa á</i> √car-	come near to, attend upon
<i>práti á</i> √tan-	extend in the direction of, shine upon/against
<i>abhí á</i> √tī-	pass through to, come up to
<i>abhí á</i> √diś-	aim at (in hostile manner)
<i>á nis</i> √duh-	create out of
<i>abhí prá</i> √dī-	put forth by bursting or opening
<i>adhí sám</i> √dhā-	store up
<i>antár ví</i> √bhā-	shine in different directions between
<i>ánu prá</i> √muc-	let loose successively
<i>abhí prá</i> √mṛś-	seize, grasp
<i>prá abhí</i> √mṛś-	seize, grasp
<i>áti á</i> √yā-	drive by
<i>úpa á</i> √yā-	come near, approach
<i>prá á</i> √yā-	come near, approach
<i>ánu sám</i> √rabh-	take hold of
<i>abhí sám</i> √rabh-	take hold of
<i>ánu á</i> √labh-	lay hold of grasp, handle, take in the hand
<i>ánu prá</i> √vah-	go, get forward
<i>abhí á</i> √van-	strive, seek to win
<i>á pári</i> √vṛ-	surround with
<i>ápa á</i> √vṛj-	wipe out, bring away
<i>abhí á</i> √vṛt-	roll toward, hurry toward
<i>pári á</i> √vṛt-	turn round, turn away from, return to
<i>práti á</i> √vṛt-	turn against
<i>sám á</i> √vṛt-	turn back, come back, return
<i>áti prá</i> √vṛdh-	outgrow
<i>antár pári</i> √vyā-	hide in
<i>abhí prá</i> √sad-	sit down, settle along
<i>á ní</i> √sad-	sit down on, cause to sit down, establish
<i>ví á</i> √sṛ-	run through
<i>ánu ví</i> √sthā-	extend over
<i>ábhi ví</i> √spāś-	look at, view, look hither
<i>pári sám</i> √hā ₂ -	rise up from

antár pári √vyā- (lit.) ‘between_around_cover’ > ‘hide in’, in which the meaning of covering (√vyā-) partly subsumes the semantic contribution brought about by the IP *pári* ‘round about, around’ (cf. Section 4.2).

I also considered as partially compositional all composites in which one element at least retains a detectable meaning – be it the EP, the IP, or the verbal root. The partially compositional composites are displayed in Table 13. All composites that escape a clear-cut categorization are classified as ‘partially compositional’. Not surprisingly, about a half of Vedic composites (51 out of 116) belong to this group.

As anticipated above in this section, a number of partially compositional composites show redundancy of some kind. Either the meanings of the preverbs overlap with each other (cf. (39) above, (50)); or the meaning of one of the preverbs, usually the IP, shows semantic solidarity with that of the verbal stem to which it attaches (51).

(50) Composites containing preverbs with overlapping meanings

- a. *abhí ā* √i- ‘come to, approach’ (Goal+Goal)
- b. *ánu prá* √vah- ‘go, get forward’ (Path+Path)

(51) Composites containing a redundant preverb

- a. *ví prá* √i- ‘go forth in different directions, disperse, spread out’
- b. ***abhí ā*** √dis- ‘aim at (in hostile manner)’
- c. *ā nís* √duh- ‘create out of’
- d. *antár ví* √bhā- ‘shine in different directions between’
- e. *ánu sám* √rabh- ‘take hold of’
- f. *ā pári* √vy- ‘surround with’
- g. *ā ní* √sad- ‘sit down on, cause to sit down, establish’

In (51)a, the act of going (√i-) implies a Path (*prá* ‘forward, onward, forth, fore-‘). The root of the composite in (51)b, √dis- ‘point out’, is *per se* Goal-oriented, and the composite further contains two Goal-preverbs. By contrast, the root in (51)c, √duh- ‘milk, extract’, is Source-oriented, and is combined with a Source-preverb, i.e. *nís* ‘out, forth’. In (51)d, √bhā- ‘shine, be bright’ already implies the idea of emission and diffusion, reinforced by the addition of *ví* ‘in two directions > in all directions’ (cf. Section 4.2). In (51)e, the concept of togetherness, expressed by *sám* ‘with, together’, is subsumed by √rabh- ‘grasp’. The notion of covering expressed by √vy- ‘cover’ comprises the meaning of *pári* ‘round

about, all around’(51)f. In (51)g, the downward direction (*nī*) is likewise implicit in the act of sitting ($\sqrt{\text{sad-}}$).

Non-compositionality does not always originate from the redundancy: in many composites, the meaning of the IP is bleached, which also results in partial compositionality. Cases in point are *sám ā* $\sqrt{\text{īr-}}$ ‘put together, create’ and *sám ā* $\sqrt{\text{kṛ-}}$ ‘bring together, gather, prepare’, in which only the meaning of togetherness provided by the EP is still detectable, whereas the IP *ā* is bleached (on the tendency of *ā* to undergo semantic bleaching, cf. Section 2.3). Other examples containing *ā* are the composites *pári ā* $\sqrt{\text{i-}}$ ‘circulate’ and *prāti ā* $\sqrt{\text{tan-}}$ ‘extend in the direction of, shine upon/against’, in which only the EP *pári* ‘round about, around’ and *prāti* ‘in reversed direction, back to, against, in return’ retain fully detectable meanings. The same can be also said for the many multiple preverb composites built on *ā* $\sqrt{\text{vṛt-}}$ ‘turn near, turn toward’, such as those exemplified in (52):³⁸

$$(52) \quad \begin{array}{l} \sqrt{\text{vṛt-}} \\ \text{‘turn’} \end{array} \quad \rightarrow \quad \begin{array}{l} \dot{\text{ā}} \sqrt{\text{vṛt-}} \\ \text{‘turn near, toward’} \end{array} \quad \rightarrow \quad \left\{ \begin{array}{l} \textit{abhī} \dot{\text{ā}} \sqrt{\text{vṛt-}} \text{ ‘roll toward’} \\ \textit{pári} \dot{\text{ā}} \sqrt{\text{vṛt-}} \text{ ‘turn round’} \\ \textit{prāti} \dot{\text{ā}} \sqrt{\text{vṛt-}} \text{ ‘turn against’} \end{array} \right.$$

A similar process of accretion as in (52) also lies behind the composite *āpa ā* $\sqrt{\text{vṛj-}}$ ‘wipe out, bring away’: the base verb $\sqrt{\text{vṛj-}}$ means ‘bend, turn, divert’. If combined only with *ā*, which expresses speaker’s vicinity, it comes to acquire the meaning of ‘bring in the possession of’: the IP defines the orientation of the motion expressed by $\sqrt{\text{vṛj-}}$. The further addition of *āpa* then reverses such an orientation, resulting in ‘wipe out, bring away’.

The composites that I regarded as fully compositional and as non-compositional are displayed in Table 14 and in Table 15, respectively: these two groups include 37 and 26 verbs, respectively. As one may expect, fully compositional composites (Table 14) contain motion, manner of motion, caused motion and location verbs ($\sqrt{\text{i-}}$ ‘walk, go’, $\sqrt{\text{īr-}}$ ‘go, move’, $\sqrt{\text{gā-}}$ ‘go to’, $\sqrt{\text{car-}}$ ‘go walk’, $\sqrt{\text{dru-}}$ ‘run’, $\sqrt{\text{dhanv-}}$ ‘cause to run’, $\sqrt{\text{pad-}}$ ‘fall’,

³⁸ Unless underwise specified, verbs in (52) should be understood as intransitive: *ā* $\sqrt{\text{vṛt-}}$ and *pári ā* $\sqrt{\text{vṛt-}}$ can be also used transitively, whereas *ā* $\sqrt{\text{vṛt-}}$, *pári ā* $\sqrt{\text{vṛt-}}$ and *prāti ā* $\sqrt{\text{vṛt-}}$ also occur in the causative stem.

√*bhṛ*- ‘bear’, √*yā*- ‘go, move’, √*vṛt*- ‘turn’, √*syand*- ‘move, flow on rapidly’), as well as verbs that can be assimilated to them, such as communication verbs (√*gā*₂- ‘sing’, √*śṛdh*- ‘mock at’), verbs of emission (√*arc*- ‘shine, sing’, √*nū*- ‘sound’), transfer verbs (√*dā*- ‘give’), verbs of putting/taking (√*dhā*- ‘put’), and verbs of holding/keeping (√*yam*- ‘hold, sustain’) (cf. Section 2.2).

Table 14. Vedic fully compositional composites

COMPOSITE	MEANING
<i>abhí prá</i> √ <i>arc</i> -	sing loudly of
<i>áchā párá</i> √ <i>i</i> -	go away toward
<i>ánu áva</i> √ <i>i</i> -	go down after, follow
<i>ánu párá</i> √ <i>i</i> -	go away after
<i>ánu prá</i> √ <i>i</i> -	go after, follow
<i>abhí prá</i> √ <i>i</i> -	go near to, approach
<i>abhí sám</i> √ <i>i</i> -	approach together, come together at
<i>abhí ví</i> √ <i>i</i> -	come toward from different parts
<i>á áva</i> √ <i>i</i> -	rush down upon
<i>úpa prá</i> √ <i>i</i> -	march on, go toward
<i>pári prá</i> √ <i>i</i> -	run through on all sides
<i>práti úd</i> √ <i>i</i> -	rise and go toward
<i>sám á</i> √ <i>i</i> -	come together, approach together, meet at/in/with
<i>ví párá</i> √ <i>i</i> -	go back again
<i>sám prá</i> √ <i>ir</i> -	come forth together
<i>úpa prá</i> √ <i>gā</i> -	step near to, proceed to
<i>abhí prá</i> √ <i>gā</i> ₂ - (√ <i>gai</i> -)	encourage to start singing about, begin to praise
<i>abhí úd</i> √ <i>car</i> -	rise over
<i>ádhi á</i> √ <i>dā</i> -	take away from above
<i>á prá</i> √ <i>dru</i> -	run forth here
<i>pári prá</i> √ <i>dhanv</i> -	flow forth around
<i>antár á</i> √ <i>dhā</i> -	receive into, contain
<i>ánu á</i> √ <i>nū</i> -	sound here through
<i>abhí prá</i> √ <i>nū</i> -	praise highly to
<i>abhí sám</i> √ <i>nū</i> -	rejoice together at
<i>úpa ní</i> √ <i>pad</i> -	lie down beside
<i>abhí prá</i> √ <i>bhṛ</i> -	bring forth to, offer to
<i>pári á</i> √ <i>bhṛ</i> -	carry near, fetch from
<i>sám prá</i> √ <i>yam</i> -	offer together/mutually, give to
<i>ábhi sám</i> √ <i>yā</i> -	visit, approach to
<i>úpa prá</i> √ <i>yā</i> -	proceed toward
<i>pári prá</i> √ <i>yā</i> -	go forth around
<i>práti prá</i> √ <i>yā</i> -	go back, return
<i>ánu á</i> √ <i>vṛt</i> -	roll near along
<i>ánu prá</i> √ <i>vṛt</i> -	proceed along/after
<i>pári prá</i> √ <i>syand</i> -	gush around, flow forth or round
<i>áti prá</i> √ <i>śṛdh</i> -	bring in front of in excess

Table 15. Vedic non-compositional composites

COMPOSITE	MEANING
<i>ní ā</i> √ <i>kṛ</i> -	hold back
<i>áva ā</i> √ <i>gam</i> -	undertake, begin
<i>abhi prá</i> √ <i>cakṣ</i> -	see
<i>úpa prá</i> √ <i>jin</i> v-	please or gratify in approaching
<i>ánu prá</i> √ <i>jñā</i> -	trace, discover
<i>áti nís</i> √ <i>tan</i> -	penetrate with rays
<i>abhí ā</i> √ <i>tap</i> -	torment, pain
<i>abhí sám</i> √ <i>dhā</i> -	compose the mind at
<i>ánu ā</i> √ <i>phaṅ</i> -	jump
<i>ánu prá</i> √ <i>bhū</i> -	spread over
<i>abhí prá</i> √ <i>bhū</i> -	assist, help
<i>abhí sám</i> √ <i>bhū</i> -	enter, reach, come to
<i>ánu prá</i> √ <i>bhū</i> s-	serve
<i>abhí prá</i> √ <i>mand</i> -	feverishly await, confuse, infatuate
<i>ánu prá</i> √ <i>yaj</i> -	win for oneself
<i>abhí ā</i> √ <i>yam</i> -	aim at
<i>sám ā</i> √ <i>yam</i> -	draw, pull, stretch
<i>ápa ní</i> √ <i>lī</i> -	hide oneself, disappear completely
<i>ánu prá</i> √ <i>vid</i> -	understand backward and forward
<i>ā ví</i> √ <i>vid</i> -	know by distinguishing
<i>úpa prá</i> √ <i>vid</i> -	understand
<i>áti prá</i> √ <i>sr</i> -	outstrip, surpass
<i>ví prá</i> √ <i>sr</i> -	spread
<i>úpa áva</i> √ <i>srj</i> -	reach over, give, bestow
<i>ábhi prá</i> √ <i>sthā</i> -	advance toward, reach, surpass
<i>abhí prá</i> √ <i>han</i> -	overpower

The group of non-compositional composites (Table 15) includes the following sub-groups: (a) motion or location verbs that develop non-spatial meanings in combination with preverbs; (b) verbal roots that cannot be assimilated to motion or location verbs (√*vid*- ‘know’ and √*jñā*- ‘know’). A good example for the group (a) is *áva ā* √*gam*-, which literally means ‘down_to_go’, but actually comes to mean ‘under-take, begin’. The outcome of the root √*dhā*- ‘put’ in combination with *abhí* ‘to, unto, against’ and *sám* ‘along, with, together’ is also interesting: the composite *abhí sám*√*dhā*- means (lit.) ‘put (the mind) together to’ → ‘acknowledge unanimously’. Another instructive example is *abhí ā* √*yam*-: in this composite, the Goal-preverbs cause the stative verb √*yam*- ‘hold’ to acquire directional nuances. The composite *abhí ā* √*yam*- means ‘aim at’, i.e. indicates a mental metaphorical motion toward a LM. Something similar can also be observed in *ábhi prá* √*sthā*- ‘advance toward, reach, surpass’, whereby the stative root √*sthā*- ‘stand’ comes to indicate motion in combination with a Goal- (*ábhi*) and a Path-preverb (*prá*) (on the

ability of Vedic preverbs to provide stative roots with dynamic nuances of meaning, cf. also Danesi 2009).

Group (b) includes mental verbs, to which preverbs add the traits of intensification or telicity. For example, the root $\sqrt{mand-}$ means ‘rejoice’; if compounded with $\acute{a}bhi$ ‘to, unto, against’ and $prá$ ‘forward, onward, forth, fore-’, it indicates the activity of feverishly awaiting (intran.) or infatuating (tran.). In both cases, the exact semantic contributions of the preverbs are difficult to trace. With stative verbs of knowing, such as $\sqrt{jñā-}$ and $\sqrt{vid-}$, preverbs also have the effect of adding dynamic nuances: $\acute{a}nu$ and $prá$, two Path-preverbs, result in the meaning of tracing or discovering in combination with $\sqrt{jñā-}$. The events of tracing and discovering are possibly regarded as the acts of knowing after covering a metaphorical Path toward knowledge. The root $\sqrt{vid-}$ instead is found in various composites, among which $\acute{a}nu prá \sqrt{vid-}$, which means ‘understand backward and forward’, i.e. ‘understand completely’. A last interesting example is $\acute{a}pa ní \sqrt{lī-}$ ‘hide oneself, disappear completely’. The root *per se* means ‘dissolve, melt, disappear’. It combines with $ní$ ‘down, in, into’, possibly bringing about the idea of dissolving down and eventually of lacking visibility (cf. Section 4.2); then, the EP $\acute{a}pa$ modifies the whole composite, by adding the actional meaning of completion (cf. example (46)).

4.4. *Summarizing the meanings of preverbs in multiple preverb combinations*

Table 16 displays the meanings of Vedic multiple preverbs. Each meaning is exemplified at least by a composite. Many semantic developments have been discussed in Sections 4.1, 4.2, and 4.3; those that have been overlooked either for reasons of space, or because they are assumed to be immediately clear, are also included in Table 16.

Table 16. The meanings of Vedic preverbs in multiple preverb combinations

<i>Preverb</i>	<i>Meaning</i>	<i>Example</i>
<i>āti</i>	beyond	<i>āti ā</i> √ <i>yā</i> - ‘drive by’
	over (diffusion) over (excess)	<i>āti nis</i> √ <i>tan</i> - ‘penetrate with rays’ <i>āti prá</i> √ <i>vṛdh</i> - ‘outgrow’
<i>ádhi</i>	up	<i>ádhi sám</i> √ <i>gam</i> - ‘go up to, approach together’
	for (Beneficiary) from above	<i>ádhi ní</i> √ <i>dhā</i> - ‘deposit for’ <i>ádhi ā</i> √ <i>dā</i> - ‘take away from above’
<i>ánu</i>	after	<i>ánu párá</i> √ <i>i</i> - ‘go away after’
	along (Path)	<i>ánu ā</i> √ <i>vṛt</i> - ‘roll near along’
	along/over (covering)	<i>ánu prá</i> √ <i>bhū</i> - ‘spread over’
	over (Beneficiary)	<i>ánu prá</i> √ <i>bhūṣ</i> - ‘serve’
	agreement (concede a point) resultative	<i>ánu prá</i> √ <i>jñā</i> - ‘trace, discover’ <i>ánu prá</i> √ <i>yaj</i> - ‘win for oneself’
<i>antár</i>	between	<i>antár vi</i> √ <i>bhā</i> - ‘shine in different directions between’
	inside	<i>antár pári</i> √ <i>vyā</i> - ‘hide in’
<i>ápa</i>	away	<i>ápa ā</i> √ <i>vṛj</i> - ‘wipe out, bring away’
	off	<i>ápa párá</i> √ <i>i</i> - ‘go off’
	away+telic	<i>ápa ní</i> √ <i>lī</i> - ‘hide oneself, disappear completely’
<i>abhi</i>	to (Goal)	<i>abhi ā</i> √ <i>i</i> - ‘come to, approach’
	to (Addressee)	<i>abhi prá</i> √ <i>arc</i> - ‘sing loudly of’
	to (Stimulus)	<i>abhi prá</i> √ <i>cakṣ</i> - ‘see’
	to (Maleficiary)	<i>abhi ā</i> √ <i>tap</i> - ‘torment, pain’
	to (Beneficiary)	<i>abhi prá</i> √ <i>bhū</i> - ‘assist, help’
	to (Recipient)	<i>abhi prá</i> √ <i>bhṛ</i> - ‘bring forth to, offer to’
	to (Purpose)	<i>abhi sám</i> √ <i>dhā</i> - ‘compose the mind at’
	against over intensive	<i>prá abhi</i> √ <i>mṛś</i> - ‘attack, tackle’ <i>abhi úd</i> √ <i>car</i> - ‘rise over’ <i>abhi prá</i> √ <i>han</i> - ‘overpower’
<i>áchā</i>	toward	<i>áchā párá</i> √ <i>i</i> - ‘go away toward’
<i>áva</i>	downward	<i>ā áva</i> √ <i>i</i> - ‘rush down upon’
	off	<i>úpa áva</i> √ <i>srj</i> - ‘reach over, give, bestow’
	ingressive	<i>áva ā</i> √ <i>gam</i> - ‘undertake, begin’
<i>ā</i>	Goal	<i>ā áva</i> √ <i>i</i> - ‘rush down upon’
	here (subject’s vicinity)	<i>ā prá</i> √ <i>dru</i> - ‘run forth here’
	subject’s interest _(+MID)	<i>sám ā</i> √ <i>i</i> - ‘come together, approach together’
	to	<i>ā nis</i> √ <i>duh</i> - ‘create out of’
	back	<i>ā pári</i> √ <i>vṛ</i> - ‘surround with’
	reversative	<i>sám ā</i> √ <i>vṛt</i> - ‘turn back, come back, return’
	intensity	<i>ádhi ā</i> √ <i>dā</i> - ‘take away from above’
	telic	<i>ā vi</i> √ <i>vid</i> - ‘know by distinguishing’ <i>ní ā</i> √ <i>īr</i> - ‘set someone down’
<i>úd</i>	upward	<i>práti úd</i> √ <i>i</i> - ‘rise and go toward’
	upward+out of _(+ABL)	<i>úd ā</i> √ <i>car</i> - ‘rise out of’
<i>úpa</i>	toward	<i>úpa prá</i> √ <i>i</i> - ‘march on, go toward’
	beside (Location)	<i>úpa ní</i> √ <i>pad</i> - ‘lie down beside’
	beside (Goal)	<i>úpa ā</i> √ <i>car</i> - ‘come near to, attend upon’
	under- (as in <i>under</i> -stand)	<i>úpa prá</i> √ <i>vid</i> - ‘understand’
	telic	<i>úpa áva</i> √ <i>srj</i> - ‘reach over, give, bestow’
<i>ní</i>	downward	<i>ní ā</i> √ <i>īr</i> - ‘set someone down’ <i>ā ní</i> √ <i>sad</i> - ‘sit down on, cause to sit down, establish’
	down as lacking control	<i>ní ā</i> √ <i>kr</i> - ‘hold back’
	down (lacking visibility)	<i>ápa ní</i> √ <i>lī</i> - ‘hide oneself, disappear completely’

<i>nís</i>	away/forth	<i>nís á</i> √i- ‘go off, depart’
	out of (creation)	<i>á nís</i> √duh- ‘create out of’
	division	<i>áti nís</i> √tan- ‘penetrate with rays’
<i>pārā</i>	away	<i>áchā pārā</i> √i- ‘go away toward’
	back	<i>ví pārā</i> √i- ‘go back again’
<i>pári</i>	around	<i>pári prá</i> √dhanv- ‘flow forth around’
	around+telic	<i>á pári</i> √vy- ‘surround with’
	lack of visibility/imprisonment	<i>antár pári</i> √vyā- ‘hide in’
	from (+ABL)	<i>pári sám</i> √hā ₂ - ‘rise up from’
<i>prá</i>	forth, forward (Path)	<i>abhí prá</i> √i- ‘go near to, approach’
	metaphorical Path	<i>áti prá</i> √vṛdh- ‘outgrow’
	openly, loudly	<i>abhí prá</i> √arc- ‘sing loudly of’
	before (be pre-posed)	<i>abhí prá</i> √bhū- ‘assist, help’
	in front of	<i>áti prá</i> √śydh- ‘bring in front of in excess’
	in front of (Beneficiary)	<i>ánu prá</i> √yaj- ‘win for oneself’
	ingressive	<i>abhí prá</i> √gā ₂ - (√gai-) ‘begin to praise’
	intensive	<i>abhí prá</i> √mand- ‘feverishly await, confuse, infatuate’
	telic	<i>abhí prá</i> √han- ‘overpower’
<i>práti</i>	toward	<i>práti úd</i> √i- ‘rise and go toward’
	against	<i>práti á</i> √tan- ‘shine upon/against’
	back, again (returning activity)	<i>práti prá</i> √yā- ‘go back, return’
<i>ví</i>	toward different directions	<i>ví prá</i> √i- ‘go forth in different directions’
	from different directions	<i>abhí ví</i> √i- ‘come toward from different parts’
	covering	<i>ví prá</i> √sṛ- ‘spread’
	through	<i>ví á</i> √sṛ- ‘run through/over’
	division (pseudoreversative)	<i>ví á</i> √kṛ- ‘undo, sever, divide, separate from’
	out	<i>adhí ví</i> √kṣar- ‘pour out, flow out’
	precisely (in distinguishing)	<i>á ví</i> √vid- ‘know by distinguishing’
again (in two times)	<i>ví pārā</i> √i- ‘go back again’	
<i>sám</i>	with (Comitative)	<i>abhí sám</i> √i- ‘approach together, come together at’
	vicinity	<i>ábhi sám</i> √yā- ‘visit, approach to’
	mutually	<i>sám prá</i> √yam- ‘offer together/mutually, give to’
	intensive	<i>pári sám</i> √hā ₂ - ‘rise up from’
	telic	<i>sám á</i> √vṛt- ‘turn back, come back, return’

5. The syntax of multiple preverbs

5.1. Moveable preverbs

As remarked in Section 1.2, Vedic preverbs are not morphologically bound to the verb. On the contrary, on account of syntactic or pragmatic reasons, preverbs can be displaced from the immediate preverbal position, that is, the unmarked position for preverbs with verbal orientation.

Tmesis is very widespread in Vedic, and does not affect the semantic behavior of preverbs, to such an extent that dictionaries, such as Grassmann's (1936[1873]), even lemmatize those composites, so to say, in which two preverbs never occur in immediate preverbal position (in other words, those composites for which the sequence #P_P_V# is never attested in the *Ṛg-Veda*). For example, putative composites of this type are listed under the root \sqrt{i} - 'walk, go'. Along with the combinations included in my sample, which feature the order #P_P_V#, Grassmann states that \sqrt{i} - can be modified by the following multiple preverbs (after each composite, the attested preverb ordering is presented):

- | | | |
|------|--|-----------------------------------|
| (53) | a. <i>abhí ní</i> \sqrt{i} - 'come up, have sexual intercourse with' | #P...P_V# |
| | b. <i>abhí úd</i> \sqrt{i} - 'rise over' | #P_V...P# |
| | c. <i>abhí úpa</i> \sqrt{i} - 'come closer to' | #P_V...P# |
| | d. <i>ápa prá</i> \sqrt{i} - 'pass over, distance oneself from' | #P...P_V# |
| | e. <i>prá áti</i> \sqrt{i} - 'march past' | #P...P_V#, #P...P_V#, #P...P...V# |
| | f. <i>sám abhí</i> \sqrt{i} - 'come near to' | #P...P_V# |
| | g. <i>sám prá</i> \sqrt{i} - 'get ahead together' | #P...P_V# |
| | h. <i>úd á</i> \sqrt{i} - 'come out, come upstairs' | #P...P...V# |
| | i. <i>úpa á</i> \sqrt{i} - 'come up, come close to, try to gain' | #P...P_V#, #P...P...V# |

Among composites in (53)a-i, the verb in (53)i is interesting, as it develops the non-compositional meaning of 'try to gain', besides retaining its basic use of 'come up, come close to'. As shown in (54), *úpa á* \sqrt{i} - develops a non-compositional meaning even though the EP *úpa* 'to, unto, toward' is displaced from the rest of the composite. Exceptionally, in (54), tmesis is possible even with a non-finite verbal form (cf. Section 1.2.5).

- | | | | | | |
|------|--|----------------|------------|----------------|-------------------|
| (54) | <i>índur</i> | <i>devānām</i> | <i>úpa</i> | <i>sakhyám</i> | <i>ā-yán</i> |
| | I.NOM | god.GEN.PL | to | friendship.ACC | P-go.PTCP.PRS.NOM |
| | 'The drop, trying to gain the friendship of the gods,...' (ṚV 9.97.5a) | | | | |

For a number of occurrences with composites of (53)a-i, it is difficult to determine whether a displaced preverb has nominal or verbal orientation. One such occurrence is exemplified in (55), containing the composite *ápa prá* \sqrt{i} - 'pass over, distance oneself from' (cf. (53)d):

What is evident is that it is the concrete value of cases that imposes an orientation to the motion event.

(60) \sqrt{i} - ‘go, walk’ +ACC

kaníyeva [*kanyà iva*] *tanúvā* *śáśadānāṃ* *éṣi* *devi*
 girl.NOM like body.INS fall.PTCP.PRF.NOM.F go.PRS.2SG goddess.NOM

devám

god.ACC

‘Like a girl exulting in her body, you go, o goddess, to the god (who seeks to attain you [=Sun]).’ (ṚV 1.123.10ab)

(61) \sqrt{i} - +ABL

prayuñjati ***divá*** *eti*
 yoke_to.PTCP.PRS.NOM sky.ABL go.PRS.3SG

‘Hitching up, she goes away from heaven.’ (ṚV 5.47.1a)

The bare root \sqrt{i} - ‘walk, go’ can be combined both with the adpositionless accusative, *devám* (60), and with the adpositionless ablative (61), resulting in the opposite meanings ‘go toward’ and ‘go away’ respectively.

5.3. Vedic preverbs as transitive morphemes

As discussed by Danesi (2009: 249) for single preverbation, Vedic preverbs also seem to function as applicatives (on this terminology, cf. Chapter 2; Austin 1997; Shibatani 2000; Petersen 2007). This transitive function is allegedly connected to their ability of telicizing stative and activity predicates. A case in point is the emission verb $\sqrt{bhā}$ - ‘shine, emit light’, which is intransitive in its absolute usages (62), but can take the accusative in combination with the preverbs *antár* ‘between, among, within’ and *ví* ‘apart, asunder, away, out’ (63).

- (62) *citrábhānur* *uśásām* ***bhāti*** *ágre*
 shining_with_light.NOM dawn.GEN.PL shine.PRS.3SG foremost.LOC
 ‘Shining with light, he shines as the foremost among dawns.’ (RV 7.9.3c)
- (63) *dyāvā-kṣāmā* *rukṃó* ***antár*** ***ví*** *bhāti*
 heaven.DU -earth.ACC.DU golden.NOM between asunder shine.PRS.3SG
 ‘Golden, (he) shines in between the heaven and the earth.’ (RV 1.96.5c = (39))

Thus, one might be inclined to think that the preverbs *antár* and *ví* allow the occurrence of the second argument in the accusative case in (63).

As a matter of fact, however, a number of emission verb roots, including $\sqrt{cakṣ}$ - ‘emit light, shine’ (64) and \sqrt{tap} - ‘give out heat’ (65), do not require a preverb to be employed as telic and transitive predicates. In fact, the addition of an adpositionless directional accusative, such as *áditim dítim ca* ‘Aditi and Diti’ in (64) and *nas* ‘us’ in (65), can also bring about the same effect.

- (64) Transitive $\sqrt{cakṣ}$ - ‘see, look at’ ($\sqrt{cakṣ}$ - ‘emit light, shine’)
átaś *caḁṣāthe* ***áditim*** ***dítim*** *ca*
 from_this shine.PRS.2DU A.ACC D.ACC and
 ‘And from that place, (O Varuna and Mitra,) emit light toward Aditi and Diti.’
 (RV 5.62.8d)
- (65) Transitive \sqrt{tap} - ‘warm up’ (\sqrt{tap} - ‘give out heat’)
śám *agnír* *agníbhiḁ* *karac* *cháṃ* ***nas***
 auspiciously A.NOM fire.INS.PL do.INJ.3SG auspiciously 1PL.ACC
tapatu *sūriyah*
 give_out_heat.IMP.3SG S.NOM
 ‘May Agni behave auspiciously with his fires, and Surya warm us up pleasantly.’
 (RV 8.18.9ab)

Moreover, similarly to what observed for $\sqrt{bhā}$ - ‘shine, emit light’ in (63)–(64), there exist composites containing roots of location or motion verbs, in which preverbs seem

to centralize the Goal- and the Path-participants (i.e. they seem to function as applicatives). In (66), *áti á* √yā- ‘drive by’ takes the Goal-accusative *śásvato[ah]* ‘every’; in (67), *áti prá* √sr- ‘outstrip, surpass’ takes the Path-accusative *jánima* ‘generation’.

(66) Transitive *áti á* √yā- ‘drive by’ (√yā- ‘go, move, drive’)

<i>atiáyāhi</i>	<i>śásvato</i>	<i>vayám</i>	<i>te</i>	<i>áram</i>
pass_by.IMP.2SG	every.ACC.PL	1PL.NOM	2SG.DAT	properly
<i>sutébhiḥ</i>		<i>kṛṇavāma</i>		<i>sómaiḥ</i>
press_out.PTCP.PST.INS.PL.PASS		do.SBJV.PRS.1PL		S.INS.PL

‘Drive beyond them, each and every one. We will prepare properly for you with pressed soma drinks.’ (ṚV 3.35.5cd)

(67) Transitive *áti prá* √sr- ‘outstrip, surpass’ (√sr-)

<i>sá</i>	<i>majmánā</i>	<i>jánima</i>		<i>mānuṣāṇām</i>
DEM.NOM	greatness.INS	generation.ACC		human.GEN.PL
<i>ámartiyena</i>	<i>nāmnāti [nāmnā ati]</i>		<i>prá</i>	<i>sarsre</i>
immortal.INS	name.INS	beyond	forth	run.INTENS.PRF.3SG

‘Through (his) greatness and (his) immortal name he has extended himself over the generations of humans.’ (ṚV 6.18.7ab)

However, in parallel to what outlined above for emission verbs, simplex motion or manner of motion verbs, such as √yā ‘go, move, walk’ and √sr- ‘run’, can also be given an endpoint by adpositionless accusatives. In (68), the two accusatives *ādityān* and *áditim* are the animate Goals of motion. The same role is played by the accusative *súrām* in (69).

(68) *ādityān* *yāmi* *áditim* *duvoyú*
A.ACC.PL go.PRS.1SG A.ACC reverently

‘(To those who care for the stranger, the lords of settlements, undeceivable, the great kings, givers of good dwelling, the youths of good rule ruling over Heaven, the superior men –) to the Ādityas I go and to Aditi, in quest of friendship.’
(ṚV 6.51.4d)

(69) *sūram* *cit* *sasrúṣīr* *īṣaḥ*
 sun.ACC even run.PTCP.PRS.NOM.PL drink.NOM.PL

‘(His are) the refreshing drinks that have run even to the sun.’ (RV 1.86.5c)

However, not all (manner of) motion verbs behave this way: for example, $\sqrt{drā}$ - ‘run’, \sqrt{dru} - ‘run’, and \sqrt{vyt} - ‘roll’ are not attested in combination with the adpositionless accusative of Goal, though \sqrt{vyt} - can instead take an adpositionless locative with the same function.

All in all, the transitivization of an intransitive simplex verb can be caused by any linguistic element able to assign an inherent endpoint to the event – be it a preverb, a multiple preverb combination, or a prepositionless accusative. Moreover, the transitivization of multiple preverb composites frequently seems to be a side-effect of the semantic changes brought about by preverbs: this is the case with the non-compositional transitive composites *abhí prá* $\sqrt{bhū}$ - ‘assist, help’ ($\sqrt{bhū}$ - ‘be, become’), or *abhí á* \sqrt{tap} - ‘torment, pain’ (\sqrt{tap} - ‘give out heat’). The fact that idiomatic semantic changes of the verbal root play a crucial role in the transitivization caused by preverbs is also assessed by Kulikov (2012: 732): all composites containing the putative applicative preverbs *ádhi*, *abhí*, *úpa*, *pári*, *prá*, and *práti* that pass Kulikov’s passivization test show non-compositional meanings (Kulikov 2012: 730 ff.).³⁹

5.4. *Composites taking no second argument*

In passages in which multiple preverb composites take no second argument, preverbs seem to be able to activate in the discourse sphere certain spatial regions and relations, whose specifications (i.e. LMs) are constituted by certain known referents. Such known LMs can be of the following types: (a) referents that are active in the discourse sphere, as they have

³⁹ The only reliable passivization test for Old Indo-Aryan is the ability of a verb to form *-yá-* passives. However, such passives are virtually unattested in early Vedic (i.e. in the *Ṛg-Veda*), and all Kulikov’s examples of these passives come from later stages of the Vedic language.

been mentioned in the previous discourse context (70); (b) referents that are active, as they belong to speakers' encyclopedic knowledge (71).

- (70) a. *ánu prá yanti vṛṣṭáyah*
 after forth go.PRS.3PL rain.NOM.PL
 ‘(Your troop of chariots, the glittering Marut flock of newer), do the rains come following after.’ (ṚV 5.53.10c)
- b. *niraitu jīvó ákṣato*
 go_off.IMP3SG alive.NOM not_crushed.NOM
 ‘(Having lain for ten months within his mother,) let (the boy) come out, alive and unharmed.’ (ṚV 5.78.9c)
- (71) *tuvám hí agne sádám ít samanyávo*
 2SG.ACC for A.VOC always indeed having_the_same_mind.NOM.PL
deváso devám aratím nierirá
 god.NOM.PL god.ACC moving_quicly.ACC set_down.PRF.3PL
íti krátvā nieriré
 thus do.ABS set_down.PRF.3PL
 ‘You, o Agni, the god, did the gods of equal fervor set down for always as the wheel (of the sacrifice) – with such a purpose did they set (you) down.’
 (ṚV 4.1.1abc)

In (70)a, the EP *ánu* ‘after, along, toward’ establishes a reference to the previously mentioned referents (LMs), after which the TR starts its motion, the Maruts. In (70)b, the outward motion is that of a newborn, who abandons his mother’s womb. In (71), instead, the downward motion is Agni’s, whom other gods send downward from heaven to earth.

Thus, preverbs, via referring to certain spatial relations, are consequently able to recall previously mentioned entities (70) or entities belonging to speakers' encyclopedic knowledge (71). In both cases, such entities can be regarded as topical, as they are active in the discourse sphere or can be easily activated. Such an ability of recalling topical entites possibly lies among the reasons why preverbs underwent grammaticalization into actional

markers. The link between topicality, telicity (and eventually perfectivity) is the fact that topical elements are conceptualized as entire in space and complete in time (Viti 2008a, 2008b). A similar discourse-oriented grammaticalization has been previously assumed for Indo-European preverbs, in particular by Friederich (1987: 134), Coleman (1994: 324), and Cuzzolin (1995: 137).⁴⁰

Such a development also has typological parallels: first, the preverbs of Rama (Chibchan, Nicaragua) are said to develop from previous postpositions that start gravitating toward verbs, when null anaphora of the noun phrase occurs (Craig 1991: 468).⁴¹ Second, Severn Ojibwe (Algonquian, Canada) possesses a category of preverbs that are called *relational* by virtue of the fact that they require an antecedent in the previous context (cf. Chapter 2, Section 3.2).

Dunkel (1987), Boley (2004), and Klein (e.g. 2007) also describe preverbs as linguistic elements that fulfill pragmatic functions, by contributing to textual cohesion. This function of preverbs is clear when they are repeated outside the preverbal context, as in example (72), in which the EP of the multiple preverb composite *pári prá* √*dhanv*- ‘flow forth around’ also occurs at the beginning of the subsequent *pāda*.⁴²

- (72) *pári* *ū* *śú* *prá* *dhanva* *vājasātaye*
 around PTC good forth run.IMP.2SG winning_of_a_prize.DAT
pári *vṛtrāṇi* ...
 around V.VOC.PL
 ‘Around and forth run to the winning of the prize, around, O Vṛtras!’
 (RV 9.110.1ab)

⁴⁰ These authors however are inclined to think that Indo-European preverbs underwent grammaticalization from previous postpositions, and not from previous adverbs.

⁴¹ Rama is a language with no morphological cases, which can express SRs. Thus, in Rama, it is quite undisputed that preverbs were postpositions at a preceding stage. This is not the case for Vedic, in which there is virtually no government relation between preverbs (also called adpositions), and noun phrases (cf. Section 1.2.7)

⁴² In (72), the composite *pári prá* √*dhanv*- ‘flow forth around’ is split by two indeclinables, i.e. *ū* and *śú*. The same composite occurs in initial position with no splits in the preceding hymn, RV 9.109.1a.

6. Preverb ordering

A number of preverbs only rarely occur in multiple preverb constructions. For this reason, it is difficult to provide conclusive data on preverb ordering (cf. also Papke 2010: 102 on this issue). In particular, preverbs that occur less than 10 times are the followings: *ádhi* ‘above, over, on, onto’, *áchā* ‘toward’, *antár* ‘between, among, within’, *ápa* ‘away, forth, off’, *áti* ‘across, beyond, past, over’, *áva* ‘down, off’, *ní* ‘down, in, into’, *nís* ‘out, forth’, *pārā* ‘to a distance, away, forth’, *práti* ‘in reversed direction, back to, against, in return’, and *úd* ‘up, up forth or out’. Thus, one must look at Table 17, which summarizes the favourite positioning of Vedic preverbs, with this caveat in mind.

Table 17. The positioning of Vedic preverbs and their frequencies

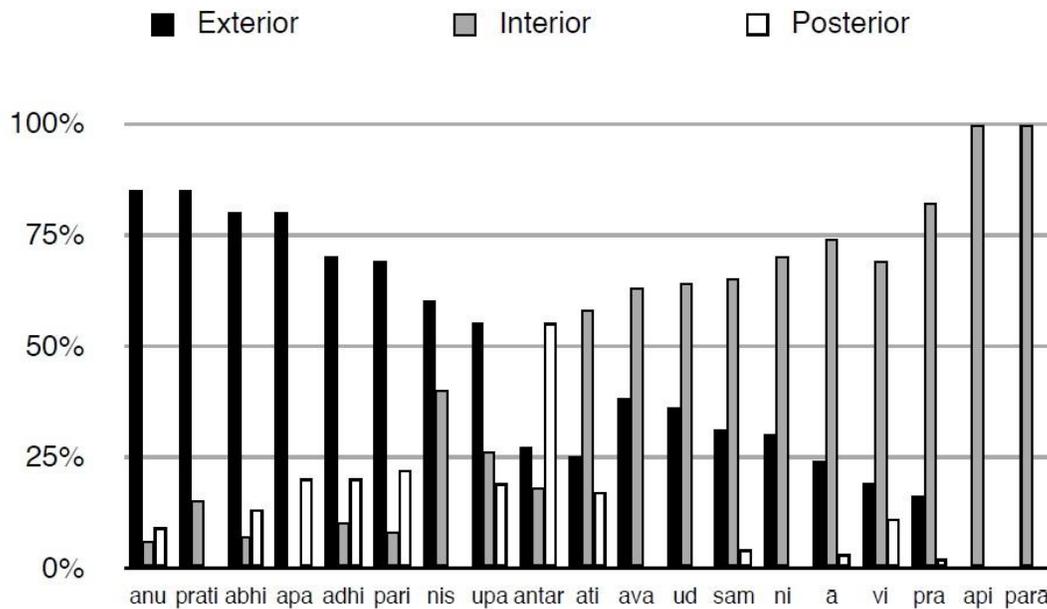
<i>Preverb</i>	<i>Interior</i>	<i>Exterior</i>
<i>áchā</i>	0	1 (100%)
<i>áti</i>	0	5 (100%)
<i>ádhi</i>	1 (20%)	4 (80%)
<i>ánu</i>	0	18 (100%)
<i>antár</i>	0	3 (100%)
<i>ápa</i>	0	3 (100%)
<i>abhí</i>	1 (3%)	32 (97%)
<i>áva</i>	3 (75%)	1 (25%)
<i>á</i>	38 (81%)	9 (19%)
<i>úd</i>	2 (67%)	1 (33%)
<i>úpa</i>	0	10 (100%)
<i>ní</i>	4 (67%)	2 (33%)
<i>nís</i>	3 (75%)	1 (25%)
<i>pārā</i>	4 (100%)	0
<i>pári</i>	2 (20%)	8 (80%)
<i>prá</i>	41 (98%)	1 (2%)
<i>práti</i>	0	4 (100%)
<i>ví</i>	7 (59%)	5 (41%)
<i>sám</i>	12 (63%)	7 (37%)

Not all preverbs can occur both in the interior and in the exterior positions: in particular, *áchā*, *antár*, *ánu*, *ápa*, *áti*, *práti*, and *úpa* ‘to, unto, toward’ are never interior; by contrast, *pārā* is never, and *prá* ‘forward, onward, forth, fore-’ hardly ever exterior. Other preverbs show clear, though not absolute, positional tendencies: *á* ‘to, unto, at’, *áva*, *ní*, *nís*, and *úd* are preferably interior, whereas *abhí* ‘to, unto, against’, *ádhi*, and *pári* ‘round about,

around’ favor the exterior position. Lastly, the positional tendencies of *sám* ‘along, with, together’ and *ví* ‘apart, asunder, away, out’ are unclear.

These data confirm Macdonell’s (1910: §593, fn. 7) remark, according to which “when there are two [preverbs], *pārā* always immediately precedes the verb; *á* and *áva* nearly always; *úd*, *ní*, *prá* usually. On the other hand, *abhí* is all but invariably the first of the two; *adhí* and *ánu* are nearly always so, *úpa* and *práti* usually.” In addition, it is also consistent with Papke’s findings, summarized in Figure 3:

Figure 3. Vedic token data: ordering (from Papke 2010: 101)



This consistency is significant: both Macdonell’s and Papke’s data samples are wider than mine. Macdonell includes the entire Vedic (not only Ṛg-Vedic) corpus. Papke’s investigation instead is limited to the *Ṛg-Veda*, but she also takes into account those composites for which the order #P_P_V# is never attested (cf. fn. 7).

6.1. Papke's (2010) account of preverb ordering

In her dissertation, Papke (2010: 104 ff.) remarks that the relative positioning of preverbs is very similar in Vedic and in Classical Sanskrit. These data suggest that, in spite of the high productivity of verbal composition, and its syntactic nature (Danesi 2013: 62; Section 1.2.1), Vedic multiple preverb composites should at least partially be regarded as conventionalized units, as they survive in the later stages of the language (cf. Table 10). Papke (2010) also considers conventionalization (i.e. lexicalization, in her terms) the reason why multiple preverb composites remain relatively stable from the Vedic to the Classical period.

As for the motivations behind preverb ordering, Papke (2010: 108 ff.) excludes any significant correlation between the order of preverbs and the resulting meaning of the composite verbs. In particular, she shows that composites allowing for more than one order are frequently synonyms. This also holds true for my data, in which the composites $\acute{a} \acute{n}i\check{s}$ \sqrt{i} - ~ $\acute{n}i\check{s}$ \acute{a} \sqrt{i} - 'go off, depart' and $abhi \acute{p}r\acute{a}$ $\sqrt{mṛś}$ - ~ $\acute{p}r\acute{a}$ $abhi$ $\sqrt{mṛś}$ - 'seize, grasp' alternate without any significant semantic difference, as shown in examples (73)a-b. Crucially (cf. Section 6.2), however, the difference between (73)a and (73)b is the overt expression of the Goal-participant ($\acute{s}riy\acute{e}$:DAT 'glory'), which specifies the generic Goal meaning of the exterior preverb \acute{a} 'to, unto, at' in (73)a.

(73) a. $\acute{a} \acute{n}i\check{s}$ \sqrt{i} - 'go off, depart' (overtly expressed Goal)

<i>śriyé</i>	<i>jātáḥ</i>	<i>śriyé</i>	<i>á</i>	<i>nír</i>	<i>iyāya</i>
light.DAT	born.NOM	light.DAT	to	out	go.PRF.3SG

'Born for glory, he went off to glory.' (ṚV 9.94.4a)

b. $\acute{n}i\check{s}$ \acute{a} \sqrt{i} - 'go off, depart' (omitted Goal)

<i>nirāitu</i>	<i>jīvó</i>	<i>ákṣato</i>
go_off.IMP.3SG	alive.NOM	not_crushed.NOM

'(Having lain for ten months within his mother,) let (the boy) come out, alive and unharmed.' (ṚV 5.78.9c = (70))

Moreover, Papke (2010: 111–112) fails to identify any correlation between the interior/exterior positions and the meanings of single preverbs: morphemes expressing Direction, Location, and Orientation (in Imbert’s 2008 terms; cf. Chapter 4) can equally select both positions. However, Papke’s approach raises a number of issues. First, it is not entirely clear to me according to which criteria Papke (2010) grouped preverbs according to their meanings. For example, why is *ní* ‘down, in, into’ categorized among Orientation preverbs, whereas its antonym, i.e. *úd* ‘up, up forth, up out’, among Direction (i.e. Goal) preverbs? Second, Direction (i.e. Goal), Location, and Orientation are probably not the right distinctions to account for preverb ordering. As discussed in Section 6.2, among Direction preverbs, there is a difference between preverbs profiling different portions of the trajectory: on the one side are Source- and Path preverbs; on the other side Goal-preverbs.

Besides excluding any semantic motivation for preverb ordering, Papke (2010: 112–114) in parallel rules out that preverb positioning can be due to formal factors, as the meter, the phonological, or the syllabic shape of preverbs. Ultimately, Papke argues that Vedic preverb ordering must be inherited (on issues relating to the inheritance of preverb ordering, cf. Chapter 7, Section 2.1): multiple composition is a process of accretion (in McCone’s 2006 terms), whereby a new preverb stacks onto an already lexicalized composite. Thus, the question of preverb ordering can be touched as a question regarding the reasons for the lexicalization of the IP.

6.2. *An integrated account of preverb ordering*

A correlation exists between the interior position and prevalent verbal orientation, and between the exterior position and prevalent nominal orientation. Put another way, preverbs that are unlikely to receive a further spatial specification by means of a noun phrase tend to occur in interior position (cf. Table 8). Interestingly, these are mostly preverbs profiling portions of the trajectory that are frequently left unspecified in the discourse, i.e. Path (e.g. *úd, ní, prá*, cf. (74)a) or Source (e.g. *pārā*, cf. (74)b):

- (74) a. *abhi úd* √*car*- ‘rise over’
prāti úd √*i*- ‘rise and go toward’
 b. *ānu pārā* √*i*- ‘go away after’
āchā pārā √*i*- ‘go away toward’
vī pārā √*i* ‘go back again’

In (74)a, the Path-preverb *úd* ‘up, up forth, up out’ is interior with respect to the Goal-preverbs *abhi* ‘to, unto, against’ and *prāti* ‘in reversed direction, back to, against, in return’. In (74)b, the Source-preverb *pārā* ‘to a distance, away, forth’ occurs internally with respect to the Path-preverb *ānu* ‘after, along, toward’, the Goal-preverb *āchā* ‘to, unto’, and the Time-preverb *vī* ‘in two different times, again’ (cf. Section 4.2), which modify the preceding composite – *pārā* √*i*- ‘go away, go back’ – as a whole. The preverb *ānu*, despite encoding Path, tends to show nominal, rather than verbal orientation (cf. Table 8). In fact, the composite *ānu pārā* √*i*- ‘go away after’ takes a Path-participant (*pāram...pānthām* ‘farther on the way’), which happens to be particularly salient in the context of ṚV 10.18.1:

- (75) *pāram* *mṛtyo* *ānu* *pār-ehi* *pānthām*
 far.ACC death.VOC along away-go.IMP.2SG way.GEN.PL
 ‘O Death, go away farther along the way (that Gods are wanted to travel...)’
 (ṚV 10.18.1a = (38))

As explained for *ānu*, the other preverbs that preferably select the exterior position also have nominal orientation in the majority of the Ṛg-Vedic passages. In particular, preverbs of this type are *abhi*, *ūpa*, and *prāti*, which all encode the Goal of motion. As is well known (cf. Ikegami 1987; Ungerer & Schmidt 1996; Verspoor, Dirven & Radden 1999; various papers in Luraghi et al. 2017), the overt specification of the Goal of motion is more frequent than that of the Paths and Source. Goal is the result or the endpoint of the motion event, and as such, the most salient of its parts. Interestingly, the preverb *ānu*, which is exterior in Vedic though it encodes the Path of motion, tends to move to the interior position in Classical Sanskrit (Papke 2010: 105).

The downward motion indicated by *ní* is inherent in the events of falling ($\sqrt{pad-}$), of melting/disappearing ($\sqrt{lī-}$), and of sitting ($\sqrt{sad-}$). The forward Path expressed by *prá* is likewise implied in any motion, manner of motion, or caused motion verb of (77).

This principle ruling ordering, which one might call the ‘redundancy’ principle, somewhat remembers the *order and relevance principle* of affix ordering, formulated by Bybee (1985). Bybee defines relevance as follows: “A meaning element is relevant to another meaning element if the semantic content of the first directly affects or modifies the semantic content of the second” (Bybee 1985: 13). However, in the case of preverbs, the meaning of the IP is often so close to the verb that it shows a high semantic solidarity with it. Thus, semantic closeness makes a certain preverb redundant, so to say, rather than relevant.

Such semantic redundancy or low saliency arguably triggers the reanalysis of preverbs as part of the verbal item onto which they attach: this development results in the lexicalization of preverbs, which are reinterpreted by speakers as parts of verbal stems. Redundancy however can also trigger the grammaticalization of preverbs as markers for actionality: once a lexical (i.e. spatial) contribution is perceived as irrelevant, speakers assign preverbs with the new function of carrying more information for the event, i.e. notions such as those of ingressivity, telicity, completion, and so on. In Slavic languages, in which the grammaticalization of preverbs has gone much farther than in the other Indo-European languages, this phenomenon is called Vey-Schooneveld effect or subsumption (cf. Chapter 5).

4 Multiple preverbs in Homeric Greek

1. Preverbs in Homeric Greek

1.1. *State of the art*

In traditional grammars of Ancient and Homeric Greek, such as Schwyzer & Debrunner (1950: 417 ff.) and Chantraine (1953: 82 ff.), the status, the development, and the meanings of preverbs are usually addressed together with those of their cognate prepositions. In her comprehensive monography on the expression of semantic roles in Ancient Greek, Luraghi (2003) also touches upon the grammaticalization undergone by preverbs, insofar as it follows a parallel path to that of prepositions. Accordingly, Luraghi hints at the semantics of preverbs, before moving on to the semantics of the corresponding prepositions, which is the focus of her book.

In fact, a systematic investigation on Ancient Greek preverbs is still a *desideratum*, though several papers are devoted to specific issues related to a single or a few preverbs (e.g. Dietrich 1909 and Papanastassiou 2011 on *apo-*; Dunkel 1982b and Neri 2007 on the etymology of *sún* and *xún*; Chantraine 1942 on *en-*; Citraro 2014 on *epi-*, *ana-* and *huper-*; Revuelta 2014 on *peri-*; see also Shain 2011 on the values of *eis-* in Koine Greek; and Charitonidis 2013 on *apo-*, *ek(s)-*, and *kse-* in Modern Greek). Actually, there exists a systematic book on Ancient Greek preverbs, but it only focuses on their role in nominal composition (Strömberg 1946).¹

Horrock's (1980) book deals with preverbs as elements contributing to the expression of the conceptual domains of space and time in the Homeric language. Space is the preferential domain for focusing on how preverbs, prepositions, and cases interact and compete with each other to express certain meanings (e.g. Viti 2008a and 2008b; Zanchi

¹ The literature on Ancient Greek preverbs' prepositional counterparts is much more abundant: see, beside the above-mentioned Luraghi (2003, 2006, 2009, 2012), Bortone (2010), and Hettrich (2012), among others.

2017; cf. Chapter 1 on Cognitive Grammar), for, to a certain extent, Homeric Greek attests to a linguistic stage when constructions involving preverbs, prepositions, or both could express a certain spatial role (Section 1.2.2). Viti (2008a) highlights the contextual differences triggering the selection of either construction, showing that preverbs tend to encode spatial relations involving a human, specific, and topical referent. She then connects this tendency with the development of Ancient Greek preverbs into markers of completion (i.e. telicity, perfectivity), insofar as topicality implies that a referent is conceptualized as entire in space and complete in time.

Viti's (2008a, 2008b) papers lead us into another field of studies on Greek preverbs, i.e. their development from free-standing adverbs into affixes, and their parallel semantic shift from spatial indicators into actional markers – and, eventually, as Viti argues for *en-*, into transitive markers. On the so-called *tmesis* ('split') in Ancient Greek and in other Indo-European languages, see, among many others, Boley (2004), De Angelis (2004) and the traditional references cited therein, Haug (2009), and Bertrand (2014) (see also Duhoux 1998 and references therein on Mycenaean; Chapter 2). The actional value of completion has been assigned to Ancient Greek preverbs by many scholars, including Brugmann (1885: 268), Meillet (1922: 352, 1948), Brunel (1939), Humbert (1960: §586), Leroy (1958: 135), Roussel (1958), Grassi (1966: 158 ff.), Friedrich (1974: 5), Pernée (1983: 298), and Giannakis (1997: 55ff.).²

Caroline Imbert dedicated several studies to the encoding of spatial relations in Homeric Greek by means of multiple preverbs, to the historical sources of such a system, and to the semantic constraints ruling the orders of preverb stacking (Imbert 2006, 2007, 2008, 2009; Imbert & Grinevald 2004). Imbert's theoretical framework is grounded in the studies on grammaticalization, which she regards as a gradual process in diachrony, resulting in categorial gradience in synchrony (cf. Chapter 1, Section 2). In addition, Imbert's works take into account the studies on preverbs in non-Indo-European languages. In particular, Imbert applies to Homeric Greek multiple preverbs the morphological and syntactic category of relational preverbs (i.e. preverbs that behave morphologically as

² As correctly pointed out by Viti (2008a: 395), "most of these scholars wrote in a period where aspect [...] was often confounded with actionality [...]" (cf. further Chapter 1, Section 3.2).

preverbs, but syntactically as adpositions), which Craig & Hale (1988) individuated for preverbs in Rama (Nicaragua, Chibchan family; see Chapter 2, Section 3). Accordingly, Imbert argues that Homeric Greek multiple preverbs have developed from previous postpositions, as Craig & Hale (1988) argued for preverbs in Rama.

1.2. *The unclear categorial status of preverbs in Homeric Greek*

In a number of ancient IE languages including Homeric Greek, preverbs, beside preceding a verbal stem, may also occur before (pre-) or after a noun (post-positions), or virtually in any other position within the sentence (free-standing adverbs) (see, among many others, Chantraine 1953: 82 ff.; Watkins 1964; Luraghi 2010; Section 1.2.2). Such a syntactic freedom results in a great deal of uncertainty regarding both the morphological status (clitics vs. independent words) and the part of speech of preverbs (free-standing adverbs, adpositions, or preverbs proper).

1.2.1. *Preverbs: clitics vs. independent words*

In Ancient Greek, preverbs can either bear a graphic accent (cf. *amphí* ‘on both sides’, *aná* ‘upward’, *antí* ‘in front of’, *apó* ‘away from’, *diá* ‘through’, *ení* ‘in’, *epí* ‘on’, *hupér* ‘over’, *hupó* ‘under’, *katá* ‘downward’, *metá* ‘between’, *pará* ‘besides’, *perí* ‘around’, *pró* ‘before’, *prós/potí* ‘toward’, *sún* ‘with’) or lack it (*ek* ‘out of’, *en* ‘in’, *eis/es* ‘(in)to’).³ However, accentuation has little to say about the morphological status of preverbs for a number of reasons. To begin with, the invention of the Greek accentuation system dates back to the Hellenistic period (3rd–2nd centuries BC) (Laum 1928; Pfeiffer 1968; Dickey 2006), which at least means about five centuries after the Homeric period (8th century BC; cf. Introduction): thus, Hellenistic philologists are likely to have projected their accentuation rules back onto the Homeric period. Moreover, even though almost everyone agrees that the usual Greek diacritics mark lexically assigned pitch levels (Allen 1973:

³ The preverb *en* ‘in’ is a more frequent variant for *ení* ‘in’.

249), it remains disputed what exactly acute, grave, and circumflex diacritics actually represent. Furthermore, the accentuation practice has changed over time, as demonstrated by the papyrological tradition, on the one hand, and by scribes' inconsistency in accent placement, on the other hand (see West 2000 for an analysis of some Homeric variants).

Actually, preverbs/prepositions sometimes show clitic behavior. For example, as suggested by Lupaş (1972: 174) and Probert (2003: 133–142; 2006: 69 n. 35), usually, they only bear a “conventional” and not linguistically real accent, as shown by example (1).

- (1) *apó* → *ap'* (not **áp'*) / *_#vowel*
ap' *ouranó-then*
 away_from heaven-from
 ‘from heaven’ (*Il.*8.365)
- (2) *pollà* → *póll'* / *_#vowel*
póll' *aekazoméne*
 much constrained
 ‘much constrained’ (*Il.*6.458)

When, such as in (1), *apó* occurs before a vowel-initial word, it undergoes apocope, i.e. its tonic final vowel drops, and its accent does not retract onto the previous syllable, as is usual with clitics. Such a behavior has to be compared with that of vowel-final oxytone proper words, shown in (2). In (2), after the drop of the tonic final vowel in front of a subsequent vowel, the accent moves one syllable to the left (see also Goldstein 2010: 48 ff.).

Conversely, preverbs/prepositions may also behave as accented words in Homer. A case in point is when they bear an accent on the first syllable under certain syntactic conditions (for a thorough discussion of which, see Vendryes 1904: §309 ff.), notably when in absolute (3), postnominal (4), and postverbal positions (5).⁴

⁴ A preposition-preverb occurs in absolute position when it is not linked to any noun or verb in the sentence, and ultimately “substitutes” the verb (Chantraine 1953: 82; see further, in Section 1.2.2, the discussion of example (6); cf. also Vedic absolute preverbs in Chapter 3).

- (3) *órnuto* *d'* *autik'* *épeita áanax* *andrôn*
 stir_up.IMPF.3SG.MID PTC immediately then king.NOM men.GEN.PL
Agamémnōn, àn *d'* *Oduseùs* *polúmētis*
 A.NOM upward PTC O.NOM of_many_counsels.NOM
 ‘Immediately then Agamemnon, king of men, rose up, and up (rose) Odysseus of many wiles as well.’ (*Il.3.267–268*)
- (4) *Alkínoos* *dè* *tót'* *êrkhe,* *theôn* *ápo*
 A.NOM PTC at_times be_first.IMPF.3SG god.GEN.PL away_from
médea *eidōs*
 plan(PL).ACC know.PTCP.PRF.NOM
 ‘And Alcinous was now king, made wise in counsel by the gods.’ (*Od.6.12*)
- (5) *olésant'* *ápo* *pántas* *hetairous*
 destroy.PTCP.AOR.ACC away_from all.ACC.PL comrade.ACC.PL
 ‘after losing all (his) comrades altogether’ (*Od.2.174*)

Hellenistic grammarians have named this apparent retraction of the accent *anastrophé* (< *ana-* ‘upside down’ + *stréphō* ‘turn’). However, the accentuation shown in (3), (4) and (5) is in fact etymological, as demonstrated by the comparison of Greek *ápo* ‘away from’, *pára* ‘beside’, *péri* ‘around’, *húpo* ‘under’, with their Sanskrit counterparts, such as *ápa* ‘away from’, *pára* ‘beyond’, *pári* ‘around’, *úpa* ‘toward’, or with Greek etymologically related adverbs, such as *ánō* ‘upward’ and *kátō* ‘downward’. Thus, when preverbs-prepositions show the so-called *anastrophé*, they retain their original accentuation. Only when employed as clitics, i.e. as unaccented words, they lose their initial accent (Vendryes 1904: §72).

1.2.2. *Free-standings adverbs, adpositions, and preverbs proper*

Homeric Greek lacks both preverbal and prepositional configurations, which became the rule in post-Homeric Greek (cf. among many others Schwyzer & Debrunner 1950: 419; Chantraine 1953: 82 ff.; Fritz 1997; Hewson & Bubenik 2006: 4; Bortone 2010: 123 ff.; Luraghi 2010). The passages in (6)–(11) exemplify the quite free positioning of preverbs-

prepositions in Homeric Greek (for this reason, and given their etymological meanings, preverbs/prepositions are sometimes called *local particles* or *place words* in order to leave unspecified their syntactic function; see Chapter 2, Section 1.4 on terminology).

(6) Absolute position

è *apóeip'*, *epeì* *óu* *toi* *épi* *déos*
 or deny.IMP.AOR.2SG for NEG 2SG.DAT on fear.NOM
 ‘Or deny me, for (there is) no fear on you.’ (*Il.1.515*)

(7) Adverbial position

kai *epì* *knéphas* *hieròn* *élthēi*
 and on darkness.NOM sacred.NOM come.SBJV.AOR. 3SG
 ‘And the sacred darkness closes in.’ (*Il.11.209*)

(8) Prenominal position

epì *gaían* *ap'* *ouranó-then* *protrápētai*
 on earth.ACC away_from heaven-from turn.SBJV.AOR.3SG.M/P
 ‘(He) turned (the sun) (on)to earth away from heaven.’ (*Od.11.18*)

(9) Postnominal position

hai *mèn* *aletreúousi* *múlēis* *épi* *mēlopa*
 DEM.NOM.PL.F PTC grind.PRS.3PL millstone.DAT on yellow.ACC
karpón
 grain.ACC
 ‘They grind the yellow grain on the millstone.’ (*Od.7.104*)

(10) Preverbal position

tmédēn *d'* *aukhén'* *ep-élthe*
 with_cutting PTC neck.ACC upon-come.AOR.3SG
 ‘And (the spear) came upon his neck so as to cut.’ (*Il.7.262*)

(11) Postverbal position

éluth' *épi* *psukhē* *Agamémnonos*
 come.AOR.3SG on soul.NOM A.GEN
 ‘The soul of Agamemnon approached.’ (*Od.24.20*)

Example (6) shows the absolute usage (in Chantraine’s 1953 terms): the preverb *épi* occurs instead of the whole composite verb *ép-eimi* ‘be upon, set upon’ (*epi-* ‘on’ + *eimi* ‘be’): the copula *eimi* is omitted, and the preverb alone takes its place and carries out its function.

Given their syntactic freedom, judging the actual function of preverbs/prepositions can be a tricky task. For example, one may wonder whether, in (10), *ep-* ‘upon’ selects the accusative *aukhén’(a)* ‘neck’, thus functioning morphologically as a preverb, but syntactically as a postposition (i.e. as a relational preverb, in Craig & Hale (1988) and Imbert’s (2008) terms). However, *epi-* is not syntactically obligatory in (10): in similar contexts, the accusative case (*klisiēn* ‘hut’ in (12)) can in fact express the Goal-participant in combination with the simplex verb *érkhomai* ‘go, come’, as shown by example (12).

- (12) *érkhesthon* *klisiēn* *Pēlēiádeō* *Akhilēos*
 go.PRS.IMP.2DU hut.ACC of_P.GEN A.GEN
 ‘Go to the hut of Achilles, Peleus’ son!’ (Il.1.322)

Therefore, in (10), the preverb *epi-* semantically contributes to specifying the spatial region in which the spatial relation expressed by the verb *érkhomai* ‘go, come’ and the accusative case takes place. However, it is not syntactically obligatory (see further Horrocks 1981; Fritz 1997; Luraghi 2003; Zanchi 2017 on the expression of spatial relations in Ancient Greek).⁵

What the historical development of Greek tells us is that the most frequent positions for preverbs/prepositions, which later on became conventionalized, are the prenominal (8) and preverbal (10) ones. By virtue of their frequency, such conventionalized positions then triggered grammaticalization processes of local adverbs into prepositions or preverbs (cf., among many others, Horrocks 1981: 117 ff.; Hewson & Bubenik 2006; Bortone 2010: 109-170; Luraghi 2010).

⁵ In addition to that, if *epi-* in (10) were a postposition, it would have occurred between the noun and its adjectival modifier, as adpositions tend to be placed after the first word of a complex nominal phrase (Irigoin 1954).

1.2.2.1. The ongoing grammaticalization of prepositions

So far, I provided supporting evidence that neither the postpositional nor the prepositional configurations are fully developed in Homeric Greek. To begin with, as shown by examples (8) and (9), local particles can occur both before and after a noun, even though the prenominal position is more frequent and later on became conventionalized.

Moreover, case alternation is meaningful in Homeric Greek. A number of Greek adpositions, i.e. *amphí* ‘on both sides’, *epí* ‘on’, *pará* ‘beside’, *perí* ‘around’ *prós* ‘to’ *hupó* ‘under’, can be used in combination with all three cases that can be combined with prepositions (genitive, dative, and accusative). The meanings of the adpositions in combination with the case endings to some extent correspond to the old concrete value of the respective case forms (Kuryłowicz 1964: 176; Luraghi 2003: 79–80; Cuzzolin et al. 2006). In addition, adpositionless cases occasionally retain their old concrete value in Homer, especially in association with inherent Goal-, or Source-oriented verbs, that is, composite or non-composite verbs requiring a specific spatial participant (Chantraine 1953: 38–81; Zanchi 2017). As a result, the simultaneous occurrence of a verb requiring a specific spatial participant, of a preverb/preposition, and of a case ending is frequently redundant to express a certain meaning: the free combination of only two of these elements is sufficient to disambiguate a spatial relation (see Section 5.2, which contains a thorough discussion of relevant examples with multiple preverbs).

Much to the contrary, Homeric Greek also offers evidence for the obligatoriness of preverbs/prepositions. In (13), the dative *prōtoisi* ‘first:DAT.PL’, in association with *metà* ‘between, among’, makes up an optional participant expressing Location ‘among the foremost’. Without the preposition *metà*, however, the dative would function as second argument of the verb *mákhomai*, which, in the meaning of ‘fight against someone’, takes the dative case (Luraghi 2014: 34; see further Sausa 2015 on the encoding of second arguments in Homeric Greek).

- (13) *epeì thoòs éske metà prōtoisi mákhesthai*
for quick.NOM be.IMPF.3SG among first.DAT.PL fight.INF.PRS.M/P

‘For he used to be ready to fight among the foremost.’ (*Il.5.536*)

1.2.2.2. The so-called tmesis in Homeric Greek

In the same way as prepositions are not fully grammaticalized yet (see Section 1.2.2.1), the phenomenon of the so-called tmesis suggests that preverbs are not fully developed as such either. Tmesis is a misleading label given by Hellenistic grammarians to the phenomenon whereby a putative composite is split, and preverbs occurs displaced from the verbal stem that they modify (cf. also Section 1.2.2). In Homeric Greek, tmesis is not a literary artifact. Rather, it provides further evidence for the uncertain categorial status of local particles, which range from adverbial, to adpositional, and to preverbal usages (cf. De Angelis 2004, and references therein).⁶

Even though Ancient Greek appears to have gone further than any other IE language in the elaboration of a free word order (Dover 1960), the basic positional options for preverbs (and the allowed types of tmesis) are the following (Watkins 1964):⁷

- a) # **PN**(E)...**V**(...) #;
- b) # **N**(E)...**VP**(...) #;
- c) # **N**(E)...**PV**(...) #.

Type a) is attested in Hittite, Vedic, Archaic Latin, and Archaic Old Irish, and has first been described by Wackernagel (1924). Type b) is allegedly a Greek literary innovation, as other ancient IE languages do not usually attest to it. Type c) is the most difficult to detect, as the preverb does precede the verb, though it is merely juxtaposed and not univerted to it (see Section 1.2.2.4).

⁶ It is our flawed standpoint that regards the categorial status of these elements as *uncertain*. Indeed, we usually analyze the behavior of these elements in view of their subsequent functional and categorial split into adpositions and preverbs (cf. Haspelmath 2007b on the non-existence of pre-established linguistic categories; cf. Chapter 1).

⁷ Watkins' (1964) abbreviations follow: # = initial/endpoint of a sequence; P = preverb; N = noun; E = enclitic; V = verb (cf. Chapter 2, fn. 7).

1.2.2.3. The interactions between preverbs and postpositives

Postpositives are words that exhibit word order restrictions: a) roughly speaking, they either occur in second or peninitial position (Wackernagel’s law);⁸ b) they cannot begin a clause; c) they never occur in isolation (Wackernagel 1892; Fraenkel 1964[1933]; Revuelta 2014: 128–130). The full list of Ancient Greek postpositives is provided by Dover (1960: 12–13).

How does the position of postpositives interact with that of preverbs? Examples (14) and (15) give a first answer. The placement of postpositives occasionally has the side effect of splitting a putative composite, or a putative adpositional phrase. In other words, postpositives sometimes intervene either between a preverb and a verb (14), or between an adposition and a noun (15).

- (14) *es* *d'* *êlthon* *mnēstêres* *agēnores*
to PTC come.AOR.3PL wooer.NOM.PL heroic.NOM.PL
‘Then the heroic wooers came in.’ (*Od.*1.144)
- (15) *en* *d'* *autoîsi* *púlas* *poiēsomen*
in PTC 3SG.DAT.PL gate.ACC.PL build.SBJV.AOR.1PL
‘And let us build gates on them (ships).’ (*Il.*7.339)

In (14), the particle *d'(è)* occurs in between the local particle *es* ‘(in)to’ and the verb *êlthon* ‘came’. In (15), the same particle separates *en* ‘in(to)’ from the dative *autoîsi* ‘to them’. In (14) and (15), Wackernagel’s law overrides the tendency for juxtaposition of locative particles and verbs (14), or of locative particles and nouns (15) (cf. further Chapter 2, Section 1.2).⁹ Passages (14) and (15) are examples of what Bertrand (2014) calls *non-lexical tmesis*, i.e. a split in which only non-lexical words intervene.

⁸ For further discussion on the actual – syntactic, pragmatic, prosodic, or underspecified – nature of the so-called second position, see e.g. Fraenkel (1964[1933]), Dik (1995, 2007), and Goldstein (2010).

⁹ In addition, the elided particle *d'(è)* serves the meter in both examples: the consonant *d* lengthens the vowel of *es* and *en*, which can thus constitute the first long half of a spondaic foot.

Examples (14) and (15) are to be compared with passages such as (16) below, in which a preverb is separated from the verbal stem by lexical words (Bertrand’s (2014) *lexical tmesis*).

- (16) *en* *dè* *tà* *mêla* *labóntes*
in PTC DEM.ACC.PL.N sheep(N).ACC.PL take.PTCP.AOR.NOM.PL
ebésamen
walk.AOR.3PL
‘As we have taken the sheep, we stepped into (the ships).’ (*Od.11.4*)

In my view, examples (14) and (15), on the one hand, and (16), on the other hand, attest to two different stages in the grammaticalization process undergone by preverbs/prepositions. In particular, examples (14) and (15) show a more advanced stage than example (16). In (16), a particle (*dè*), a noun phrase (*tà mêla* ‘the sheep’) and a conjunct participle (*labóntes*) split the putative composite *en...bainō* ‘step into’. In (14) and (15), instead, only a postpositive particle intervenes, due to its tendency to occur in second position.

1.2.2.4. The status of preverbs: what philology and meter tell us

Homeric poems were written down in the 8th century BC, but attest to even more ancient stages of the Greek language. In addition, modern editions of the Homeric texts are based on those by the Hellenistic grammarians (4th–1st centuries BC), who to some extent restyled the language according to their more recent variety of Greek. Homeric text is thus floating between older and newer elements, and Homeric tradition sometimes gives back several textual variants for one single passage (cf. Introduction).

Crucially for our purposes, Hellenistic philologists’ work dates back to a period when Greek syntax no longer allowed tmesis. In fact, the above-mentioned textual variants frequently concern hesitations relating to word boundaries, and in particular on preverbs’ univertation, as shown in examples (17)a-b:

- (17) a. Non-univerbated variant (*Codex Venetus Marc. Gr. 454 (822), 10 Rom. Bibl. Nat. Gr. 6,11 and Genav. 44:12*)

mákhēs *ex* *apo-díōmai*
 struggle.GEN out_of away_from-drive.PRS.1SG.M/P

- b. Univerbated variant (attested in all other manuscripts)

mákhēs *ex-apo-díōmai*
 struggle.GEN out_of-away_from-drive.PRS.1SG.M/P

‘I drive (Ares) out of the struggle.’ (*Il.5.763*)

In (17)a, the preverb *ex* ‘out of’ occurs as a separate word from the composite *apo-díōmai* ‘drive away from’, whereas in (17)b is univerbated to it. The choice between these two variants is particularly difficult: the composite *ex-apo-díōmai* is a *hápax* and the metrical structure of *Il.5.763* does not suggest anything on word boundaries.

In what way might the meter be useful to detect word boundaries in other contexts? The metrical structure of Homeric poems has frequently been blamed for altering the Greek syntax (cf. Introduction). However, as noted by De Angelis (2004) and extensively investigated in Zanchi (forthc.), the metrical structure can instead be exploited to reconstruct Homeric syntax, as well as word boundaries overridden by Hellenistic grammarians. As Sommer (1926: 257–261) and Chantraine (1953: 85 ff.) already pointed out, certain compound forms handed down by the manuscript tradition are likely to rely on the alteration of a group that did not constitute a single morphological unit.

According to De Angelis (2004) and Zanchi (forthc.), one must assume a split between a preverb and a verb whenever their univerbation violates a metrical pause (or incision, that is, a place within the verse in which word boundaries occur more often than by chance; West 1982: 6). On the contrary, one cannot assume a pause when the meaning of a composite is non-compositional, when the elements making up the composite underwent phonetic erosion, and when the remaining simplex verb or composite are not elsewhere attested in the Homeric texts.

In fact, composites with multiple preverbs can occur in correspondence either with a metrical pause (18), or with a metrical bridge (19) (i.e. a place within the verse in which word boundaries tend to be avoided).

(18) Composite in correspondence with a pause (so-called *katà trítōn trokhaîōn*)

<i>all'</i>	<i>oú</i>	<i>hoi</i>	<i>kháris</i>	
but	NEG	3SG.DAT	grace.NOM	
<i>amphi- peri-stéphetai</i>				<i>epéessin,</i>
on_both_sides- around-put_as_a_crown.PRS.3SG.M/P				word.DAT.PL

‘But the grace is not put around his words as a crown.’ (*Od.*8.175)

(19) Composite in correspondence with a metrical bridge (so-called Hermann’s bridge)

<i>hoi</i>	<i>d'</i>	<i>ou</i>	<i>gignóskontes</i>	<i>apēnēnanto</i>
DEM.NOM.PL	PTC	NEG	know.PTCP.PRS.NOM.PL	deny.AOR.3PL.MID

hékastos
every_one.NOM

‘But as they knew it not, everyone denied.’ (*Il.*7.185)

In (18), a metrical pause is assumed splitting *amphi-* from the remaining composite. This assumption is backed up by linguistic evidence: first, the composite is semantically compositional and a Homeric *hápax*; second, the composite containing only the IP (*peri-stéphō* ‘surround’) is attested in Homer (*Od.*5.303); third, the presence of the preverbs is not syntactically compulsory: there exists an equivalent passage, in which none of the preverbs occurs (*Od.*8.170). By contrast, in (19), *ap-an-aínomai* ‘refuse completely’ occurs in correspondence with a metrical bridge. Accordingly, the composite shows non-compositional meaning and is attested in post-Homeric Greek.

Obviously, an analysis such as that just outlined presupposes a fixed metrical structure for the Homeric verse, including a fixed number of metrical pauses. However, there is little agreement as for the number of pauses to be assumed for the Homeric verse, ranging from one to three (for a thorough discussion of this issue, I refer to Kahane 1994; Martinelli 2001; Zanchi forthc., and references therein). In spite of this, I ultimately regard

metrical analysis enlightening to identify word boundaries, when supported by further linguistic evidence.

2. Multiple preverbs in numbers

2.1. Composites with multiple preverbs

In Homeric poems, multiple preverbs occur in 64 composites. These are attested in 138 Homeric passages, a number of them in a formulaic expression (cf. Introduction). In Table 18, attested composites and their meanings are displayed, together with their token and types frequencies. Type-frequency means that formulas are counted only once. Table 19 shows those composites that are attested in post-Homeric prose, as well as their Homeric and post-Homeric meanings.¹⁰

Table 18. Homeric composites with multiple preverbs and their frequency

COMPOSITES	MEANING	FREQUENCY			
		<i>Iliad</i>	<i>Odyssey</i>	<i>Total (token)</i>	<i>Total (type)</i>
<i>amphi-peri-stéphomai</i>	put round as a crown	0	1	1	1
<i>amphi-peri-strōphāō</i>	keep turning about all ways	1	0	1	1
<i>an-eph-állomai</i>	spring upon after	3	0	3	3
<i>ap-an-aínomai</i>	refuse completely	1	1	2	2
<i>ap-ek-lanthánomai</i>	forget entirely	0	1	1	1
<i>apo-pro-airéō</i>	take away from	0	1	1	1
<i>apo-pro-íēmi</i>	send forth away, let fall	0	3	3	3
<i>apo-pro-témnō</i>	cut off from	0	1	1	1
<i>di-éx-eimi</i>	go out through	1	0	1	1
<i>di-ex-eréomai</i>	question closely, completely	1	0	1	1
<i>eg-kata-pégnumi</i>	thrust firmly in	0	1	1	1
<i>eg-kata-tithemi</i>	put upon/around, store up	2	2	4	4
<i>eis-ana-bainō</i>	go upward to	7	6	13	13
<i>eis-an-ágō</i>	lead upward to	0	1	1	1
<i>eis-an-eídon</i>	look upward to	2	0	2	1
<i>eis-án-eimi</i>	go upward to	1	0	1	1

¹⁰ Only attestations in post-Homeric prose are relevant, as post-Homeric epic and poetic authors mostly try to imitate Homer's poetic diction, by also using typically Homeric lexicon.

<i>eis-aph-ikánō</i>	arrive at, come to	1	2	3	2
<i>eis-aph-iknéomai</i>	arrive at, come to	2	8	10	7
<i>eis-kata-bainō</i>	go down (in)to	0	1	1	1
<i>ek-dia-bainō</i>	pass over	1	0	1	1
<i>ek-kat-eîdon</i>	look down from	2	0	2	2
<i>ek-kat-ep-állomai</i>	leap down from against	1	0	1	1
<i>ek-pro-kaléomai</i>	call forth from	0	1	1	1
<i>ek-pro-leipō</i>	forsake	0	1	1	1
<i>ex-ana-bainō</i>	go upward out of	1	0	1	1
<i>ex-ana-dúomai</i>	emerge from	0	2	2	2
<i>ex-ana-lúō</i>	set quite free from	2	0	2	1
<i>ex-an-íēmi</i>	send upward out, emit	1	0	1	1
<i>ex-apo-bainō</i>	step out of	0	1	1	1
<i>ex-apo-diomai</i>	chase out of	1	0	1	1
<i>ex-apo-dúnō</i>	put off	0	1	1	1
<i>ex-ap-óllumi</i>	perish utterly out of	2	1	3	3
<i>ex-apo-néomai</i>	return back out of	2	0	2	2
<i>ex-apo-nízō</i>	wash thoroughly	0	1	1	1
<i>ex-apo-tínō</i>	pay back in full	1	0	1	1
<i>ex-aph-airéō</i>	take away from	0	1	1	1
<i>ex-up-an-ístēmi</i>	stand up from under	1	0	1	1
<i>ep-ana-títhemí</i>	shut	1	0	1	1
<i>ep-an-ístēmi</i>	stand up after	1	0	1	1
<i>ep-em-bainō</i>	stand upon	1	0	1	1
<i>ep-en-tanúō</i>	bind tightly to	0	1	1	1
<i>epi-pro-íallō</i>	place forth before (set out)	1	0	1	1
<i>epi-pro-íēmi</i>	send forth (to)	5	1	6	5
<i>hup-ek-phérō</i>	carry out from under, carry away	3	1	4	4
<i>hup-ek-pheúgō</i>	flee away secretly	8	7	15	11
<i>hup-ek-pro-lúō</i>	loose from under	0	1	1	1
<i>hup-ek-pro-théō</i>	run forth from behind, outstrip	2	1	3	3
<i>hup-ek-pro-réō</i>	flow forth from beneath	0	1	1	1
<i>hup-ek-pro-pheúgō</i>	flee away secretly	2	2	4	4
<i>hup-ek-sôizō</i>	save (by drawing) away from under the control of	1	0	1	1
<i>hup-ex-ágō</i>	carry out from under (out of danger into safety)	0	1	1	1
<i>hup-ex-aléasthai</i>	flee out from	1	0	1	1
<i>hup-ex-ana-dúomai</i>	come up secretly	1	0	1	1
<i>huper-kata-bainō</i>	go downward over	2	0	2	1
<i>kat-eph-állomai</i>	leap down against	1	0	1	1
<i>para-kata-bállō</i>	throw down beside	2	0	2	2
<i>para-kata-lékhomai</i>	lie down beside	2	0	2	2
<i>par-ek-pro-pheúgō</i>	flee away	1	0	1	1
<i>par-ex-agō</i>	lead past	0	1	1	1
<i>par-ex-elaunō</i>	drive past	1	2	3	3
<i>par-ex-érkhomai</i>	slip past, pass by, overstep	1	3	4	3
<i>peri-pro-khéomai</i>	be poured all around	1	0	1	1
<i>pro-kath-ízō</i>	perch forth (of birds)	1	0	1	1
<i>pro-pro-kulíndomai</i>	keep rolling in front of	1	1	2	2
TOTAL		77	61	138	125

Table 19. Composites attested in post-Homeric prose and their meanings

<i>Composite</i>	<i>Homeric meaning</i>	<i>Post-Homeric meaning</i>
<i>ap-an-aínomai</i>	refuse completely	disown, reject
<i>di-éx-eimi</i>	go out through	go out through, go through in detail
<i>eg-kata-pégnumi</i>	thrust firmly in	thrust firmly in, sheathe
<i>eis-an-ágō</i>	lead upward to	lead up to
<i>eis-aph-iknéomai</i>	arrive at, come to	arrive at, come to
<i>eis-kata-bainō</i>	go down (in)to	go down into
<i>ex-ana-dúomai</i>	emerge from	emerge from, escape from
<i>ex-an-íēmi</i>	send upward out, emit	send forth, loosen, slacken
<i>ex-ap-óllumi</i>	perish utterly out of	perish utterly
<i>ep-ana-títhemī</i>	shut	lay upon
<i>ep-an-ístēmi</i>	stand up after	set up again, make to rise against
<i>ep-em-bainō</i>	stand upon	step upon, mount on, approach
<i>epi-pro-íēmi</i>	send forth (to)	send forth
<i>hup-ek-phérō</i>	carry out from under, carry away	carry away, have a start by a day's journey
<i>hup-ek-pheúgō</i>	flee away secretly	escape from
<i>hup-ex-ágō</i>	carry out from under (out of danger into safety)	carry out from, carry away, withdraw
<i>para-kata-bállō</i>	throw down beside	make a claim to property together with a deposit
<i>par-ex-ágō</i>	lead past	lead past, mislead
<i>par-ex-elaúnō</i>	drive past	march by, ride past
<i>par-ex-érkhomai</i>	slip past, pass by, overstep	pass by, go aside from
<i>pro-kath-izō</i>	perch forth (of birds)	sit in public, sit before

As type-frequencies show, out of 64 composites, only six are attested in formulaic expressions, that is, *eis-an-eídon* ‘look upward to’, *eis-aph-iknéomai* ‘arrive at, come to’, *epi-pro-íēmi* ‘send forth (to)’, *hup-ek-pheúgō* ‘flee away secretly’, *huper-kata-bainō* ‘go downward over’, *par-ex-érkhomai* ‘slip past, pass by, overstep’. Attestation in formulaic expressions is relevant for comparative purposes, as formulas frequently preserve a more ancient variety of the language (cf. Watkins 1976; Joseph & Janda 2003: 15; Introduction). Thus, the six composites listed above are candidates for being particularly old.

As Table 19 shows, out of 64 composites, only 21 are attested in post-Homeric Greek. Attestation in post-Homeric Greek is also relevant: on the one hand, it offers hints to identify those composites which are likely to be conventionalized, on the basis of the fact that they are retained and univertated in the later language. On the other hand, attestation in post-Homeric Greek allows for interesting comparisons. As expected, a number of composites show more compositional meanings in Homer than in post-Homeric prose. Two cases in point follow: *ex-ap-óllumi*, which means ‘perish entirely out of’ in Homer, with the

obligatory expression of the Source argument (*Il.*6.60, 18.290, *Od.*20.357; see example (32)), but which allows for later absolute usages ‘perish entirely’ (e.g. *Hdt.*4.173); *para-kata-bállō*, ‘throw down beside’ in Homer (*Il.*23.127, 23.683), which later on develops the very specialized meaning of ‘make a claim to property together with a deposit’ in post-Homeric prose (e.g. in *D.*44.42).

Unexpectedly, a few composites apparently show the opposite behavior. The composite *pro-kath-ízō* is particularly instructive in this respect. It means ‘perch forth (of birds)’ in Homer, and ‘sit in public, sit before’ in post-Homeric prose (e.g. *Hdt.*1.14, *Plb.*20.6.8). On the one hand, the meaning of the IP is clear, though redundant, both in Homeric and in post-Homeric usages: the IP *kata-* ‘downward’ contributes to expressing the downward movement implied by the act of sitting. On the other hand, the semantic contributions of the EP *pro-* can be better detected in Post-Homeric usages, regardless whether spatial (‘sit one before the other’ → ‘sit **in public**’) or temporal (‘sit **before**’), than in the Homeric ones. Indeed, the presence of *pro-* only makes sense in the wider context of the passage shown in (20):

(20)	<i>klaggēdòn</i>		<i>prokathizóntōn,</i>		<i>smaragēî</i>		<i>dé</i>
	with_a_clang_noise		perch.PTCP.PRS.GEN.PL		resound.PRS.3SG		PTC
	<i>te</i>	<i>leimón</i>	<i>hòs</i>	<i>tón</i>	<i>énthea</i>	<i>pollà</i>	
	PTC	meadow.NOM	so	DEM.GEN.PL	tribe.NOM.PL	many.NOM.PL	
	<i>neôn</i>	<i>ápo</i>	<i>kai</i>	<i>klisiáōn</i>	<i>es</i>	<i>pedíon</i>	
	ship.GEN.PL	away_from	and	hut.GEN.PL	(in)to	plain.ACC	
	<i>prokhéonto</i>		<i>Skamándrion</i>				
	pour_forth.IMPF.3PL.M/P		of_S.ACC				

‘...while (various types of birds) are perching with a clang noise, the meadow resounds. In the same way, their many tribes were pouring forth from ships and huts into the plain of Scamander.’ (*Il.*2.463)

In (20), the Achaeans, spreading forth (*pro-khéō*) into the plain of Scamander, are compared to a whole flock of birds, which is driven forward by single birds that keep

perching in front (*pro-kath-ízō*) of the rest of birds. The preverb *pro-*, occurring both in *pro-kath-izóntōn* and in *pro-khéonto*, contributes to drawing the parallel between birds and Achaeans' forward motion.

Furthermore, when working with inherently limited corpora, such as that of Ancient Greek, one must keep in mind that a gap in attestations does not necessarily correspond to an actual absence in the grammar or in the lexicon (cf. Introduction; Joseph & Janda 2003: 15-16). In particular, if a certain composite attests to compositional meanings in its post-Homeric usages, whereas it lacks them in the Homeric poems, this does not imply that compositional meanings are a later development. Simply, it could be the case that Homeric texts – *by accident* – do not preserve those compositional usages.

2.1.1. *Imbert's (2008) and Zanchi's (2014) composites*

In her dissertation, Imbert (2008: 95, 196–198) collected 98 examples of multiple preverbs, whereas here I included as many as 138 passages. Imbert's corpus is smaller than mine for the following reasons. First, she overlooked two composites, i.e. *ep-en-taníō* 'bind tightly to' and *para-kata-lékhomai* 'lie down beside'. Then, Imbert excluded the composite *pro-pro-kulíndomai* 'keep rolling before', simply because two *different* local particles must occur in front of a verbal stem according to her definition of multiple preverbatation.

Second, Imbert (2008: 232–236) left out four composites, because they do not conform to the semantic constraints on preverb ordering that she set up: *an-eph-állomai* 'leap upon after', *ek-kat-eph-állomai* 'leap down against from', *kat-eph-állomai* 'leap down against', and *pro-kat-hízō* 'perch forth'. Imbert explains that a diachronic analysis is required to avoid such apparent inconsistency in preverb ordering, but that she intends to limit her work to the synchronic level. My analysis comprises all of these composites, on the one hand, as Imbert's exclusion appears to be an *ad hoc* solution for safeguarding her semantic constraints on preverb ordering; on the other hand, because a diachronic account is arguably essential to analyze Homeric texts, which constitute an inherently diachronic corpus (cf. Introduction).

In fact, the composites *an-eph-állomai* ‘leap upon after’, *ek-kat-eph-állomai* ‘leap down against from’, and *kat-eph-állomai* ‘leap down against’ are problematic, but in other respects than those that Imbert pointed out. There is no general agreement as to assigning them to the verb *hállomai* ‘leap’ (< PIE **sel-* ‘loosen, leap’) or to the verb *pállomai* ‘swing, dash oneself’ (< PIE **pelh₁-* ‘knock (or whip) something into shape’). These two analyses result in two different segmentations: *an-eph-állomai*, *kat-eph-állomai*, and *ek-kat-eph-állomai*, with two and three preverbs, respectively (Chantraine 1953: 63, 854; Beekes 2010: 1148) vs. *ana-pállomai*, *kata-pállomai*, and *ek-kata-pállomai*, with one and two preverbs, respectively (Fränkel 1923: 278 ff.; Laumann 1950: 60 ff.; Geiss 1957: 62 ff.). After Harðarson (1993: 196–198) and LIV² (257), I opted for *hállomai* ‘leap’, also in the light of some Homeric parallel passages containing *hállomai* ‘leap’ in combination with *ex*+GEN (*Il.6.103*; cf. *ek-kat-eph-állomai*), *kat(á)*+GEN (*Il.18.616*; cf. *ek-kat-eph-állomai* and *kat-eph-állomai*), and *epí*+DAT (*Il.20.353*, *21.174*, *Od.22.80*; cf. *kat-eph-állomai* and *an-eph-állomai*). However, the ordering of such multiple preverbs raise some issues, as discussed in Section 6.

Imbert (2008: 199) further left out all composites containing two preverbs that elsewhere occur as double prepositions or double adverbs, i.e. *ap-ex-* ‘away out of’ (< *apo-* + *ex-*), *di-ex-* ‘out through’ (< *dia-* + *ex-*), *par-ex-* ‘out beside’ (< *para-* + *ex-*), and *hup-ex-* ‘out from under’ (< *hupo-* + *ek-*). These also contradict her semantic constraints on preverb ordering. Differently also from Zanchi (2014), I included all of them in this study, as all of these formations are still analyzable, and can tell much about the ongoing processes of univerbation of multiple preverbs (see further Sections 2.3 and 4.3).¹¹

Differently from Imbert (2008) and Zanchi (2014), I excluded the composite *epapeilēō* ‘threaten’, as the segmentation containing two preverbs (**ep-ap-eilēō*) turned out to be wrong. This composite only contains one preverb, i.e. *epi-*. The remaining verb is a denominative formation from *apeilḗ* (mostly pl.) ‘boastful promises, threats’, made up by an *a-* copulativum and the root *(*s*)*pelH* ‘speak in public’ (LIV²: 576 fn. 2 on *a-peilēō*

¹¹ It is revealing that Imbert (2008) ignores the fact that *amphi-peri-*, *apo-pro-* and *peri-pro-* also occur as double prepositions and/or double adverbs in Homer (see Section 2.3). Indeed, these sequences do not contradict her semantic constraints on preverb ordering, and thus she does not discuss them.

‘promise, threaten’). The position of the augment is revealing in this case: the augmented forms of this verb (*epēpeilēs* ‘(en), *Il.*1.319, 14.45) show up the augment (in bold, resulting from the contraction of *e* and *a*) between the putative EP and IP, whereas augment almost systematically occurs between the IP and the verbal stem elsewhere (see Section 3.3). Similarly, I also left out the verb *ex-apatāō* ‘deceive, beguile’, containing the preverb *ex-* and a denominative verb from *apatē* ‘trick, fraud’ of uncertain etymology (DELG: 95; Beekes 2010: 113–114).¹²

2.2. Verbal roots modified by multiple preverbs

Table 20 shows the 43 simplex verbs modified by multiple preverbs and their meanings, as well as their PIE roots and their meanings. Moreover, their frequencies are provided, i.e. the number of composites containing each root. In addition, the rightmost column specifies the verb type. For my purposes, a coarse-grained semantic classification of verbs suffices: motion and location verbs are regarded so as to include, beside motion or location verbs proper (e.g. *érkhomai* ‘come, go’), manner of motion verbs (e.g. *baínō* ‘walk’), posture verbs (e.g. *lékhomai* ‘lie’), and verbs of caused motion (e.g. *bállō* ‘throw’).¹³

¹² I am aware of the fact that other non-univerbated sequences of the type #P...P...V# are also attested (cf. e.g. *Il.*12.213, 14.168, *Od.*17.139, 23.16). However, as remarked in Section 1.2.2.4, Hellenistic editors were inclined to univerbation, which was consistent to their variety of Greek. Thus, I see no reasons to treat the preverbs occurring in those sequences as univerbated units, as even Hellenistic editors decided not to univerbate them with the following verb.

¹³ Cf. fn. 23, Chapter 3.

Table 20. Homeric verbs and verb roots modified by multiple preverbs

<i>Simplex verbs</i>	<i>Meaning</i>	<i>PIE roots</i>	<i>Meaning</i>	<i>Frequency</i>	<i>Verb type</i>
<i>ágō</i>	carry, bring	* <i>h₂eg-</i> (LIV ² : 255)	drive, carry	3	caused motion
<i>aléomai</i>	flee, avoid	* <i>h₂leu-</i> (LIV ² : 278)	stay away, keep away	1	motion (Source)
<i>-ainomai</i>	refuse	?uncertain	?uncertain	1	communication
<i>baínō</i>	walk, go, come	* <i>g^uem-</i> (LIV ² : 209)	go, come (somewhere)	7	manner of motion
<i>bállō</i>	throw	* <i>g^uelh₁-</i> (LIV ² : 208)	meet, throw	1	caused motion
<i>díō</i>	put to flight	* <i>deih₁-</i> (LIV ² : 107)	chase away	1	caused motion
<i>dúnō, dúō</i>	cause to sink, sink	* <i>duēH-</i> (LIV ² : 129)	sink	3	motion/ caused motion
<i>eídon</i>	see	* <i>ueid-</i> (LIV ² : 665)	see, catch sight of	2	perception
<i>eími</i>	go, come	* <i>h₁ei-</i> (LIV ² : 232)	go, walk	2	motion
<i>eíromai</i>	ask	* <i>h₁reh₁-</i> (LIV ² : 251)	ask	1	communication
<i>elaúnō</i>	drive, set in motion	?* <i>h₁elh₂-</i> (LIV ² : 235)	drive to	1	caused motion
<i>érkhomai</i>	come, go, walk	* <i>h₁er-</i> , * <i>h₁erǵh-</i> (LIV ² : 238–239)	reach, climb	1	motion
<i>hairéō</i>	take	* <i>ser-</i> (LIV ² : 535)	take, grasp	2	removing
<i>hállomai</i>	leap	* <i>sel-</i> (LIV ² : 527)	loosen, leap	3	motion
<i>(h)íallō</i>	send forth	* <i>sel-</i> (LIV ² : 527)	loosen, leap	1	caused motion
<i>híēmi</i>	send	* <i>H₁eh₁-</i> (LIV ² : 225)	throw	3	caused motion
<i>hízō</i>	sit	* <i>sed-</i> (LIV ² : 513)	sit	1	posture
<i>hikánō,</i> <i>hiknéomai</i>	come, reach	* <i>seik-</i> (LIV ² : 522)	reach, achieve	2	motion
<i>hístēmi</i>	stand	* <i>steh₂-</i> (LIV ² : 590)	step to, stand	2	posture
<i>hréō</i>	run, flow	* <i>sreu-</i> (LIV ² : 588)	flow, stream	1	manner of motion
<i>kaléō</i>	call	* <i>kleh₁-</i> (LIV ² : 361)	call	1	communication
<i>khéō</i>	pour	* <i>g^heu-</i> (LIV ² : 179)	pour	1	caused motion
<i>kulíndō</i>	roll	?uncertain	?uncertain	1	manner of motion
<i>lanthánomai</i>	forget	* <i>leh₂d^h-</i> (LIV ² : 401)	remain hidden	1	mental activity
<i>leípō</i>	leave	* <i>leik^u-</i> (LIV ² : 406)	leave behind, move away from	1	motion (Source)
<i>lékhomai</i>	lie	* <i>leg^h-</i> (LIV ² : 398)	lie down	1	posture
<i>lúō</i>	loosen	* <i>leuH-</i> (LIV ² : 417)	loosen	2	caused motion
<i>néomai</i>	go, come, return	* <i>nes-</i> (LIV ² : 454)	get away, return home	1	motion
<i>nízō</i>	wash	* <i>neig^u-</i> (LIV ² : 450)	wash	1	removing
<i>óllumi</i>	destroy	* <i>h₃elh₁-</i> (LIV ² : 298)	go on the ground	1	change of state
<i>pégnumi</i>	fix in	* <i>peh₂ǵ-</i> (LIV ² : 461)	become fixed	1	caused motion
<i>phérō</i>	carry, bring	* <i>b^her-</i> (LIV ² : 76)	bring	1	caused motion
<i>pheúgō</i>	flee, escape	* <i>b^heug-</i> (LIV ² : 84)	flee, escape	3	motion (Source)
<i>stéphō</i>	put round	* <i>(s)teg^{uh}-</i> (LIV ² : 589)	put round as a crown	1	caused motion
<i>strōpháō</i>	turn constantly	* <i>streb^h-</i> (LIV ² : 603)	spin	1	manner of motion
<i>sōízō</i>	save	?* <i>teut₂-</i> (DELG: 1084–1085)	be strong	1	helping
<i>taníō</i>	stretch	* <i>ten-</i> (LIV ² : 626)	stretch, tighten	1	caused motion
<i>témnō</i>	cut	* <i>temh₁-</i> (LIV ² : 625)	cut	1	removing
<i>théō</i>	run	* <i>d^heu-</i> (LIV ² : 147)	run	1	motion
<i>tínō</i>	pay a price	* <i>k^uei-</i> (LIV ² : 377)	receive a penance, punish	1	transfer
<i>títhemi</i>	put	* <i>d^heh₁-</i> (LIV ² : 136)	put, make	2	putting

Most composites with multiple preverbs (47 out of 64) contain a motion or location verb. Most others can also be assimilated to motion/location verbs. The verb of perception *eídon* ‘see’ can be regarded as a verb of caused motion: one’s eyes can be directed toward or away from something. Verbs of putting and removing, such as *hairéō* ‘take’, can also be assimilated to verbs of caused motion (and thus to motion/location verbs). Verbs of washing, such as *nízō* ‘wash’, in turn, have a behavior similar to that of verbs of removing (cf. Luraghi & Zanchi forthc.).

The verb *tínō* ‘pay a price’ is a transfer verb, and can thus be paired to verbs of putting and removing, as well as to verbs of caused motion. Two remaining items are verbs of communication, i.e. *eíromai* ‘ask’ and *kaléō* ‘call’, which are similar to verbs of transfer in that they imply a transfer of information. Moreover, communication verbs, to some extent, show a behavior similar to that of verbs of putting and taking: for example, verbs of asking, as verbs of removing, allow for the ditransitive construction in Ancient Greek (Luraghi & Zanchi forthc.). Interestingly, two of the remaining verbs go back to PIE roots showing meanings close to that of motion or location verbs: *lanthánomai* ‘forget’ (mental activity) < **leh₂d^h*- ‘remain hidden’ (location verb) (LIV²: 401); *óllumi* ‘destroy, perish’ (change of state) < **h₃elh₁-* ‘go on the ground’ (motion verb) (LIV²: 298).

Lastly, *an-áinomai* ‘refuse’ and *sóizō* ‘save’ have no clear etymologies. The former is a communication verb, connected to the noun *áinos* ‘tale, proverb’, which in turn derives the verbs *ainéō* ‘tell, approve’, *ep-ainéō* ‘approve’, and *di-ainéō* ‘decree’, and must go back to an unattested verb **áinomai* ‘say yes, state’ (DELG: 35–36; Beekes 2010: 39–40; for the meaning of this composite, see Section 4).¹⁴ The verb *sóizō* ‘rescue’ is probably a denominative from *sós* ‘safe’ (DELG: 1084–1085; Beekes 2010: 1440–1441). It can be

¹⁴ In two papers on preverb iteration in IE languages, Dunkel (1981a, 1981b) suggested a different etymology for *an-áinomai*, which is allegedly built on the iteration of *ana-ana-* ‘upward-upward’+ the suffix *-iō-*. The iteration of preverbs here allegedly has the intensive value of ‘tossing the head repeatedly upward to say no’. In the same vein, Dunkel also argued that the Homeric verb *apaphískō* ‘cheat, beguile’ is to be segmented as *ap-aph-ískō*, a composite made up by the iterated preverb *apo-* and the root *√iskh-* ‘hold’ with metathesis of aspiration. Chantraine (1953: 96) and Beekes (2010:114) do not accept Dunkel’s proposal and Beekes invokes substrate origins for the verb *apaphískō*. As a matter of prudence, I also left out *apaphískō* from this investigation.

assimilated to verbs of removing or of caused motion, in that the saved entity (TR) is removed by another entity from a dangerous situation (LM). Another verb from Table 20 has no clear etymology, that is, *kulindō* ‘roll’, which might go back to a root **(s)kel-* ‘bent, curved’ (cf. Gr. *kullós* ‘curved, lame’) combined with a suffix *-nd-* (cf. Gr. *alindēō* ‘make to roll’) (DELG: 599; Beekes 2010: 800).

2.3. *Attested combinations of preverbs*

Table 21 shows the 31 Homeric preverb combinations and their frequencies. In Table 21, frequency refers to the number of composites containing a certain combination. The most frequent combinations are *ex-apo-* (8 composites), *hupo-ex-* (5 composites), and *para-ex-* (10 composites). Interestingly, the first combination contains two preverbs that originally express Source. This is consistent with the fact that Source-preverbs seem to undergo earlier grammaticalization processes than Goal-preverbs (see Zanchi 2017; Dicky 2012 for a similar view on Slavic preverbs). In other words, the IP *apo-*, after univerbating and undergoing semantic shifts (Source > marker of completion), is no longer capable of expressing Source, and is thus later on supported by another Source-preverb, i.e. *ex-* (the opposition of *ex-ap-óllumi* ‘perish entirely out of’, mentioned at Section 2.1, vs. *ap-óllumi* ‘perish entirely’ is revealing in this respect).¹⁵

The combination *hupo-ex-* also makes up a poetic double preposition, frequently used in Homer with the genitive, in the meaning of ‘from beneath’, but dismissed in Post-Homeric Greek. The highly lexicalized complex preposition *paréx* (< *para-* + *ex-*), instead, is frequently used in both Homeric and post-Homeric Greek, according to Chantraine (1953: 145 ff.). As a preposition, it takes the genitive (‘outside’) and the accusative (‘along the side of’). As an adverb, it means ‘out beside, out along, excepting’.¹⁶

¹⁵ This combination also manifests itself to be old in the light of its Latin cognate *ex-po-*, lexicalized in *exponō* ‘put out, set out’ < **(ex-)po-znō* < **(ex-)po-snō* < **(ex-)po-sinō* (Dunkel 1981b: 230 fn. 29; De Vaan 2008: 479).

¹⁶ All the non-univerbated sequences mentioned in fn. 9 show the complex adverb *paréx*.

Table 21. Homeric combinations of preverbs and their frequencies

<i>Exterior preverb</i>	<i>Medial preverb</i>	<i>Interior preverb</i>	<i>Frequency</i>
<i>amphi-</i>	-	<i>peri-</i>	2
<i>ana-</i>	-	<i>epi-</i>	1
<i>apo-</i>	-	<i>ana-</i>	1
<i>apo-</i>	-	<i>ex-</i>	1
<i>apo-</i>	-	<i>pro-</i>	3
<i>dia-</i>	-	<i>ex-</i>	2
<i>eis-</i>	-	<i>ana-</i>	4
<i>eis-</i>	-	<i>apo-</i>	2
<i>eis-</i>	-	<i>kata-</i>	1
<i>en-</i>	-	<i>kata-</i>	2
<i>ex-</i>	-	<i>ana-</i>	4
<i>ex-</i>	-	<i>apo-</i>	8
<i>ex-</i>	<i>hupo-</i>	<i>ana-</i>	1
<i>ex-</i>	-	<i>dia-</i>	1
<i>ex-</i>	-	<i>kata-</i>	1
<i>ex-</i>	<i>kata-</i>	<i>epi-</i>	1
<i>ex-</i>	-	<i>pro-</i>	2
<i>epi-</i>	-	<i>ana-</i>	2
<i>epi-</i>	-	<i>en-</i>	2
<i>epi-</i>	-	<i>pro-</i>	2
<i>huper-</i>	-	<i>kata-</i>	1
<i>hupo-</i>	<i>ex-</i>	<i>pro-</i>	4
<i>hupo-</i>	-	<i>ex-</i>	5
<i>hupo-</i>	<i>ex-</i>	<i>ana-</i>	1
<i>kata-</i>	-	<i>epi-</i>	1
<i>para-</i>	-	<i>kata-</i>	2
<i>para-</i>	<i>ex-</i>	<i>pro-</i>	1
<i>para-</i>	-	<i>ex-</i>	10
<i>peri-</i>	-	<i>pro-</i>	1
<i>pro-</i>	-	<i>kata-</i>	1
<i>pro-</i>	-	<i>pro-</i>	1

Beside these, other combinations of preverbs are also attested as double prepositions or double adverbs in Homeric Greek. This is the case for *amphi-* and *peri-* (double preposition: *Il.*2.305, 23.191, *Od.*11.609; double adverb: *Il.*21.210; these are never written down as a single unit, and do not even constitute an entry in the LSJ). As for the combinations with *pro-*, *apo-pro-* can also have adverbial ('afar off', *Il.*16.669) and prepositional functions ('away from', cf. *Il.*7.334) in Homer, whereas *peri-pro-* only occurs as an expressive particle, meaning 'very, especially' (its usage is declining in Attic prose, according to Chantraine 1953: 146). The repeated preverb *pro-* is also found in prepositional ('before') and adverbial usages ('on and on', 'thoroughly') in Post-Homeric

Greek. According to Chantraine (1953: 144), the repetition of *pro-* is exceptional and archaic. In fact, the equivalents for this preverb are occasionally repeated in other IE languages, notably in Hittite *parā parā* ‘more and more’ and Vedic *prápra* ‘again and again’ (Dunkel 1981a: 214–219; on Vedic, cf. Chapter 3). The combination of *epi-pró* can also function as double preposition only in Post-Homeric Greek, with spatial meanings ‘right through, onward’. The combination *di-ek-* makes up a complex preposition, which occurs 13 times in Homer and retains its spatial value of ‘out of through’; after Homer, this preposition disappears. On the contrary, the double preposition *ap-ék* is not attested in Homer, nor is common in Post-Homeric Greek; when it is used, it shows the spatial meaning of ‘away out of’.

The existence of such complex prepositions/adverbs does not *per se* prevent preverbs from modifying verbal stems as independent units. One such case is the composite *di-ex-eréomai* ‘ask completely a number of questions’, shown in (21):

- (21) *allà tíē emè taûta diexeréesthe*
 but why 1SG.ACC DEM.ACC.PL.N question_completely.IMPF.2PL
hékasta
 each.ACC.PL
 ‘But why did you question me completely regarding all these things one by one?’
 (Il.10.432)

In (21), the preverbs *dia-* and *ek-* hardly behave as a single unit: the double preposition *diék* always retains spatial meanings if used as a whole. Instead, the analysis becomes straightforward by keeping them separate: *ek-* adds the actional meaning of ‘completion’ (cf. Chantraine 1953: 93), whereas *dia-* expresses the idea of arrangement, distinction, and distribution (cf. Chantraine 1953: 95, Section 4.4), which is also reinforced by the distributive adjective *hékasta*.

‘Then Aias move his shield aside from (him).’ (*Il.*8.268)

The metrical analysis reveals that a metrical pause is to be assumed in slightly less than the half of the occurrences (62 out of 138). Such metrical pauses allegedly restore original word boundaries in either of the following positions: (a) between the EP and the remaining composite IP=V; (b) between the EP=IP and the simplex verb; (c) between the EP=MP and the remaining composite IP=V. The frequencies of (a), (b), and (c) are provided in Table 22, as well as the composites instantiating each type of assumed split. In Table 22, the symbol ## indicates the position of the assumed split, while = marks the univerbation of the remaining elements.

Table 22. Types of split brought about by assumed metrical pauses

<i>Position of word boundaries</i>	<i>Token Frequency</i>	<i>Composites</i>
(a) EP##IP=V	37	<i>amphi-peri-stéphomai, apo-pro-íēmi, eg-kata-pégnumi, eis-ana-bainō, eis-an-ágō, eis-an-eídon, eis-án-eimi, eis-aph-ikánō, ek-dia-bainō, ek-kat-ep-állomai, ex-ana-bainō, ex-ana-dúomai, ex-apo-bainō, ex-apo-dúnō, ex-ap-óllumi, ex-apo-nízō, ex-aph-airéō, epi-pro-íallō, epi-pro-íēmi, huper-kata-bainō, para-kata-lékhomai, peri-pro-khéomai</i>
(b) EP=IP##V	15	<i>amphi-peri-strōpháō, di-ex-eréomai, hup-ek-phérō, hup-ek-sōízō, hup-ex-aléasthai, par-ex-ágō, par-ex-elaiúnō, par-ex-érkhomai</i>
(c) EP=MP##IP=V	10	<i>hup-ek-pro-théō, hup-ek-pro-réō, hup-ek-pro-pheúgō, hup-ex-ana-dúomai, par-ek-pro-pheúgō</i>
TOTAL	62	

Interestingly, a split can be assumed between the EP and the IP=V for most composites. This restored word boundary suggests a path of formation whereby the EP has started gravitating toward a preceding composite with only one preverb. Instead, positions (b-c) are only possible in the presence of an elsewhere attested double preposition, i.e. a stable collocation (*amphí peri*) or a univerbated composite made up by two prepositions (e.g. *diék, hupék, parék*). By contrast, positions (b-c) allegedly suggest that the EP and the MP/IP have stacked onto the remaining composite as a single unit.

3.2. *Sandhi phenomena*

The juxtaposition of preverbs and verbal stems results in various consonant and vowel clusters. Their behavior follows the rules of external *sandhi* whenever they mismatch from those of internal *sandhi* (cf. the Vedic data in Chapter 3, Section 3.1). Therefore, for example, when the juxtaposition of preverbs and verbal stems produces the meeting of two vowels, those undergo elision, which is typical of external *sandhi*, rather than contraction, which pertains internal *sandhi* (Alonso Déniz 2014a, 2014b, and references therein). This is shown in (25):

(25) *apo-* + *ana-* + **áinomai* → *ap-an-áinomai* ‘refuse completely’ (cf. example (19))

vs. contraction:

$a + o \rightarrow \bar{o}$ e.g. *aidóa* → *aidô*

$a + a \rightarrow \bar{a}$ e.g. *géraa* → *gérā*

The only exception to this principle is instantiated by *pro-* ‘forth’. This preverb usually does not undergo elision: compare *apo-pro-airéō* ‘take away from’ vs. *ap-an-áinomai* ‘refuse completely’, in which the final *o* of *apo-* has dropped. In addition, *pro-* occasionally undergoes crasis, that is, the contraction applied to words belonging to the same phrase: e.g. *prò ékhōn* → *proúkhōn* ‘excelling’. However, one can also occasionally find elision in compounding, although it usually occurs word-externally: e.g. *oudè heís* → *oudeís* ‘no one’.

3.3. *The position of preverbs with respect to inflectional affixes*

As happens in Vedic (cf. Chapter 3, Section 3.2), Homeric preverbs interact with other pieces of preverbal morphology. In Homeric Greek, preverbal morphology comprises reduplication and augment. Preverbs usually occur more externally than either (Schwyzer & Debrunner 1950: 646 ff.; Chantraine 1945: 309 ff.).

Reduplication contributes to the formation of certain present stems – cf. *ar-ar-ískō* ‘fit together’ with total reduplication (< **h₂er-*, LIV²: 269) and *gí-gnomai* ‘become’ (< **g₂enh₂-*, LIV²: 163–164) with partial reduplication – and of the perfect stems (cf. *lé-luka*, the perfect of *lúō* ‘loosen’). The phonological shape of reduplication is consistent with that of the reduplicated verbal root: either the entire verbal root is iterated, or reduplication consists of the initial consonant of the verbal root and of a front short vowel *i* or *e*.¹⁷ Therefore, not surprisingly, reduplication is the innermost piece of verbal morphology: even in the pluperfect, which features both reduplication and augment, the latter occurs externally with respect to reduplication (e.g. *e-lé-lukē*, the pluperfect of *lúō* ‘loosen’).

The augment instead marks distance in time in association with the secondary verbal endings and, in Homeric Greek, is optionally used in imperfect, indicative aorist and pluperfect tenses. The augment possibly goes back to an independent particle (**h₁e-* ‘then, at that time’; e.g. Beekes 2011: 252). In Ancient Greek, it has the shape of a short *e-*, and usually occurs between the preverb and the verbal stem (Post-Homeric exceptions to this rule are found in Schwyzler & Debrunner: 656; Chantraine 1945: 313). In composites with multiple preverbs, augment is the innermost element of preverbal morphology, as shown in example (26) (augment is highlighted in bold):

- (26) *eis-an-**é**-bē-s-an*
 to.EP-upward.IP-PST-walk-AOR-PST.3PL
 ‘they went upward to’ (*Il.6.74*)

In my sample, there is only one exception to this otherwise strict rule:¹⁸

¹⁷ If the initial consonant of the root is aspirated, reduplication contains the corresponding non-aspirated consonant (Grassmann’s Law).

¹⁸ The segmentation in (27) draws on the assumption that *ap-an-aínomai* relies on an unattested simple verb **aínomai* ‘say yes, state’. This reconstruction is however disputed, as remarked in Section 2.2 (see especially fn. 14).

- (27) **ap-e-an-e-an-a-nto* > *apēnēnanto*
 EP-PST-IP-PST-tell-PFV-PST.3PL.MID
 ‘they rejected’ (*Il.*7.185; cf. example (19))

The form in (27) belongs to the verb *ap-an-ainomai* ‘refuse completely’, and seems to feature double augment: the former *e-* occurs between the EP and the IP, while the latter between the IP and the verbal stem. However, although double augment is attested since ancient times, it still appeared much later than the Homeric poems (400–350 BC+; Schwyzer & Debrunner 1950: 656). In fact, the form *apēnēnanto* is better explained as a matter of poetic diction: only 10 verses above *Il.*7.185, a metrically equivalent and regular verbal form, that is, *esēmēnanto* (AOR.3PL.MID from *sēmainō* ‘show by a sign’), occurs in the same *colon* as *apēnēnanto*, and in equivalent metric position (so-called Hermann’s bridge). The two *cola* are compared in (28)a-b:

- (28) a. *hōs éphath’*, *hoi dè klêron esēnēnanto hékastos* (*Il.*7.175)
 -
 b. *oi d’ou gignōskontes apēnēnanto hékastos* (*Il.*7.185)
 -

What does the positioning of augment suggest as regards the morphological status of preverbs? First, preverbs were probably not considered part of the verb, as they occur more externally than the usual outermost piece of verbal morphology, i.e. the augment.¹⁹ Second, as prosodic (Section 1.2.1), philological (Section 1.2.2.4), and syntactic (Section 5) evidence confirms, multiple preverbs have the status of clitics in Homeric Greek (for similar considerations on Vedic and Classical Sanskrit, see Whitney 1955[1879]: 354 ff.; Papke 2010: 9, 94; Chapter 3).

¹⁹ The robust cross-linguistic tendency according to which inflectional affixes are the farthest from the root is usually referred to as *relevance* or *scope principle*, on which see e.g. Bybee 1985; Rice 2000.

4. The semantics of multiple preverbs

4.1. *Preverbs with spatial, abstract and actional meanings*

From a semantic standpoint, (multiple) preverbs are polysemous elements: either they retain their original spatial meaning in some composites; or they develop further spatial meanings, abstract meanings, and actional meanings in other composites. As suggested by the semantic distinction just set out, actional meanings, and especially telic ones, boast a special status among other abstract meanings developed by originally spatial preverbs. On the one hand, preverbs with spatial and abstract meanings still pertain the lexicon. On the other hand, preverbs developing actional meanings are closer to grammar, and in this respect, they have undergone grammaticalization processes. The ability of adding an endpoint to events is responsible for the subsequent developments of preverbs into markers of perfectivity (especially in Slavic languages, cf. Chapter 5) and/or into markers of transitivity (rarely, also in Homeric Greek, cf. Section 5.4; Viti 2008a, 2008b). Importantly, the basic semantic contribution of preverbs can undergo semantic bleaching, once they gain new meanings.

Multiple preverbs modifying a verbal stem can behave similarly or differently in this respect. For example, in (29) and (30), both preverbs retain spatial meanings and develop actional meanings, respectively.

(29) Spatial meanings: *di-éx-eimi* ‘go out through’

<i>Skaiás,</i>	<i>têi</i>	<i>ár’</i>	<i>émelle</i>
S(PL.F).ACC	DEM.DAT.F	PTC	be_likely_to.IMPF.3SG
<i>di-ex-ímenai</i>		<i>pedíon=de</i>	
through-out-go.INF.PRS		plain.ACC=to	

‘...the Scaean gate, and through that way (Hector) was likely to go out (of Troy) to the plain.’ (*Il.*6.393)

(30) Actional meanings: *ap-ek-lanthánomai* ‘forget entirely’ (cf. (22))

<i>ap-ek-léláthesthe</i>	<i>dè</i>	<i>thámbeus</i>
entirely-entirely-forget.AOR.2PL.MID	PTC	wonder.GEN

‘(You) totally forget (your) wonder.’ (*Od.24.394*)

In (29), the two preverbs, *ek-* and *dia-*, profile two different portions of the trajectory covered by Hector, who is going out (*ek-*) of Troy (Source), through (*dia-*) the Scaean gate (Path), forth to the open plain (*pedíon=de*) (Goal). The Source-participant referred to by *ek-* is implicit, though inferable from the context. The Path-participant is instead explicitly mentioned by means of the accusative plural *Skaiás* and of the adverb *têi* ‘through that way’, to which the preverb *dia-* establishes an anaphoric reference.²⁰ As for (30), the EP *apo-* arguably reinforces the idea of completion already expressed by the IP *ek-* in *ek-lanthánomai* ‘forget utterly’ (a compound that is also attested in Homer; cf. *Il.2.600*, *Od.7.220*, etc.).

By contrast, there are composites in which one of the preverbs retains a lexical usage, while the other develops actional meanings. Neither the exterior nor the interior position is associated with either of such meanings, as demonstrated by examples (31) and (32):²¹

(31) Actional EP vs. spatial IP: *ek-dia-báinō* ‘pass over’

<i>táphron</i>	<i>d’</i>	<i>ek-dia-bántes</i>	<i>oruktèn</i>
trench.ACC	PTC	entirely-through-go.PTCP.AOR.NOM.PL	dug.ACC

hedrióōnto
seat.IMPF.3PL

‘As (they) had passed over the dug trench, (they) seated.’ (*Il.10.198*)

(32) Spatial EP vs. actional IP: *ex-ap-óllumi* ‘perish, vanish utterly out of’

<i>all’</i>	<i>háma</i>	<i>pántes</i>	<i>Ilíou</i>	<i>exapoloíat’</i>
but	together	all.NOM.PL	I.GEN	out_of-utterly-perish.OPT.AOR.3PL

²⁰ As we will see in Section 5.3, preverbs can contribute to building textual cohesion.

²¹ Cf. fn. 22, Chapter 2.

‘But let all perish out of Ilios, (uncared for and blotted out).’ (*Il.*6.59–60)

In (31), the IP *dia-* means ‘through’, whereas the EP *ek-* arguably expresses the idea of completion. This interpretation for *ek-* is backed up by the comparison between examples (31) and (33).

- (33) *táphron* *epotrúnōn* *dia-bainémen*
 trench.ACC urge.PTCP.PRS.NOM through-walk.INF.PRS
 ‘(Hector went through the throng and looked for his comrades), urging (them) to cross the trench.’ (*Il.*12.50)

In (31), the event of passing over is completed, so the composite with *ek-* is used in a perfective context. By contrast, in (33), the composite lacking *ek-* occurs in an order, which is an inherently imperfective context.

In (32), the EP *ek-* retains its Source meaning, which is further specified by the genitive *Ilíou* ‘Ilios’, whereas the IP *apo-* strengthens the idea of completion implied by the event of dying. It is worth remembering that the reconstructed meaning for the root **h₃elh₁-* (> Gr. *óllumi*) is ‘go on the ground’ (cf. Table 20), i.e. that of a Goal-oriented motion verb. This original meaning has possibly played a role in the early development of *apo-* ‘away from’ as a telic marker.²² As leaving a Source (*apo-* ‘away from’) is a sub-event implied by the event of reaching a Goal (*óllumi* ‘go in the ground’), *apo-* happened to be a good candidate for being reanalyzed as a telic marker. Its semantic contribution as a Source-marker would have been redundant (in the same vein, see Neri 2007: 80; in the literature on Slavic, this is the so-called Vey-Schoonevel effect or subsumption, on which see Chapter 5).

As happens to their prepositional counterparts, Greek (multiple) preverbs are polysemous elements, and can develop abstract meanings that are not actional (i.e.

²² Neri (2007) assumed a telic value for the PIE preverb **pe/o-*, based on the comparison between Gr. *ap-óllumi*, Lat. *ab-oleō* ‘destroy, kill’ (containing the preverb in the full grade), and OHG *fallan* ‘fall’, Arm. *p^clanim* ‘fall’, Lit. *puólu* ‘fall’, and perhaps Hitt. (**)palla-* ‘fall’ (containing the preverbs in the zero grade).

grammaticalized). The preverb *apo-* ‘away from’ is one such: beside the grammaticalized telic usages outlined above, it can mean ‘back’, as in the composite *ex-**apo**-néomai* ‘return **back** out of’. In addition, it shows a pseudoreversative meaning in the composite *ex-**apo**-dúnō* ‘put **off**’, in which it reverses the meaning of the simple verb *dúnō* ‘put on’. The preverb *apo-* is regarded as **pseudoreversative** (and not as simply reversative), because it cannot build an opposite out of every simplex verb, as do the English prefix *un-* and the Vedic preverb *ví* ‘apart, asunder’ (Delbrück 1888: 466). Rather, it does so when its “semantics happens to contradict the semantics of the base verb” (Sturm 2014: 9, who identified pseudoreversative meanings for the Vedic cognate of *apo-*, i.e. *ápa* ‘away, forth’, as well as for other Vedic preverbs): the Source-oriented preverb *apo-* conflicts with the semantics of the base verb *dúnō* ‘put on’.²³

Interestingly, a single combination of preverbs may result, as a whole, in a specific meaning. Specifically, iterated preverbs develop the actional meaning of iterativity. This development is iconic: moving more than once in the same way or toward the same direction implies iterating that movement (accordingly, reduplication is a typologically widespread means of intensification; Kajitani 2005; Fischer 2011a). In Homeric Greek, the only example of iteration proper is offered by *pro-pro-kulíndomai* ‘keep rolling in front of’ (on *pro-pro-*, see Section 2.3). However, the composite *amphi-**peri**-strōpháō* ‘keep turning about all ways’ can also be seen as containing preverb iteration: as pointed out by Chantraine (1953: 129-130) and confirmed by Luraghi (2003: 256), the meaning of *amphi-* ‘on both sides’ eventually happened to converge with that of *peri-* ‘around’. Therefore, from a semantic standpoint, AROUND is iterated in *amphi-**peri**-strōpháō* ‘keep turning around all ways’, resulting in an iterative meaning.

4.2. *Same (combinations of) preverbs, different meanings*

As anticipated for *apo-* (Section 4.1), preverbs are polysemous elements, which undergo multiple semantic shifts. Some interesting cases in point are *ana-* ‘upward’, *hupo-* ‘under’,

²³ Papanastiossou (2011) offers a comprehensive semantic analysis of the preverb *apo-*, enhanced by numerous examples.

and *dia-* ‘in two spaces’ (cf. Table 26). The preverb *ana-* originally means ‘upward’ and implies motion along an upward trajectory. It further develops the spatial meaning of ‘upon’, which only profiles the endpoint (Goal) of an upward motion, as shown by the composite *ex-up-an-ístēmi* ‘stand upon (after being grown) from underneath’ in (34):

- (34) *smôdix metaphrénou ex-up-an-éstē*
 weal(F).NOM back.GEN from-beneath-upon-stand.PTCP.AOR.NOM.F
 ‘a weal, (grown) from underneath the skin of the back, and standing upon’ (*Il.2.267*)

In (34), a weal is described, which, after growing from (*ex-*) underneath (*(h)up(o)-*) the skin of the back (*metaphrénou*), is standing upon (*an(a)-*) it.

In addition, *ana-* shows the meaning of ‘refusal’ in the composite *ap-an-aínomai* ‘disown, reject’. Despite some issues regarding the etymology of this composite (on which, see fn. 14), as pointed out by Chantraine (DELG: 35–36), this usage is likely to be analogically established after the couple *neúō* ‘nod’ vs. *ana-neúō* ‘nod **upward** > refuse’. The development of *ana-neúō* is related to the fact that, from ancient times until nowadays in Greece, as well as in the whole Balkans and in Southern Italy, the widespread gesture for refusal is nodding upward, sometimes just the raising of the eyebrows, with an optional dental or alveolar click (Joseph 2000; Hauge 2002; Gil 2011; Friedman & Joseph forthc.). In *ap-an-aínomai* ‘disown, reject’, the idea of refusal is then reinforced by the EP *apo-*, which implies complete, total rejection.²⁴ Furthermore, *ana-* shows a pseudoreversative meaning in combination with verbs of sinking: *dúomai* ‘go into, sink’ vs. *ex-ana-dúomai* ‘**sink upward** from > **emerge** from’. Lastly, in the composite *ex-ana-lúō* ‘set quite free from’, *ana-* develops the meaning of ‘escaping out of control’, according to the following cluster of metaphors: HAVING CONTROL OR FORCE IS UP, BEING SUBJECT TO CONTROL OR FORCE IS DOWN (Lakoff & Johnson 1980: 15).

²⁴ In addition, as shown by Chantraine (1953: 91) and confirmed by Papanastassiou (2011: 101), the preverb *apo-* in and of itself can mean ‘refusal’ in combination with verbs of saying (cf. *eípon* ‘say’ vs. *ap-eípon* ‘deny’). In this light, the composite *ap-an-aínomai* would represent another instance of semantic iteration of preverbs (cf. Section 4.1 above).

The preverb *hupo-* ‘under, beneath’ develops one non-basic spatial meaning, two abstract meanings, and one actional meaning. The non-basic spatial meaning is exemplified by the composite *hup-ek-pro-théō* ‘run forth from **behind**, outstrip’, and results from the analogical equation ‘ABOVE’ : ‘BENEATH’ = ‘BEFORE’ : ‘BEHIND’, which is also valid for the Homeric preposition *hupó* (Luraghi 2003: 226). As Luraghi puts it, “there are many similarities between the position ‘beneath’ and the position ‘behind’ a referent, among others, the fact that both being beneath and being behind imply being away from the visible field.” This provides a ground for the further metaphorical shift into ‘secretly’ (BENEATH → BEHIND → INVISIBLY → SECRETLY), undergone by *hupo-* especially in combination with verbs of escaping, such as *hup-ek-pro-pheúgō* ‘flee away secretly from’. In addition, *hupo-* undergoes a semantic shift connected with the same set of metaphors outlined above for *ana-*, i.e. HAVING CONTROL OR FORCE IS UP, BEING SUBJECT TO CONTROL OR FORCE IS DOWN (Lakoff & Johnson 1980: 18): *hup-ek-sóizō* ‘save (by drawing) away from under the control of’. Once again, this is a shared development between the preverb *hupo-* and the preposition *hupó* (Luraghi 2003: 227). Lastly, as shown by the composite *hup-ex-ana-dúomai* ‘start emerging **gradually** from’, the preverb *hupo-* can also bring ingressive meanings and the notion of gradualness (cf. Chantraine 1953: 137), which can be explained by the following metaphor: BENEATH → INFERIOR IN QUANTITY → AT THE BEGINNING OF.

Another interesting development is that of the preverb *dia-*, whose etymology is related to the Proto-Indo-European numeral for ‘two’ (DELG: 276; LIPP II: 145 ff.). Accordingly, this preverb has the original meaning of ‘in two pieces, in two places.’ As TIME is often described in terms of SPACE (Lakoff & Johnson 1980: 267), *dia-* also came to mean ‘in two times’. This temporal meaning then offers the basis for the developing of the distributive meaning, shown in the composite *di-ex-eréomai* ‘ask completely a number of questions’ (see example (21) above).

Interestingly, the same sequence of preverbs can also show different meanings, and these differences sometimes provide hints on the process of univerbation undergone by composites. A case in point is the sequence *apo-pro-*, featured by *apo-pro-íēmi* ‘send forth

away’ (35), on the one hand, *apo-pro-airéō* ‘take away from’ and *apo-pro-témnō* ‘cut off from’ (36), on the other hand.²⁵

(35) *tòn* *dè* *tétarton* *apo-pro-éēke* *pólin=de*
 DEM.ACC PTC fourth.ACC away-forth-send.AOR.3SG city.ACC=to

‘Instead, (he) had sent the fourth away to the city.’ (*Od.*14.26)

(36) *ού* *τί* *μοι* *έτλēs* *σίτου*
 NEG INDF.ACC 1SG.DAT dare.AOR.2SG bread.GEN
apo-pro-elōn *dómenai*
 away-forth-take.PTCP.AOR.NOM give.INF.AOR

‘(You who now, while sitting at another’s table,) do not dare to take away a piece of bread and give (it) to me.’ (*Od.*17.456–457)

In *apo-pro-íēmi* ‘send forth away’, shown in (35), the semantic contribution of each preverb is recognizable: *apo-* indicates a generic separation from a Source, whereas *pro-* means ‘forth’ indicating Path. The full expression of Goal is then left to the phrase *pólin=de* ‘to (the) city’. By contrast, in (36), the meaning of *pro-* is bleached: only the EP *apo-* is crucial to understand the meaning of the composite *apo-pro-airéō* ‘take away’, which is a synonym to the composite containing only *apo-*, i.e. *aph-airéō* ‘take away’ (cf. *Od.*14.455). This suggests that the two preverbs are likely to modify the verbal base as a single unit. In support of this analysis, the composite *pro-airéō* is not attested in Homeric Greek (while it means ‘bring forth’ in later authors), the double preposition *apopró* ‘away from’ is used in Homer, and a metrical pause can be assumed so as to split the EP=IP from the simplex verb (cf. Table 22).

Even the same composite can show various degrees of compositionality, if used in different contexts. This is the case of *eg-kata-títhemi*, which means ‘put downward inside’ in (37), but ‘put upon, put around’ in (38).

²⁵ As *apo-pro-airéō* ‘take away from’ and *apo-pro-témnō* ‘cut off from’ have similar behaviors, I only exemplify one of them in (36).

around' above. On the other hand, the semantic contribution of certain preverbs, though still detectable, is redundant.

Out of 64 composites, I regard 23 as being fully compositional, and 6 as non-compositional. These are shown in Table 23 and in Table 24, respectively.

Table 23. Homeric fully compositional composites

<i>Composite</i>	<i>Meaning</i>
<i>apo-pro-íēmi</i>	send forth away (see example (35))*
<i>di-éx-eimi</i>	go out through (see example (29))
<i>di-ex-eréomai</i>	ask completely a number of questions (see example (21))
<i>eis-ana-bainō</i>	go upward to
<i>eis-an-ágō</i>	lead upward to
<i>eis-an-eîdon</i>	look upward to
<i>eis-án-eimi</i>	go upward to
<i>eis-kata-bainō</i>	go downward to > pass over
<i>ek-kat-eîdon</i>	look downward from
<i>ek-kat-ep-állomai</i>	leap down against from
<i>ek-pro-kaléomai</i>	call forth from
<i>ex-ana-bainō</i>	go upward out of
<i>ex-an-íēmi</i>	send upward out, emit
<i>ex-apo-tinō</i>	pay back in full
<i>ex-up-an-istēmi</i>	stand up from under (see example (34))
<i>epi-pro-íēmi</i>	send forth (to)
<i>hup-ek-phérō</i>	carry out from under
<i>hup-ek-pro-théō</i>	run forth from behind
<i>hup-ek-pro-réō</i>	flow forth from beneath
<i>hup-ek-sōizō</i>	save (by drawing) away from under the control of
<i>hup-ex-ágō</i>	carry out from under (out of danger into safety)
<i>hup-ex-aléasthai</i>	flee out from under
<i>kat-eph-állomai</i>	leap down against
<i>huper-kata-bainō</i>	go downward over
<i>para-kata-bállō</i>	throw down beside

* This composite can also mean 'let fall'.

Table 24. Homeric non-compositional composites

<i>Composite</i>	<i>Meaning</i>
<i>amphi-peri-strōpháō</i>	keep turning about all ways
<i>ap-an-aínomai</i>	disown, reject
<i>ek-dia-bainō</i>	pass over (see example (31))
<i>ep-ana-títhēmi</i>	shut
<i>pro-pro-kulíndomai</i>	keep rolling in front of

As one may expect, fully compositional composites contain motion verbs or verbs that can be assimilated to motion verbs. I already discussed most of the non-compositional composites included in Table 24 (see Section 4.1 and Section 4.2).

The role of preverbs in the remaining one, *ep-ana-títhēmi* ‘shut’, is not trivial to figure out, and can be understood only by means of a scrutiny of the Homeric texts. The composite *ep-ana-títhēmi* is made up by *epi-* ‘on’, *ana-* ‘upward’, and *títhēmi* ‘put’. The combination of these, however, does not result in the compositional meaning of putting upon, but in that of shutting, as shown in (39). This semantic shift only makes sense in the light of the passage in (40).

- (39) *aútis epanthémenai sanídas pukinôs araruías*
 again shut.INF.AOR shutter.ACC.PL firmly fit.together.PTCP.PRF.ACC.PL
 ‘Shut again the shutters firmly fit together!’ (*Il.21.535*)
- (40) *líthon d’ ep-éthēke thúrēisi*
 stone.ACC PTC on-put.AOR.3SG door.DAT
 ‘(Athena) put a stone against the entrance (of the cave).’ (*Od.13.370*)

In (40), the composite *epi-títhēmi* ‘put on’, which lacks the IP *ana-*, takes the direct object (*líthon* ‘stone’) of the entity (TR) that Athena puts (*éthēke*) against the entrance of a cave (LM) to shut it. The prepositionless dative (*thúrēisi* ‘to (the) entrance’) encodes the Goal of this caused motion. In (39), instead, the closing entity is omitted, and the direct object of the entity being closed only occurs, that is, *sanídas* ‘shutters’, in the accusative case. Originally, both *epi-* and *ana-* in *ep-ana-títhēmi* possibly contribute to profiling the endpoint of the motion event of putting something against something else to be shut.²⁶ Later on, once *ep-ana-títhēmi* undergoes lexicalization, it spreads to events of closing that imply no caused motion.

²⁶ This motion implies a rotation from the vertical to the horizontal axis, which Luraghi (2003: 299-300, 2006) also observed for the preposition *epí* and for other prepositions expressing verticality, such as *katá* ‘downward’ and *hupér* ‘over’ (Luraghi 2003: 206, 222; on *hupér*, see also Zanchi 2016).

I consider partially compositional the majority of Homeric composites with multiple preverbs (34 out of 64), which are displayed in Table 25.

Table 25. Homeric partially compositional composites

<i>Composite</i>	<i>Meaning</i>
<i>amphi-peri-stéphomai</i>	put around as a crown
<i>an-eph-állomai</i>	leap upon after
<i>ap-ek-lanthánomai</i>	forget entirely
<i>apo-pro-airéō</i>	take away from
<i>apo-pro-témnō</i>	cut off from
<i>eg-kata-pégnumi</i>	thrust firmly in
<i>eg-kata-títhemi</i>	put upon/around, store up
<i>eis-aph-ikánō</i>	arrive at, come to
<i>eis-aph-iknéomai</i>	arrive at, come to
<i>ek-pro-leípō</i>	forsake
<i>ex-ana-dúomai</i>	emerge from
<i>ex-ana-lúō</i>	set quite free from
<i>ex-apo-bainō</i>	step out of
<i>ex-apo-díomai</i>	chase away out of
<i>ex-apo-dúnō</i>	put off
<i>ex-ap-óllumi</i>	perish utterly out of
<i>ex-apo-néomai</i>	return back out of
<i>ex-apo-nízō</i>	wash thoroughly
<i>ex-aph-airéō</i>	take away from
<i>ep-an-ístēmi</i>	stand up after
<i>ep-em-bainō</i>	stand upon
<i>ep-en-taníō</i>	bind tightly to
<i>epi-pro-íallō</i>	place forth before (set out)
<i>hup-ek-pheúgō</i>	flee away from under
<i>hup-ek-pro-lúō</i>	loose from under
<i>hup-ek-pro-pheúgō</i>	flee forth away secretly
<i>hup-ex-ana-dúomai</i>	emerge from under
<i>para-kata-lékhomai</i>	lie down beside
<i>par-ek-pro-pheúgō</i>	flee away from beside
<i>par-ex-ágō</i>	lead past
<i>par-ex-elaúnō</i>	drive past
<i>par-ex-érkhomai</i>	slip past, pass by, overstep
<i>peri-pro-khéomai</i>	be poured all around
<i>pro-kath-ízō</i>	perch forth (of birds)

A number of such composites show redundancy of some kind. Either the meaning of the preverbs overlaps with one another (41); or the meaning of one of the preverbs, usually the IP, is redundant as against that of the verbal stem to which it attaches (42).

- (41) Composites containing preverbs with overlapping meanings
- a. *amphi-peri-stéphomai* around-around-put_as a crown
 - b. *ap-ek-lanthánomai* totally-totally-forget
- (42) Composites containing a redundant preverb
- a. *an-eph-állomai* up-after-leap
 - b. *ep-an-ístēmi* after-up-stand
 - c. *ex-**apo**-néomai* return back out of
 - d. *pro-kath-ízō* forth-downward-sit > perch forth (of birds)
 - e. *peri-**pro**-khéomai* around-all-be_poured
 - f. *hup-ek-**pro**-pheúgō* secretly-away-forth-flee
 - g. *hup-**ek**-pheúgō* under-away-flee
 - h. *eis-aph-iknéomai* to-arrive

I already discussed the semantic overlap between *amphi-* and *peri-* (cf. Section 4.1). As for *ap-ek-lanthánomai* ‘forget entirely’, the two preverbs share the telic and grammaticalized meaning of ‘totally’. Examples (42)a-h display composites containing a preverb that shows semantic solidarity with the verb. In (42)a-b, the meaning of *ana-* ‘upward’ is implied by the events of leaping (*hállomai*) and standing (up) (*hístēmi*), as is the meaning of *kata-* ‘downward’ implied by the event of sitting, shown in (42)d (cf. also *para-katalékhomai* ‘lie down beside’).²⁷ In addition, the meaning of way back conveyed by *apo-* is inherent to the verb *néomai* ‘return’, as shown in (42)c.

Similarly, in (42)e, the idea of covering and intensification brought about by *pro-* is inherent to the act of pouring (cf. also *ek-pro-leípō* (lit.) ‘out_of-forth-leave’, the composite describing Achean soldiers’ overwhelming (*pro-*) runoff out of (*ek-*) the Trojan horse against their enemies). The preverb *pro-* expressing Path is also redundant in combination with the verb *pheúgō* ‘escape’ (42)f, as the event of escaping implies a Path to follow on the run. In fact, *pro-* is omitted in *hup-ek-pheúgō* (42)g, in which the preverb *ek-* can be in turn seen as redundant: the event of escaping also implies an entity to escape from.

²⁷ The combination of *kata-* + *hízō* early started being treated as a non-composite unit, as shown by forms such as *e-káthize:IMPF.3SG* (Xen.+), whereby the augment *e-* occurs externally with respect to the preverb (Joseph 2017).

Interestingly, in *eis-aph-iknéomai* ‘arrive at, come to’ (42)h, the EP *eis-* indicating Goal is added to a motion verb already implying a Goal-participant. The composite *aph-iknéomai* ‘arrive’ contains a preverb, *aph-* (*apo-*) ‘away from’, that underwent semantic bleaching at a preceding stage. The root for *hiknéomai*, that is, **sejk-* ‘reach, achieve’ (LIV²: 522), has an inherent Goal component. As reaching a Goal subsumes the previous event of leaving a Source, the Source-preverb *apo-* early became redundant and was reanalyzed as a marker for telicity (cf. the discussion on *ex-ap-óllumi* in (32)).

Non-compositionality does not always originate from redundancy. In (43), for example, the EP *ex-* is added to a preceding composite, whereby the semantic contribution of the IP *ana-* reverses the meaning of the simplex verb (*díomai* ‘sink’ vs. *ana-díomai* ‘emerge’):

- (43) [*ex-ana-díomai*] ‘[from-[emerge]]’
poliês *halòs* *ex-anadûsai*
 grey.GEN sea.GEN from-emerge_from.PTCP.AOR.NOM.PL.F
 ‘(The seals sleep close together,) as they had emerged from the grey sea.’
 (*Od.*4.405)

Interestingly, *ex-ana-díomai* ‘emerge from’, shown in (43) is likely to have influenced the formation of the composite *ex-apo-dúnō* ‘put off’, shown in (44).

- (44) *ex-apo-dúnō* ‘put off’
heímata *d’* *exapédune*
 clothing.ACC.PL PTC put_off.IMPF.3SG
 ‘(He) put off the clothes, (which heavenly Calypso had given him.)’ (*Od.*5.372)

The simplex verb *dúnō* can also mean ‘put on’ and is reversed by the addition of *apo-* ‘away from’, resulting in ‘put off’. As far as the EP *ex-* is concerned, however, in (43), it clearly contributes to pointing to a Source-participant, which is further specified by the genitive case (*poliês halòs* ‘of (the) grey sea’), whereas it has a bleached meaning in (44).

A telic interpretation is difficult for it, as the composite occurs in the imperfect. Although, in principle, it might mean generic separation, my guess is that *ex-* in *ex-apo-dúnō* is added by analogy with *ex-ana-dúomai*: both composites contain the same verbal root, an interior pseudoreversative preverb, and the exterior *ex-*. In addition, *ex-apo-* in itself is the most frequent combination of preverbs (cf. Table 21).

4.4. Summarizing the meanings of preverbs in multiple preverb combinations

Table 26 summarizes the meanings of Homeric multiple preverbs. Each meaning is exemplified by a composite.

Table 26. The meanings of Homeric multiple preverbs

<i>Preverb</i>	<i>Meaning</i>	<i>Example</i>
<i>amphi-</i>	around	<i>amphi-peri-stéphomai</i> ‘put round as a crown’
	iteration	<i>amphi-peri-strōpháō</i> ‘keep turning around all ways’
<i>ana-</i>	upward	<i>eis-ana-bainō</i> ‘go upward to’
	upon (implied movement)	<i>ex-up- an-ístēmi</i> ‘stand upon (being grown) from underneath’
	refusal	<i>ap-an-aínomai</i> ‘disown, reject’
	pseudoreversative	<i>ex-ana-dúomai</i> ‘emerge from’
<i>apo-</i>	up as having control	<i>ex-ana-lúō</i> ‘set free from’
	away from	<i>apo-pro-íēmi</i> ‘send forth away, let fall’
	back (again)	<i>ex-apo-néomai</i> ‘return back out of’
	pseudoreversative	<i>ex-apo-dúnō</i> ‘put off’
<i>dia-</i>	completion	<i>ap-ek-lanthánomai</i> ‘forget entirely’
	through	<i>di-éx-eimi</i> ‘go out through’
<i>eis-</i>	distributive	<i>di-ex-eréomai</i> ‘ask completely a number of questions’
	to	<i>eis-ana-bainō</i> ‘go upward to’
<i>en-</i>	into	<i>eg-kata-pégnumi</i> ‘thrust firmly in’
	(in)to	<i>eg-kata-títhemí</i> ‘put upon/around, store up’
	tightly	<i>ep-en-taníō</i> ‘bind tightly to’
<i>ex-</i>	out of	<i>di-éx-eimi</i> ‘go out through’
	from	<i>ek-kat-eîdon</i> ‘look down from’
	pseudoreversative	<i>ex-apo-dúnō</i> ‘put off’
	completion	<i>di-ex-eréomai</i> ‘ask completely a number of questions’
<i>epi-</i>	upon	<i>an-eph-állomai</i> ‘leap upon after’
	to	<i>ep-en-taníō</i> ‘bind tightly to’
	against	<i>ek-kat-eph-állomai</i> ‘leap down from’
	after (Stimulus)	<i>ep-an-ístēmi</i> ‘stand up after (someone’s words)’
<i>huper-</i>	over (Resultative)	<i>huper-kata-bainō</i> ‘go downward over’

<i>hupo-</i>	under, beneath	<i>ex-up-an-ístēmi</i> ‘stand up from under’
	behind	<i>hup-ek-pro-théō</i> ‘run forth from behind, outstrip’
	secretly	<i>hup-ek-pro-pheúgō</i> ‘flee away secretly from’
	down as lacking control	<i>hup-ek-sōizō</i> ‘save (by drawing) away from the control of’
<i>kata-</i>	ingressive	<i>hup-ex-ana-dúomai</i> ‘start emerging gradually from’
	downward	<i>eis-kata-bainō</i> ‘go down to’
<i>para-</i>	along	<i>huper-kata-bainō</i> ‘go downward over’
	beside	<i>para-kata-bállō</i> ‘throw down beside’
<i>peri-</i>	past	<i>par-ex-ágō</i> ‘lead past’
	around	<i>amphi-peri-stéphomai</i> ‘put round as a crown’
<i>pro-</i>	iteration	<i>amphi-peri-strōpháō</i> ‘keep turning around all ways’
	forth, forward	<i>ek-pro-kaléomai</i> ‘call forth from’
	covering	<i>peri-pro-khéomai</i> ‘be poured all around’
	iteration	<i>pro-pro-kulíndomai</i> ‘keep rolling in front of’

5. The syntactic status of multiple preverbs

This Section addresses the issue as to whether multiple preverbs can select the case taken by the verbs onto which they attach, thus affecting their argument structure.

According to Imbert (2008), EPs are relational in nature: they are clitics that syntactically function as adpositions. Along this line, Imbert further argues that multiple preverbs developed from previous post-positions. Imbert’s analysis is backed up by a number of Homeric occurrences (53 out of 138), in which the second argument of the composite (ARG in (45) below) immediately precedes it. What is more, this argument is inflected in the same case as that required by the EP, when it functions as a preposition. This results in the following ambiguous construction:

(45) [ARG] [EP IP V] vs. [ARG EP] [IP V]

By contrast, as I argued in Zanchi (2014), my account follows Boley’s position (2004: 52) on the issue. In Homeric Greek, one can find some evidence suggesting that preverbs (Boley’s *place words*) were originally clear additions to what we regard as the basic sentence, whose meaning could be also expressed by means of a verb and a concrete case. Therefore, if we think of grammaticalization as a process involving increasingly

obligatorification (cf. Lehmann 1995[1982]), then Homeric multiple preverbs are – at least not always – fully grammaticalized yet, as they are not always obligatory.

In what follows, I will show that preverbs are still movable (Section 5.1), or even syntactically optional (Section 5.2). Furthermore, I will highlight passages that do not raise ambiguous interpretations, as the argument occurs in a position or has a form that cannot be selected by the EP (Section 5.3). In Section 5.4, I will show that the addition of preverbs has occasionally the side-effect of centralizing a verbal argument (i.e. preverbs can function as applicatives). Lastly (Section 5.5), I will discuss unambiguous examples in which preverbs developed from previous adverbs, as the composites take no arguments.

5.1. *Movable preverbs*

Constructions involving multiple preverbs are often semantically equivalent to constructions involving a preverb (the IP) and an adverb or an adposition.

(46) a. Construction with multiple preverbs

ēlios *dè* *ouranoû* *ex-ap-ólōle*,
 sun.NOM PTC heaven.GEN out_of-utterly-perish.PRF.3SG
 ‘The sun has perished out of heaven.’ (*Od.*20.356)

b. Construction with the IP and (quasi-) prepositional phrases

hōs *éris* *ék=te* *theôn* *ék=t*
 oh_that strife.NOM out_of=and god.GEN.PL out_of=and
anthrṓpōn *ap-óloito*
 man.GEN.PL utterly-perish.OPT.FUT.3SG
 ‘Oh! May strife perish utterly from among gods and men!’ (*Il.*18.107)

In (46)b, *ék* does not occur in preverbal position, but it precedes twice its genitive modifiers, namely *theôn* ‘gods:GEN’ and *anthrṓpōn* ‘men:GEN’. It is separated from the genitives by the enclitic coordinative particle =*t(e)* ‘and’, which suggests its free-standing

down from against’, *kat-eph-állomai* ‘leap down against’, and *huper-kata-bainō* ‘go downward over’ (Zanchi 2014: 121–133).

5.2. Optional preverbs

With other composites, such as *ex-ana-dúomai* ‘emerge from’, EPs can even be omitted without violating the grammar and altering the meaning of the sentence:

(48) a. Construction with multiple preverbs (cf. (43))

poliês *halòs* *ex-anadúsai*
 grey.GEN sea.GEN out_of-emerge.PTCP.AOR.NOM.PL.F

‘(The seals sleep close together), after emerging out of from the grey sea.’
 (*Od.*4.405)

b. Construction without the EP

karpalímōs *d’* *anédu* *poliês* *halòs*
 quickly PTC emerge.AOR.3SG grey.GEN sea.GEN

‘And (Thetis) quickly arose from the grey sea.’ (*Il.*1.359)

Arguably, the construction in (48)b is allowed, as the orientation of *ana-dúomai* ‘emerge’ in combination with a noun phrase referring to the ‘grey sea’ and inflected in the genitive case (*poliês halòs*) is unambiguous: it is common knowledge that entities can emerge out of the sea, whereas cannot emerge ‘into the sea.

Homeric poems offer more of such passages: I refer to Zanchi (2014: 123–132) for the thorough discussion of the composites *eis-aph-iknéomai* ‘arrive at, come to’, *eis-ana-bainō* ‘go upward to’, *eis-kata-bainō* ‘go downward to’, *eg-kata-pégnumi* ‘thrust firmly in’, and *e-pi-pro-íēmi* ‘send forth (to)’.

5.3. *Non ambiguous constructions*

In other occurrences, such as (49)a-b, the lack of adjacency between the EP and the argument makes it difficult to assume any binding syntactic relation between them.

(49) a. Post-verbal argument

<i>kaì</i>	<i>ex-ap-ébēsan</i>		<i>hetaîroi</i>		<i>nēós</i>
and	ouf_of-away_from-walk.AOR.3PL		comrade.NOM.PL		ship.GEN

‘And (the) comrades stepped out of the ship.’ (*Od.* 12.306–307)

b. Non-immediately preverbal argument

<i>tôì</i>	<i>d’</i>	<i>ára</i>	<i>par-kat-élektō</i>		<i>gunḗ</i>
DEM.DAT	PTC	PTC	beside-down-lie.AOR.3SG.MID		woman.NOM

‘A woman, (whom he brought from Lesbos,) lay next to him.’ (*Il.* 9.664)

According to Imbert’s (2008: 209 ff.) explanation, in occurrences such as (49)a-b, the argument and the EP are *no longer* syntactically related. However, such an explanation commits Imbert to assuming either postpositions for Proto-Indo-European, which is far from being undisputed (cf. Chapter 2, Section 1.3), or a non-economic path of development, including an intermediate postpositional stage in between two distinct adverbial stages:

(50) (PIE) *adverb > **postposition** > adverb > preverb/preposition

In the light of (49)a-b, it is simpler to assume no postpositional stage between the adverbial origin and the preverbal development.

Similarly, in passages such as (51), a syntactic relation holding between the EP and the argument can be excluded, as the form of the argument and the form required by the EP do not match:

- (51) *ou gár pṓ poté m' hōde theâs éros*
 NEG PTC yet ever 1SG.ACC thus goddess.GEM desire.NOM
oudè gunaikòs thumòn enì stēthessi
 NEG woman.GEN spirit.ACC in breast.DAT.PL
peri-pro-khutheìs edámassen
 around-forth-be_poured.PTCP.AOR.PASS.NOM overpower.AOR.3SG
 ‘For never such a desire for goddess or mortal woman has so been poured all round
 my breast and overwhelmed my heart.’ (*Il.* 14.315–316)

In (51), the prepositional phrase *enì stēthessi* ‘in my breast(s)’ expresses the Goal-participant taken by the composite *peri-pro-khéō* ‘be poured all around’, but cannot be select by the EP *peri-*. Notably, these occurrences challenge Imbert’s claims that EPs are relational in nature, as not all multiple preverb composites take prepositional arguments (*contra* Imbert 2008: 212).

5.4. Multiple preverbs as transitivity morphemes

The composite *ex-apo-nízō* ‘wash thoroughly’ (a Homeric *hápax*) features the following construction:

- (52) *toû pódas exapénizen*
 DEM.GEN foot.ACC.PL wash_thoroughly.IMPF.3SG
 ‘(And the old woman took a bright-shining pot,) thoroughly washed his feet, (and
 poured much water in.)’ (*Od.* 19.387)

The passage in (52) tells about Odysseus’ old nurse who recognized him, while washing his feet. The composite *ex-apo-nízō* is transitive and takes the direct object *pódas* ‘feet’. The EP *ek-* highlights the actional notion of completeness, already inherent to *apo-nízō* ‘wash off completely’ (Chantraine 1953: 97), rather than being an applicative marker: the composite *apo-nízō* ‘wash off’, which only contains the IP *apo-*, is also transitive. As

shown in (53)a-b, *apo-nízō* (and its Homeric and Attic-Ionic variant *apo-níptō*, analogically built after the future and the aorist forms; cf. DELG: 754) can take the accusative either of the washed entity (53)a, or of the removed substance (53)b:

(53) a. Accusative of the washed entity (cf. (52))

tèn *apo-nízousa* *phrasámēn*
 DEM.ACC away_from.wash.PTCP.PRS.NOM perceive.AOR.1SG.MID
 ‘While washing it [Odysseus’ scar], I recognized it.’ (*Od.*23.75–76)

b. Accusative of the removed substance

apo-nípsantes *mélana bróton* *ex* *ōteilēōn*
 away_from.wash.PTCP.AOR.NOM.PL black.ACC blood.ACC out_of wound.GEN.PL
 ‘As (they) had washed the black blood from the wounds ...’ (*Od.*24.189)

The example (53)b contains the same elements as the composite *ep-apo-nízō*, though arranged in a different order: in (53)b, the EP *ek-* functions as a preposition, and retains its Source-meaning, which is bleached in (52), resulting in a lexicalized composite.³⁰

Furthermore, the same construction alternation shown for *apo-nízō* is also featured by the simplex verb *nízō* ‘wash’, which alternatively takes the accusative of the thing washed (e.g. *Il.*16.230; cf. (53)a), or of the removed substance (e.g. *Il.*11.830; cf. (53)b). Hence, the transitive construction featured by *ex-apo-nízō* (52) is arguably not the final step of the lexicalization process undergone by the composite. To put it differently, the addition of *ex-* and *apo-* has nothing to do with the extension of the transitive construction to *ex-apo-nízō* (*contra* Imbert 2008: 206 ff.).

By contrast, there are composites whereby the addition of preverbs has the effect of centralizing a previously peripheral argument (cf. Chapter 2; Peterson 2007 on applicatives). In examples (54)a-b, the addition of *pro-* and *dia-* builds transitive verbs out of intransitive manner of motion verbs, i.e. *théō* ‘run’ and *báinō* ‘walk’. The centralized participants are the Goal- and the Path-participants, respectively.

³⁰ To be more precise, in (53), the preposition *ek* also partially deviates from the etymological meaning of *ek*: it has no longer elative value, but only a generic ablative meaning.

- (54) a. *hup-ek-pro-théō* (Il.9.505)
 behind-out-forth-run
 ‘run forth from behind’ > ‘outstrip’+ACC
 [*pro-théō*+ACC]
- b. *ek-dia-bainō* (Il.10.198; cf. (31))
 entirely-through-walk
 ‘walk through entirely’ > ‘pass over, cross’+ACC
 [*dia-bainō*+ACC]

In (54)a-b, the Homeric preverbs *pro-* and *dia-* seem to function as applicatives, i.e. ‘a means some languages have for structuring clauses which allow the coding of a thematically peripheral argument or adjunct as a core-object argument. Such constructions are signaled by overt verbal morphology’ (Peterson 2007: 1).³¹

5.5. *Composites taking no second argument*

A number of Homeric composites containing multiple preverbs take no second arguments. This does not necessarily imply that preverbs have developed into actional markers, but simply suggest that preverbs in principle might not call for further spatial specifications. In fact, some composites that retain their compositional and spatial meaning, such as *hup-ek-pro-réō* ‘flow forth from beneath’, take no second argument:

- (55) *polù d’ húdōr kalòn hup-ek-pró-reen*
 much PTC water.NOM fair.NOM under-from-forth-flow.IMPF.3SG
 ‘And much and clear water was flowing forth from beneath.’ (Od.6.86–87)

³¹ Horrocks (1981: 44) assigns a similar function to the preverb *pros-* in *pros-eipon* ‘address’ (< ‘to-say’); his remark however meets counterexamples (cf. Chapter 2, examples (9)–(10)). Viti (2008a) thoroughly investigates the similarities between Homeric preverbs and applicatives, focusing on their common ability of introducing topical arguments. Viti (2008a) regards topicality as the key for understanding the subsequent development of preverbs into markers of telicity (cf. Section 5.5).

In (55), the text tells about the abundant water of a spring, welling up from beneath (*hup-ek-*) and flowing all around (*pro-*). The preverbs profile each component of the Trajectory covered by the flowing water. Arguably, they do not need further specifications, as how water springs from beneath the ground is part of the common encyclopedic knowledge presumably shared by speakers.

Drawing a link to common, non-salient (i.e. topical) pieces of information is what preverbs in (55) share with preverbs in (56) below:

(56)	<i>hoì</i>	<i>d'</i>	<i>ep-an-éstēsan</i>	<i>peíthontó</i>	<i>te</i>
	DEM.NOM.PL	PTC	at-up-stand.AOR.3PL	obey.IMPF.3PL.M/P	and
	<i>poiméni</i>	<i>laôn</i>			
	herdsman.DAT	people.GEN.PL			

‘(As soon as he spoke in this manner, he was the first going away from the assembly,) they stood up at (his words) and obeyed the herdsman of people.’

(*Il.*2.84–85)

In Section 4.2, I already discussed the redundancy of the IP *ana-* in this composite. Interestingly, the addition of the EP *epí-* establishes an anaphoric reference to the previous context: the Achaeans did not stand up on their own initiative, but after Nestor’s words. As Chantraine (1953: 106) highlights, *epi-* often underlines the feeling that comes from an event, which is also the function that *epi-* seems to have in (56). Thus, in (56), *epi-* contributes to textual cohesion, a function that has been assigned to Hittite and Homeric preverbs by Boley (2004: 56–58) and to Vedic preverb repetitions by Klein (e.g. 1987, 2007).

In other composites from my sample, multiple preverbs show similar behaviors: e.g. *an-ep-állomai* ‘leap upon after’ (see example (58)), *di-éx-eimi* ‘go out through’ (29), and *ep-en-taníō* ‘bind tightly to’. Another clear context in which a preverb serves textual cohesion is example (20), containing the composite *pro-kath-ízō* ‘perch forth’. As I pointed out in Section 2.1, *pro-* has the function of providing precise textual cues for the comparison between Achaeans’ and birds’ forward movement.

6. Preverb ordering

Table 27 summarizes the positioning of Homeric preverbs. Not all preverbs allow for both interior and exterior positioning; moreover, not all virtually possible combinations of preverbs are attested. This might be a matter of gap in the attestations, or suggest that there are constraints, or tendencies, driving the univerbation of preverbs.

Table 27. The positioning of Homeric Greek preverbs and their frequencies

<i>Preverb</i>	<i>Exterior</i>	<i>Medial</i>	<i>Interior</i>
<i>amphi-</i>	2 (100%)	-	-
<i>ana-</i>	1 (7%)	-	13 (93%)
<i>apo-</i>	3 (23%)	-	10 (77%)
<i>dia-</i>	1 (50%)	-	1 (50%)
<i>eis-</i>	7 (100%)	-	-
<i>ek-</i>	18 (44%)	6 (15%)	17 (41%)
<i>en-</i>	1 (33%)	-	2 (67%)
<i>epi-</i>	6 (67%)	-	3 (33%)
<i>huper-</i>	1 (100%)	-	-
<i>hupo-</i>	10 (91%)	1 (9%)	-
<i>kata-</i>	1 (11%)	1 (11%)	7 (78%)
<i>para-</i>	13 (100%)	-	-
<i>peri-</i>	1 (33%)	-	2 (67%)
<i>pro-</i>	2 (14%)	-	12 (86%)

6.1. *Imbert's (2008) constraints on preverb ordering*

Bybee (1985: 33–35) highlights that an *order and relevance principle* rules the order of affixes on stems. Such a principle implies that the more an affix is relevant to the stem, the closer it will be to it (cf. Section 3.3). Taking inspiration both from Bybee's work and from Craig's (1993) and Grinevald's (2003) studies on the affix order of directional in Jakalteq Popti' (Mayan family, Guatemala), Imbert (2008: 236 ff.) came up with synchronic semantic constraints determining the ordering of preverbs in Homeric composites.

Imbert arranged the preverbs in three slots, the leftward numbering starting from the verb stem, as shown in Table 28. These slots are not interchangeable: a preverb of the slot [-3] cannot be more internal than a preverb of the slot [-1]; nor overlapping: two preverbs

belonging to the same slot cannot co-occur. In line with Papke (2010: 68), I rename the three slots as follows:

- [-1] *Orientation/Trajectory*. Preverbs belonging to this slot determine how the TR is oriented on its trajectory (vertical or horizontal orientation) and express median types of motion (Path).
- [-2] *Location*. Preverbs belonging to this slot localize the TR with respect to the LM during a motion event; they establish the action at a point of space.
- [-3] *Direction*. Preverbs belonging to this slot determine the relation of the trajectory with respect to the LM.

Table 28. Imbert’s synchronic semantic constraints on preverb ordering

-3 Direction	-2 Location	-1 Orientation/Trajectory	V Verb
<i>eis-</i> ‘(in)to’ <i>ek-</i> ‘out of’ <i>epi-</i> ‘at, onto’ <i>amphi-</i> ‘on both sides’	<i>apo-</i> ‘off’ <i>en-</i> ‘in,into’ <i>para-</i> ‘beside’ <i>peri-</i> ‘around’ <i>huper-</i> ‘above’ <i>hupo-</i> ‘under’ <i>parek-</i> ‘out beside’ <i>hupek-</i> ‘out from under’	<i>ana-</i> ‘up, back’ <i>kata-</i> ‘down’ <i>pro-</i> ‘forth’ <i>dia-</i> ‘through’	

Overall, the closer the preverb to the verbal stem, the higher its relevance to the determination of the trajectory and of the TR. Conversely, the farther the preverb from the verbal stem, the higher its relevance to the determination of the LM and of how trajectory relates to it.

6.2. *Issues as to Imbert’s approach*

To my understanding, Imbert’s approach to preverb ordering raises a number of issues. To begin with, a purely synchronic account is not appropriate for analyzing Homeric poems, which constitute an inherently diachronic corpus (cf. Introduction).

Moreover, her commitment to this synchronic account forces her to *a priori* get rid of a number of composites, i.e. those containing double prepositions whose second

member is *ek-*. When they are univerbated to verbal stems, these combinations result in an interior *ek-*, whereas this preverb is supposed to occupy the outermost slot [-3]. Imbert's treatment of double prepositions, however, is not consistent: she does not even discuss composites containing *apo-pro-*, *amphi-peri-*, and *peri-pro-*, although they can also occur as double prepositions in Homer, simply because these sequences do not contradict her constraints (see fn. 11, Section 2.3). In addition, as argued in Section 2.3, the existence of double prepositions does not imply that the preverbs univerbated as a double unit: for example, we have seen that *ap-ek-lanthánomai* (30), and *apo-pro-íēmi* (35), *di-éx-eimi* (29), and *di-ex-eréomai* (21) can be better analyzed as containing an EP and an IP, than as containing a double preverb.

Imbert also *a priori* excludes *pro-kat-hízō* 'perch forth', as it contains two preverbs belonging to the [-1 Figure Orientation and Median Path] slot. This analysis underestimates the polysemy of Greek preverbs: in *pro-kat-hízō*, *pro-* does not indicate Path, but the final Location in which the birds complete their trajectory (cf. example (20)). In this respect, it is more consistent to her [-3 Path/Ground relation] slot.

Furthermore, Imbert (2008) does not sufficiently take into account the interaction between verbs, preverbs, and cases in describing spatial relations. For example, in (57), the EP *epí-* does not establish a *Path/Ground* relation (slot [-3]), as it is supposed to do. Rather, the described spatial relation is static and does not imply any trajectory at all (i.e. Path in Imbert's terms):

- (57) *oudoû* *ep-em-bebaðs* *hupsērephéos* *thalámoio*
 threshold.GEN on-in-walk.PTCP.PRF.NOM high_roofed.GEN bedroom.GEN
 'Standing upon the threshold of the high-roofed bedroom.' (*Il.*9.582; cf. (23))

In (57), the composite *ep-em-bainō* is in the perfect and has the resultative meaning of 'stand upon'. Thus, a resultative stative verb takes the adpositionless genitive (*oudoû*) of

Location. The spatial relation in (57) does not imply motion, and thus *epi-* indicates Location (as preverbs of the [-2] slot do), rather than Motion.³²

Imbert (2008) also excluded the composites *an-eph-állomai* ‘leap upon after’ (58), *kat-eph-állomai* ‘leap down against’ (59), and *ek-kat-eph-állomai* ‘leap down from against from’ (60) for methodological reasons. In fact, if the segmentation resulting in *hállomai* is correct, which is not undisputed (see Section 2.1.1), then the interior position of *epi-* poses problems for Imbert’s constraints.

(58) *hōs eîd’, hōs an-ep-âlto, kai*
 as see.AOR.3SG so up-after-spring.AOR.SG.MID and
eukhómenos épos ēúda
 pray.PTCP.NOM.M/P word.ACC speak.IMP.3SG
 ‘As soon as (Achilles) saw (him), so (he) lept up at (his sight) and, praying, said a word.’ (*Il.*20.424)

(59) *étoi hó g’ ex hippōn*
 truly DEM.NOM PTC out_of horse.GEN.PL
kat-ep-álmenos antíos éstē
 down-against-leap.PTCP.AOR.NOM.MID set_against stand.AOR.3SG
 ‘(Oïleus) verily leapt down from his chariot and stood and faced him.’ (*Il.*11.94)

(60) *ouranoû ek-kat-ep-âlto di’ aithéros.*
 heaven.GEN from-down-against-leap.AOR.3SG.MID through ether.GEN
 ‘(Athena) lept down from heaven through ether.’ (*Il.*19.351)

In (58), *epi-* arguably refers to the Stimulus-participant, who was seen by Hector and triggered Hector’s hostile leaping. In (59) and (60), *epi-* also carries a hostile sense, pointing to the enemy to be faced by the leaping hero or deity. In (58)–(60), *epi-* seems to contradict Bybee’s order and relevance principle, as the interior preverb is possibly less

³² In line with this interpretation, the prepositional phrase *ep’oudou* ‘upon the threshold’ (*epi*+GEN) always occurs with stative verbs such as *hístēmi* ‘stand’ (e.g. *Od.*1.104) or *hézomai/hízō* ‘sit’ (*Od.*4.718, 10.62, 17.339).

coherent to the semantics of the verb ‘leap’ than the exterior one. However, Bybee’s principle by definition applies to affixes, whereas Homeric preverbs partially retain their clitic status (cf. Section 1.2). Thus, *ana-* and *kata-* might simply retain much of their adverbial original usage, which is in fact documented for both elsewhere in Homer (Chantraine 1953: 90, 112). Lastly, in none of the above examples, *epi-* is specified by a further noun- or prepositional phrase indicating Stimulus or Goal. Conversely, in (60), the semantic contribution of *kata-* (Path) is spelled out by the prepositional phrase *di’ aithéros* ‘through ether’, whereas that of *ek-* (Source) by the adpositionless genitive *ouranoû* ‘from the heaven’. In this respect, the preverb ordering is not surprising for (60).

6.3. *An integrated account for preverb ordering*

My account of preverb ordering integrates Bybee’s order and relevant principle with other cognitive and historical kinds of explanations.

The ‘redundancy’ principle. As far as developments of preverbs are concerned, Bybee’s relevance should be renamed and described as semantic overlapping or redundancy. Those preverbs whose meaning is subsumed by the semantics of the verbal stem that they modify are likely to attach closer to it. Ultimately, they might also be re-analyzed as part of the verb, or as actional markers.

The ‘lower salience’ principle. Preverbs whose semantic contribution is not further specified by a noun or prepositional phrase tend to attach more internally. These are likely to be Path- and Source-preverbs, as the Path and the Source components are arguably less salient to the expression of spatial relations.³³ Their low salience, or high topicality, also explain their tendency to be re-analyzed as markers for completion (cf. Viti 2008a, 2008b). Each of these two principles contributes to clarifying why *apo-* (Source), *kata-*, *ana-*, *pro-* (Path) preferably select the interior position.

³³ On the marginal status of Path and perlatives within case systems, see Luraghi (2003: 22) and Malchucov & Spencer (2009: 614). On the lower saliency of Source with respect to Goal, see Ikegami (1987), Ungerer & Schmidt (1996) and Verspoor, Dirven & Radden (1999).

For each preverb, its development. The two principles outlined above do not override the fact that each preverb's meaning or path of development can be relevant to its positioning (this might sound obvious, but can prevent us from the temptation of overgeneralization; see also Boley 2004: 23). For example, why does the Source-preverb *ek-* have a weaker tendency to select the interior position with respect to *apo-*? A possible answer is that *ek-* bears a heavier semantic content than *apo-*: whereas *apo-* indicates a generic separation, *ek-* also carries an elative nuance. It nevertheless develops telic usages on grounds related to metaphor. EVENTS can be thought of as LOCATIONS, and in particular as CONTAINERS: both EVENTS and CONTAINERS imply physical or temporal boundaries. Furthermore, moving out of a CONTAINER-EVENT implies that such an EVENT is over. As a telic marker, then, *ek-* can modify composites containing another preverb attached at a preceding stage: e.g. *apo-nízō* 'wash off' vs. *ex-apo-nízō* 'wash off thoroughly'; *apo-tínō* 'pay back' vs. *ex-apo-tínō* 'pay back in full'; *dia-bainō* 'go through' vs. *ek-dia-bainō* 'pass over'.

Other two preverbs select the exterior position: *eis-* '(in)to' and *para-* 'besides'. The former is a relatively recent formation, not spread to all Greek dialects (**en-* 'in' + *s* 'modal ending' > *eis* with compensatory lengthening; DELG: 326; LIPP II: 226 and references therein). As such, it retains a clear spatial meaning. The preverb *para-* instead is known for his exceptional 'adverbial' character (Luraghi 2003: 131), which is consistent with its preference for the exterior positioning.

5 Multiple preverbs in Old Church Slavic

1. Preverbs in Old Church Slavic

1.1. *State of the art: the Slavic prefixes*

Verbal preverbs are a major topic in Slavic linguistics. Within this field of study, such uninflected items are usually called ‘prefixes’ due to their affixal status (cf. Chapter 2; Section 1.2 in this Chapter). Slavic preverbs have been widely investigated both from a diachronic and from a synchronic perspective, both within cognitive and formal-oriented theoretical frameworks.

From a diachronic viewpoint, most studies devoted to Slavic preverbs are concerned with understanding the steps and the reasons for their development from spatial adverbs, which used to be their primary function, into ‘boulder perfectives’ in modern Slavic languages (in Bybee & Dahl’s terms 1989; cf. Section 1.2.2). Up to now, many scholars have attempted to show whether, in which manner, at which diachronic stage, and to which extent Slavic preverbs retained their original spatial meanings, gained new lexical, abstract, and actional meanings, and possibly underwent fully grammaticalization processes into purely aspectual markers of perfectivity. Another major topic of investigation is the interaction of the new derivational ‘Slavic-style aspect’ (in Dahl’s 1985 terms), coded by means of perfectivizing preverbs and imperfectivizing suffixes, with the aspectual system inherited from Proto-Indo-European, which was based on verbal stem alternations (cf., among many others, Meillet 1924; van Wijk 1929; Kuryłowicz 1929; Vaillant 1939, 1946; more recently, see Dickey 2012; Eckhoff & Haug 2015; Ruvoletto 2016 on Old Russian; Wiemer & Seržant forthc., and references therein).

From a synchronic perspective, the preverbs of modern Slavic languages have been dealt with in different ways. On the one hand, a good number of cognitively-oriented studies aim to build semantic maps for Slavic preverbs, that is, organized networks (also

called ‘schemas’) in which all concrete, abstract, and aspectual meanings of linguistic polysemous items are directly or indirectly connected to a prototypical meaning in a motivated way (cf. Chapter 1, fn. 11; Lakoff 1987; Langacker 1987; Luraghi 2003; Tyler & Evans 2003). Most work in this regard has been done on East and West Slavic: see Janda & Šarić (2009), who report all the relevant references published before 2009; Le Blanc (2010); Nessel et al. (2011); Janda & Lyashevskaya (2013). As regards South Slavic languages, cognitive-oriented studies on preverbs are also available (cf. e.g. Klikovac 2004, 2006; Lazarevska-Stančevska 2004; Tchizmarova 2005, 2006; Belaj 2008; Šarić 2008, 2010, 2012 and references therein).

Most importantly, a number of these studies try to identify lexical content in the so-called ‘empty prefixes’ (named as such, e.g. in Avilova 1959, 1976; Tixonov 1964, 1998; Forsyth 1970; Švedova et al. 1980; Čertkova 1996), which are usually regarded as being purely aspectual, i.e. grammatical (e.g. Le Blanc 2010; Janda 2012; Janda & Lyashevskaya 2013; Janda et al. 2013; Dicky & Janda 2015). The idea that the putative purely perfectivizing prefixes might not be lexically empty dates back to Vey and van Schooneveld’s work (Vey 1952; van Schooneveld 1958), and has recently been backed up by new statistical evidence. In particular, works by Janda and her associates show that certain Russian preverbs have unique semantic profiles, and exhibit strong inclinations to combine with verbs that belong to specific semantic classes. Furthermore, Janda argues that preverbs’ semantic profiles usually make reference to a spatial path, thus emphasizing the linkage between preverbs and their cognate prepositions, which occasionally retain concrete meanings lost by preverbs.¹ Nevertheless, most scholars, especially if formally-

¹ An exception to this otherwise valid rule seems to be the preverb *po-*, which has lost its spatial profile in Russian. This preverb productively only adds the abstract meanings of perfectivity, as in *po-xudet* ‘lose weight’, and delimitation, as in *po-pisat* ‘write for a while’, whereas its cognate preposition *po* still exhibits the spatial meanings of ‘on, over, along’. Scanty remnants of the original spatial SURFACE-CONTACT (Path) meaning of *po-* are found in the composites *po-kryvat* - *po-kryt* ‘cover’, *po-sejat* ‘sow’, *po-xromirovat* ‘chrome’, and *po-nikelirovat* ‘nickel’ (see Shull 2003: 147–172 for further details). Preverbs such as Russian *po-*, which synchronically have little to do with the spatial meanings of their cognate prepositions, are named ‘orphan prefixes’ (i.e. orphan preverbs) by Dicky (2012). Interestingly, however, *po-* continues spatial

oriented, still support the view that certain preverbs simply function as purely perfectivizing morphemes.

On the other hand, many formally-oriented works on modern Slavic preverbs are concerned with classifying them, according to their semantic and syntactic behaviors, into (a) ‘lexical/ internal’ and (b) ‘super-lexical/ external’ preverbs, and with identifying their combination rules in multiple preverbation or stacking.² Beside lexical and super-lexical preverbs, some scholars suggested that there exists another separate class of preverbs, (c) the ‘empty’ preverbs mentioned above (cf., among others, Babko-Malaya 1999; Filip 1999, 2003; Ramchand 2004; Romanova 2004; Svenonius 2004a, 2004b; Tatevosov 2008, 2009). Briefly, these classes of preverbs show the following distributional and semantic differences. (a) The lexical preverbs display directional and non-compositional meanings. In addition, they are able to derive a new lexical item, and to modify the argument structure of the simplex verb onto which they attach, usually, but not exclusively, by adding new arguments (e.g. Blg. *dam* ‘give’ vs. *pro-dam* ‘sell’). (b) By contrast, the super-lexical preverbs are considered to have predictable and actional (or quantizing) meanings, such as ‘begin’ (ingressive), ‘finish’ (egressive), ‘for a while’ (delimitative), ‘for many times’ (accumulative, distributive), and they do not modify the argument structure of the simplex verb onto which they attach (Blg. *pre-glāštam* ‘swallow **up**’, *pre-pročitam* ‘read **again**’; Rus. *za-pisat* ‘**start** writing’). (c) Lastly, the preverbs with a pure perfectivizing role perfectivize an imperfective verb, without adding any semantic modification (Rus. *na-pisat* (PFV) ‘write’ vs. *pisat* (IPFV) ‘write’).³ In contrast with cognitively-oriented scholars, who regard preverbs as polysemous items, these authors claim that different preverbs with the same phonological content show non-related lexical, super-lexical and pure

meanings in both West (e.g. Polish) and South Slavic (e.g. Slovenian, Croatian). By contrast, *po-* is also orphan in Bulgarian.

² Tatevosov (2008), on the basis of the distributional behavior of Russian completive *do-* and repetitive *pere-*, argues for the existence of a third group of preverbs, which he names ‘intermediate prefixes’.

³ Janda (2007) suggested the labels (a) ‘Specialized perfectives’ for verbs combining with lexical preverbs, (b) ‘Complex Act Perfectives’ for verbs combining with super-lexical preverbs, and (c) ‘Natural Perfectives’ for verbs combining with pure perfectivizing preverbs.

perfectivizing usages. As a combinatory rule in multiple preverbatation or preverb stacking, it is stated that, whenever two preverbs stack onto a single verbal stem, the innermost should be a lexical one, whereas the outmost a super-lexical one, as in (1)a-b:

(1) a. Lexical usage of the preverb *ot-*

<i>kry-tj</i>	<i>ot-kry-tj</i>	<i>ot-kry-va-tj</i>
cover-INF ^{PFV}	away -cover-INF ^{PFV} > open	away -cover-IPFV-INF ^{IPFV} > open
‘cover’	‘open’	‘open’

b. Super-lexical usage of the preverb *po-*

po-ot-kry-va-tj
DSTR-away-open-IPFV-INF^{PFV}
 ‘open **one after another**’

(adapted from Romanova 2004: 255)

As mentioned, multiple preverbs in modern Slavic languages have received some attention: to the above-cited studies, the paper by Istratkova (2004) should be added. Istratkova (2004) focuses on Bulgarian, which is a language allowing for the exceptional stacking of as many as seven preverbs, as shown by example (2):

(2) *za-iz-po-na-raz-pre-prodavam* (IPFV) vs. *prodam* ‘sell’ (< *dam* ‘give’)

start-completely-little_by_little-cumulation-to_many-again-sell
 ‘start selling again everything to many little by little’

(adapted from Istratkova 2004: 311)

Multiple preverbs are far less productive in other Slavic languages than they are in Bulgarian: Russian, for instance, usually combines two preverbs, although combinations of three preverbs are also attested (Istratkova 2004: 306).

By contrast, investigations devoted to multiple preverbs in ancient Slavic languages are scarce, and usually rely only on data taken from dictionaries (e.g. Fil’ 2011). The recent paper by Zanchi & Naccarato (2016) aims to partially fill this gap: it examines the

semantics of Old Church Slavic and Old Russian multiple preverbs by using corpus-based data semi-automatically extracted from the TOROT Treebank (Haug & Jøhndal 2008; Eckhoff & Berdicevskis 2015).

1.2. *The status of preverbs in Old Church Slavic*

1.2.1. *The morphological status of preverbs and their meanings*

Especially since Kuryłowicz (1964: 171–178), it is generally acknowledged that Indo-European preverbs developed from previous free-standing adverbs with spatial meanings, which were originally able to modify both nouns and verbs (cf. Chapter 2; on Slavic in particular, see Vaillant 1966: 467 ff.; 1977: 109 ff.; Arkadiev 2015: 201 ff.). Later on, these adverbial items increasingly became bound to the verbs or nouns that they modified, and thus underwent the well-known functional bifurcation into preverbs and adpositions. A number of ancient Indo-European languages such as Vedic (cf. Chapter 3), Homeric Greek (cf. Chapter 4), and possibly Archaic Old Irish (cf. Chapter 6), attest to a linguistic stage in which preverbs still showed proclitic behavior (cf. further Chapter 2). In other words, preverbs could be separated from the modified verbal stem by means of non-lexical and lexical material (this is the so-called ‘tmesis’; cf. Chapter 2, and references therein).

As far as we know, proclitic behavior is not documented for preverbs in any Slavic text, and thus Old Slavic preverbs are generally said to exhibit the morphological status of prefixes, that is, of bound morphemes (Vaillant 1966: 467; Wiemer & Seržant forthc.). By contrast, Baltic, the most closely related branch to Slavic, preserves scanty traces of the preceding proclitic behavior, as shown in (3):

- | | | | |
|-----|--|--|-------------|
| (3) | a. <u>Standard Lithuanian</u> | b. <u>Old/non-standard Lithuanian</u> | |
| | <i>per-si-kel-ti</i> | <i>ap-mi-šviesk</i> | <i>akis</i> |
| | through-REFL-raise-INF | up/on/to- me -illuminate | eyes |
| | ‘to move (to another place)’ | ‘illuminate my eyes (lit. the eyes on/to me)’ | |
| | (adapted from Wiemer & Seržant forthc.; Rosinas 1995: 10 f.) | | |

c. Multiple preverbs and reflexive pronouns in Lithuanian

su-si-pa-žin-ti

with-REFL-along-V-INF

‘to become acquainted with’

pri-si-pa-žin-ti

at-REFL-along-V-INF

‘to confess, avow’

(adapted from Nevis & Joseph 1992: 96)

In (3)a-c, the reflexive and the first personal enclitic pronouns intervene between the preverb(s) and the verbal stem, thus splitting the EPs from the remaining elements of the (this is similar to what happens in Old Irish, on which see Chapter 6). To sum up, the free positioning that we have observed for Vedic and Homeric preverbs (Chapters 4 and 5) is no longer allowed in the earliest attested Slavic languages, in which preverbs are advanced in their univerbation process, and seem to show distinct behaviors from those of the corresponding prepositions.

However, as Vaillant (1977: 30) points out, Old Church Slavic exceptionally contains passages in which a construction with a preverbed verb and a bare case freely alternates with an equivalent construction containing the simplex verb and a prepositional phrase. Vaillant quotes the constructions *do-iti*+GEN (**preverbed** verb + bare case) and *iti do*+GEN (simplex verb + **prepositional** phrase). As discussed in Section 5.1, even in the relatively small sample of multiple preverbs, one can find such examples, in particular with the composites *prěd(ъ)-po-lagati* ‘distribute to’ and *ъs-pri-imati* ‘receive in return’.

Though the univerbation process of preverbs was advanced in Old Church Slavic, the meaning brought about by preverbs was still detectable and primarily spatial (cf. Vaillant 1966: 470 ff.), as exemplified in (4).

(4) Old Church Slavic preverbs with spatial meanings

iti ‘go’ *iz(ъ)-iti* ‘go **out**’

ob-iti ‘go **around**’

ot(ъ)-iti ‘go **away**’

po-iti ‘go **along a surface**’, ‘depart **from**’

prě-iti ‘go **over, across**’

ъn-iti ‘go **into**’

However, there are also a good number of composites to which preverbs add lexical, but non-spatial, meanings (Aitzetmüller 1991: 150 ff.), as shown in (5)a-e:

(5) Old Church Slavic preverbs with lexical but non-spatial meanings

PREVERB ‘BASIC MEANING’	SIMPLE VERB	COMPOSITE
a. <i>na-</i> ‘onto’	<i>rešti</i> ‘say, tell’	<i>na-rešti</i> ‘announce, designate’
b. <i>otb-</i> ‘away from’	<i>dati</i> ‘give’	<i>otb-dati</i> ‘give back’
c. <i>sɔ-</i> ‘with, down from’	<i>tvoriti</i> ‘make’	<i>sɔ-tvoriti</i> ‘prepare’
d. <i>vɔz-</i> ‘upward’	<i>dati</i> ‘give’	<i>vɔz-dati</i> ‘give back’
e. <i>za-</i> ‘behind’	<i>byti</i> ‘be, become’	<i>za-byti</i> ‘forget’

In a number of the above composites, the semantic contributions of preverbs are quite clear: both *otb-* and *vɔz-* mean ‘back, in return’ in examples (5)b and (5)d. Similarly, it is easy to understand how the lexicalized meaning of *za-byti* ‘forget’ developed from ‘**behind**-be’ (5)e. By contrast, the semantic analysis is less straightforward for other composites: in (5)a and (5)c, the exact semantic contributions brought about by *na-* and *sɔ-* are more difficult to detect (possibly, *na-* refers to the Area-participant, whereas *sɔ-* brings about the idea of togetherness, linked to the event of preparing something).

In other composites, where the meanings of preverbs are particularly difficult to identify, traditional grammars usually describe preverbs as mere completion or perfectivity markers (Vaillant 1966: 471 ff.; Aitzetmüller 1991: 154 ff.).⁴ Preverbs that are explicitly ascribed a telic/perfective function follow: *na-* (*na-plɔniti* ‘fill **up**’ vs. *plɔniti* ‘fill’), *otb-* (*otb-pěti* ‘**finish** a song’ vs. *pěti* ‘sing’), *pro-* (*pro-slɔziti* ‘**burst** into tears’ vs. *slɔziti* ‘cry’), *u-* (*u-bititi* ‘kill’ vs. *bititi* ‘hit’), and *za-* (*za-klati* ‘slaughter’ vs. *klati* ‘kill’). Alongside telicity, other types of actional meanings can be expressed by preverbs: for example, both *pro-* and

⁴ As correctly pointed out by Viti (2008a: 395–396) and frequently remembered throughout this work, the terms completion/telicity and perfectivity were interchangeably used by less recent scholars who discussed the actional values of preverbs. Nowadays, however, terminology has been fixed, and it is generally agreed that the so-called completion/telicity pertains the lexical aspect, whereas perfectivity belongs to the category of grammatical aspect (cf. Chapter 1). As discussed in Section 1.2.2, it is still under discussion whether in Old Church Slavonic the system of ‘bounder perfectives’ was at its onset, under construction, or fully developed. Thus, for the sake of prudence, I speak here of completion/telicity markers, and not of perfectivity markers.

vъz- show an ingressive meaning in *pro-glagolati* and *vъz-glagolati* ‘start talking’, as well as *u-* in *u-zbrěti* ‘catch sight of’. Delimitative meanings were also attested: *po-* functions as a delimitative marker in the composite *sъ-po-žiti* ‘live for a while with’ (cf. Section 4.2).

1.2.2. The development of Slavic preverbs

1.2.2.1. A glimpse into the contemporary system of ‘bounder perfectives’

Modern Slavic languages exhibit a fully developed system of grammatical or viewpoint aspect (for further discussion on the distinction between grammatical and lexical aspect, see Chapter 1, Section 3.2). This grammatical category is regularly expressed, in Slavic languages, by means of both preverbal (6)a and postverbal (6)b morphology:

(6)	a. <u>Simple verb:IPFV</u>	→	<u>preverbatation:PFV</u>
	Polish <i>łowi-ć</i>	→	<i>z-łowi-ć</i>
	catch-INF		P-catch-INF
	b. <u>Preverbatation:PFV</u>	→	<u>secondary suffixation:IPFV</u>
	Polish <i>na-mówi-ć</i>	→	<i>na-mówi-a-ć</i>
	P-persuade-INF		P-persuade-SFX-INF
	(Ø -mówić ‘say, tell’)		
	(adapted from Wiemer & Seržant forthc.)		

As exemplified in (6)a, preverbs, besides adding new lexical meaning to the simplex verbs onto which they attach, are systematically employed to perfectivize imperfective simplex verbs. In some cases, as shown in (6)b, the meaning of the new compound verb turns out to greatly differ from that of the corresponding simple verb after the addition of the preverb, and thus the latter no longer constitutes an adequate imperfective counterpart. Therefore, a new imperfective verb is built via secondary suffixation.

As mentioned in Section 1.2.1, preverbs were originally free-standing spatial adverbs, which later on underwent grammaticalization processes into bounder perfectives. On the other hand, imperfectivizing suffixes mostly go back to ancient Indo-European

suffixes used to build various actional formations semantically close to imperfectivity, such as iteratives, habituals, or duratives (as a cover term for these, Wiemer & Seržant forthc. adopt the label ‘marked unbounded verbs’). Later on, the semantic markedness of these suffixes gradually bleached, and such suffixes ended up functioning as unmarked option for expressing any type of unbounded events, including progressives, iteratives, habituals, and other values related to imperfectivity (cf. Section 3).⁵

Typologically speaking, the aspectual system outlined above complies with the so-called boulder perfective type, whereby perfective markers arise from adverbs such as *up*, *down*, *over*, and *through*, which attach onto verbs to create a sense of completion (Bybee & Dahl 1989; Bybee et al. 1994). Boulder perfectives are not typologically unusual. Many languages employ previous spatial adverbs to express telicity: cf. English *eat up*, German *aufessen* ‘eat up’. Italian also exploits particle-verb locutions to convey telic meanings, especially with the Source-particle *via* ‘away’: e.g. *volare* ‘fly’ vs. *volare via* ‘fly away’; *passare* ‘pass’ vs. *passare via* ‘fade away’ (Iacobini & Masini 2006). Interestingly, Breu (1992) and Arkadiev (2015) described Slavic, Hungarian, Yiddish, and Caucasian languages as a linguistic area in which preverbs are employed to develop a rudimental aspectual system. What is typologically exceptional within Slavic is the paradigmaticization of the system of boulder perfectives (Bybee & Dahl 1989: 86). Moreover, the so-called Slavic-style aspect is infrequent for three further reasons: (i) its relative independence from time reference; (ii) its derivational character; (iii) its usual, though not strict, association with telicity (Dahl 1985: 84-85; Eckhoff & Haug 2015: 191).

1.2.2.2. The reasons and timings of the grammaticalization of Slavic preverbs

The link between the lexical, the subsequent actional, and eventually aspectual usages of preverbs primarily lies in the fact that preverbs, as spatial markers, are able to add an inherent endpoint to the spatial events expressed by verbs (Maslov 1959; Bermel 1997: 466; Shull 2003; Wiemer & Seržant forthc., among others; cf. also Viti 2008a, 2008b on

⁵ The only surviving postverbal affixes related to bounded events are the nasal suffix *-nu* and the archaic infix **-n-*. In Polish, for example, the cognate *-nq* suffix is used for semelfactive formations.

Homeric Greek preverbs). So, for example, whereas *iti* ‘go’ can have both telic and atelic readings, its composite counterparts (cf. (4)) can only be understood as telic. Subsequently, preverbs also came to function as boulder markers for more abstract events: their spatial meanings bleached, and in parallel their distribution broadened.

The addition of an inherent endpoint to spatial and then to non-spatial events is a straightforward explanation for the development of Goal-preverbs into actional markers. However, in a number of languages, preverbs etymologically related to Source seem to have formerly acquired a telic function, as shown by Dickey (2012) for Slavic, and by Zanchi (2017) for Ancient Greek (in addition, as Iacobini & Masini 2006 show, a special actional function is ascribed to the Italian Source-particle *via* ‘away’). To explain the developments of Source-preverbs, an additional explanation comes into play. EVENTS can be metaphorically thought of as LOCATIONS: departing from an event (i.e. from a location) implies that such an event is completed. Dicky (2012: 84), instead, attempted to provide a different, but compatible, explanation, speculating that “the combination of the original source meaning combined with a new abstract goal meaning produces a semantic potential including both the beginning of an action and its endpoint, i.e. the complete profile of an action.”

A crucial factor contributing to the reanalysis of spatial preverbs as actional markers is the overlap between their meaning and the meaning of the verbal stem onto which they stack, which makes the spatial reading redundant. For example, compare *iti* ‘go’ with *po-iti* ‘go **along a surface**’: the spatial contribution brought about by *po-* ‘along a surface’ to *iti* is redundant, as the act of going already implies the presence of a surface along which the TR moves (Dickey 2007). This overlap, known either as ‘Vey-Schooneveld effect’ (Vey 1952; van Schooneveld 1958) or as ‘subsumption’ (Poldauf 1954), arguably triggered the reinterpretation of the preverb as a default telic marker, as the actional reading is the only possible salient piece of information added by the preverb, given the redundancy of the spatial addition (Zaliznjak & Šmelev 2000; Dickey 2007; Plungjan 2011: 319; Janda et al. 2013; Arkadiev 2015; Wiemer & Seržant forthc.).⁶

⁶ The Vey-Schooneveld effect is cursorily mentioned within studies dealing with languages different from Slavic (cf. Rovinskaja 2001; Panov 2012 on Latin, cited after Ruvoletto 2016).

Later on, the telic reading triggered by the preverb became conventionalized, as an effect of the opposition between the composite and its non-preverbed counterpart. Subsequently, the extension of preverbs (or at least of some of them) to verbs denoting atelic activities, i.e. events that do not entail an inherent endpoint, represents a further step toward their grammaticalization, and crucially maximizes the distribution of preverbs as bounders (Lehmann 2004). Occasionally, preverbs add boundaries to atelic events in Old Church Slavic already, for example in the composite *sb-po-žiti* ‘live **for a while** with someone’, in which the prefix *po-* seems to have the only function of establishing temporal limits to the activity of living with someone (see Section 4.2). Table 1, adapted from (Wiemer & Seržant forthc.), summarizes the development just set out:

Table 29. Grammaticalization of Slavic prefixes as markers of perfectivity

(0) spatial/non-spatial meaning	lexical modification
(1) telic meaning	actional modification
(2) conventionalized telic meaning	
(3) limitation (perfective reading on atelic events)	aspectual modification

This grammaticalization process did not give rise to a single marker of perfectivity in modern Slavic languages. In Russian, for example, *pro-*, *za-*, *s-* (and other preverbs to a lesser extent) mark telic perfective verbs, whereas *po-* perfectivizes atelic verbs; in Bulgarian, *iz-*, *o-*, *na-*, *s-* (ordered on a frequency scale) mark perfectivity on telic predicates, whereas *po-* does the same for atelic ones (Dickey 2012). Such an abundance of markers of perfectivity is one of the reasons why a number of scholars doubt, though from different perspectives, as to whether the development of Slavic preverbs into bounder perfectives should be regarded as a proper grammaticalization process (cf. Chapter 1; Campbell 2001; Newmeyer 2001; Joseph 2004). In their view, the grammaticalization of Slavic preverbs results as an epiphenomenon from a series independently motivated semantic changes.

Another issue is the exact timing of the steps displayed in Table 1. Several scholars believe that the Slavic system of grammatical aspect was already developed in the Old Church Slavic period, and verbs were already organized in pairs of perfectives ~

imperfectives (van Schooneveld 1951; Dostál 1954; Eckhoff & Janda 2014). According to other scholars, instead, the Slavic-style aspect of aspectual pairs has not developed earlier than the Old Russian period (Borodič 1953; Bermel 1997; Lazarczyk 2010), thus implicitly arguing that the Old Church Slavic affixational system expressed lexical rather than grammatical aspect. Other investigations take an intermediate position: the aspectual system was established, but only at its onset and not widespread across all verb classes (Amse-De-Jong 1974; Forsyth 1972; see also Růžička 1957 on Old Russian).

According to Wiemer & Seržant (forthc.), the steps outlined in Table 29 occurred with the following timings: step (0) is assumed to have come about in Early Common Slavic (before 300 AD), steps (1) and (2) in Common (300–700 AD) and Early Slavic (Old Church Slavic and Old Russian times), and step (3) in Late Slavic (= Modern Slavic). The above-mentioned Old Church Slavic compound *sv-po-žiti* ‘live **for a while** with someone’, containing a delimitative *po-*, could be itself a timid signal of an early beginning of step (3), which then dramatically developed during the 16th century (Dickey 2007). In parallel, (Eckhoff & Haug 2015) contributed to a description of the advancement of stages (1-2) with their corpus-based study on *Codex Marianus* and *Codex Zographensis*. In these texts, they observed a significant correlation between preverbed verbs (without imperfectivizing suffixes) and perfective contexts, and between suffixed stems and imperfective contexts (see Section 3).

1.3. *The ongoing development of Slavic prepositions*

Old Church Slavic is a prepositional language.⁷ However, secondary postpositions are sporadically also attested (Vaillant 1977: 109, 134 ff.). These are derived from nouns, and accordingly take the genitive case: GEN+*radi*, GEN+*dělja*, and GEN+*cěšta* ‘because of’ (cf. Lat. GEN+*causā*, and GEN+*gratiā*; in Modern Slavic languages, these postpositions came to be preposed: cf. Rus. *dlja togo*, BCS *radi toga* ‘because of than’).

⁷ The present Section is primarily based on Vaillant (1977: 21 ff.), and Lunt (1965: 143-153).

Old Church Slavic primary prepositions derive from Proto-Indo-European spatial adverbs, which later on developed into preverbs or adpositions (Section 1.2.1, Chapter 2; on Slavic in particular, Vaillant 1966: 467, V: 109; Hewson & Bubenik 2006: 178–204). Old Church Slavic also exhibits secondary prepositions. They partly derive from Proto-Indo-European adverbial roots with the Slavic addition of innovative linguistic material. The prepositions *nadъ* ‘up’, *podъ* ‘down’, and *prědъ* ‘before, in front of’ are such: they go back to Proto-Indo-European **h₂en-*, **h₂(é)po-*, and **preh₂-i-*, extended by means of the suffix *-dъ* of uncertain etymology (Machek 1997: 466; Hewson & Bubenik 2006: 182–183). Despite their secondary derivation, *nadъ* ‘up’, *podъ* ‘down’, and *prědъ* ‘before, in front of’ can also be used as preverbs: *nadъ-ležati* ‘be laid **upon**’, *podъ-imati* ‘take **instead of**’, and *prědъ-po-lagati* ‘distribute **to**’. Secondary prepositions may also derive from adjectival, adverbial, or nominal bases (so-called ‘relator nouns’; cf. Engl. *in front of*) (Vaillant 1977: 128 ff.; Hewson & Bubenik 2006: 184–187).

1.3.1. *The scanty relics of the former adverbial status of prepositions*

As mentioned in Section 1.2.1, Old Church Slavic prepositions are advanced in their grammaticalization process. Nevertheless, they still exhibit a number of features that point to their former adverbial status. To begin with, though prepositions usually immediately precede the noun that they take, and with which they constitute a single accentual unit, one can find exceptions to this rule (Vaillant 1977: 110). One such exception is the locution *въ...město* ‘in...(the) place’, in which the noun *město* regularly occurs displaced from the preposition *въ* (Vaillant 1977: 135; e.g. *въ ryby:GEN město:ACC* ‘in the place of a fish’). In addition, prepositional phrases could be split by relative, anaphoric and demonstrative pronouns (*i prěbyvajō:IND.PRS.1SG въ nego:3SG.GEN ljubъve:LOC* ‘I remain in **his (of him)** love’, Mar. *Jn* 15.10), as well as by genitive or by other types of nominal modifiers (*въ efremъ:ACC naricaemъ:PTCP.PRS.P.ACC gradъ:ACC* ‘in the village **called Ephraim**’, Mar. *Jn* 11.54). However, rather than constituting actual examples of discontinuous syntax, such putative splits are arguably due to scribes’ desire of retaining the Greek word order and are especially frequent in *Codex Suprasliensis*. Interestingly, in a few passages, Slavic scribes

restored the usual Slavic word order, and thus one might run into different variants for the same locution, as shown in (7)a-b:

(7) a. Continuous prepositional phrase (Mar. *Lc* 9.27)

otъ stojęštiichъ sьde
 from stand.PTCP.PRS.GEN.PL **here**

b. Discontinuous prepositional phrase (Mar. *Mk* 9.1)

otъ sьde stojęštiichъ
 from **here** stand.PTCP.PRS.GEN.PL

‘among those standing **here**’ (adapted from Vaillant 1977: 110)

Furthermore, as exemplified in (8)a-b, with coordinated nouns, the repetition of preposition is frequent, but not compulsory in Old Church Slavic, as well as in most ancient Indo-European languages (Vaillant 1977: 11):

(8) a. Repetition (Mar. *Lc*. 2.44)

i iskaašete ego vъ roždenii i vъ znanii
 and seek.IMPF.3DU 3SG.GEN **in** birth.LOC and **in** knowledge.LOC

‘Then they began looking for him **among** relatives and **among** friends.’

b. Coordination reduction (Mar. *Mt* 5.45)

ěko slъnъce svoe sьěatъ na zъly i blagy
 so_that sun.ACC POSS.3SG.ACC raise.PRS.3SG **on** evil.ACC.PL and good.ACC.PL

‘For he makes his sun rise **on** the evil and (on) the good.’

Example (8)b instantiates a type of the so-called coordination reduction, i.e. a coordination between two coordinants one of which is not a constituent (in other words, a type of coordination involving ellipsis; see Haspelmath 2007a; Luraghi *forthc.* d). In (8)b, the ellipsis of the preposition *na* ‘on’ occurs. Both discontinuity (7)b and coordination reduction (8)b are typical features related to non-configurationality (Luraghi 2010),

contributing to suggesting that prepositions were quite advanced, but not yet fully developed, in Old Church Slavic.

In addition, prepositions could take different cases. The Old Church Slavic cases that could accompany verbs were the accusative, genitive, dative, instrumental, and locative cases. A number of prepositions could take as many as three cases (Vaillant 1977: 145 ff.): e.g. *za* ‘behind’, and *sъ* ‘with, downward’ take the accusative, the genitive, and the instrumental cases; *po* (etym.) ‘surface-contact (Path), ablativity (Source)’ instead takes the accusative, the dative, and the locative cases.⁸ There are contexts in which case alternation is undoubtedly meaningful: the accusative ~ locative alternation expresses Goal ~ Location in combination with *na* ‘up’ and *vъ* ‘in’, and so does the accusative ~ instrumental alternation with *nadъ* ‘up’, *podъ* ‘down’, and *prědъ* ‘before, in front of’.⁹

1.3.2. *The residual usages of the prepositionless cases*

Prepositionless cases were still able to express spatial and non-spatial meanings only to a very limited extent in Old Church Slavic.¹⁰

The prepositionless accusative, besides marking the direct object of transitive verbs (unless negated), can express extension in time (Duration) or in space (Measure, rather than Path). The prepositionless accusative is also taken by a number of composite motion verbs,

⁸ Originally, *po-* used to mean ‘surface contact’ and ‘ablativity’ (Dickey 2012). This preverb goes back to Proto-Indo-European **(á)po*, cf. Goth. *afar* ‘away from’, Ancient Gr. *apó* ‘away from’, Lat. *ab* ‘away from’, *pōnere* ‘put, place’ (< **po-sinere*), Ved. *ápa* ‘back’ (LIPP II: 66 ff.). It is still productive with spatial meanings in Croatian, Slovene and West-Slavic (cf. fn. 1; Dickey 2011, 2012). Elsewhere, it developed actional meanings including resultative, delimitative, ingressive, distributive and attenuative. Considering its complex semantic development, I chose to assign *po-* its etymological meaning ‘surface-contact, ablativity’ within this work.

⁹ For a thorough overview of the usages of prepositions in Old Church Slavic, I refer to the traditional grammars by Leskien (1922[1971]: 115 ff.), Vaillant (1977: 22 ff.), Aitzetmüller (1991: 154 ff.), Lunt (1965: 151 ff.), as well as to the comparative study by Thomason (2006).

¹⁰ For an exhaustive examination of the usages of Old Church Slavic cases, see Vaillant (1977: 22–108), and Lunt (1965: 143 ff.).

preverbed with *do-*, *na-*, *o(bъ)-*, *po-*, *prě-*, *pro-* (e.g. *do-iti* ‘arrive at’, more often +GEN; *na-xoditi* ‘come upon’; *o(bъ)-xoditi* ‘go around’; *po-xoditi* ‘walk onto (a surface)’; *prě-xoditi* ‘go around’, *pro-iti* ‘walk through’).

Prepositionless genitive can also express different spatial roles with several preverbed verbs, containing *do-*, *iz*, *otъ-*, *prědъ-*, *sъ-*, *u-*, *za-* (*do-iti* ‘arrive at’ (Goal); *iz-iti* ‘go out of’ (Source); *ot-iti* ‘go to’ (Goal); *prědъ-xoditi* ‘walk in front’ (Goal); *sъ-vlěšti* ‘strip of’ (Source-like participant); *u-běžati* ‘escape from’ (Source); *za-blqđiti* ‘be far from’ (Location)). Moreover, it systematically expresses the direct object with negated verbs or in partitive contexts, as opposed to the accusative case, which in its turn expresses complete affectedness of the object participant (Vaillant 1977: 74 ff.). The ablatival usage of genitive is extremely limited: the genitive case only indicates Source with a number of quasi-adverbial expressions taken by a few verbs, such as *běžati* ‘run’ and *osvoboditi* ‘liberate’ (Hewson & Bubenik 2006: 179). Source is usually expressed by *iz*+GEN, *sъ*+GEN, or *otъ*+GEN (Thomason 2006: 127 ff., 135 ff.).

The dative case is employed to express the indirect object, as well as the direct object with certain verbs, such as *pomošti* ‘help’, *zaviděti* ‘envy’, and *dosaditi* ‘annoy’, involving two human participants. Its use as a Goal marker is only residual in Old Church Slavic (cf. Mar. *Mt* 14.11, 17.19), but flourishing until the 15th century in Old Russian. Instead, the dative case is more often accompanied by the preposition *kъ* to express the Goal-participant (Vaillant 1977: 86; Lunt 1965: 148; Thomason 2006: 138 ff.).

The instrumental case can express Instrument, Means, Cause and Agent (with passive verbs). It is not usually employed for the Comitative-participant, which is usually encoded by *sъ*+INS (Vaillant 1977: 91–93). Besides functioning as second argument with a very limited number of verbs, such as *obilovati* ‘be glad of’ it occasionally expresses Path and Duration.

The prepositionless locative is only residual in Old Church Slavic, but more widespread in Old Russian. It possibly survives in a few Old Church Slavic quasi-adverbial locative and Time expressions, such as *zimě* ‘in winter’ and *polu nošti* ‘at midnight’ (Lunt 1965: 147). The prepositionless locative is taken as a second argument by a number of simple verbs (e.g. *kosnqđti sę* ‘touch’), and by several composites preverbed with *pri-* (*pri-*

ložiti ‘add’, also +DAT, *na*+ACC; *pri-bližiti* ‘approach’) and other preverbs, such as *na-* and *sz-* (*na-ležati* ‘be upon, press’; *szbyti se* ‘take place’) (Vaillant 1977: 102 ff.; Lunt 1965: 147–148).

2. Multiple preverbs in numbers

2.1. Composites with multiple preverbs

Old Church Slavic composites with multiple preverbs were extracted automatically, as the Old Church Slavic section of TOROT is already provided with word-formation annotation.¹¹ From the extracted data, I excluded the composites containing the negative prefix *ne-*, as the negation does not belong to the so-called category of Indo-European ‘adverbs/preverbs/adpositions’ (Cuzzolin et al. 2006), whose members show at least one of the following features:

- (i) Proto-Indo-European etymology going back to a deictic/local adverb;
- (ii) basic spatial meaning;
- (iii) subsequent functional bifurcation into adpositions/preverbs in the daughter languages.

The composites excluded in this way are the following: *iz-ne-mošti* ‘become unable, weak, ill’, *ne-do-končati* ‘not complete’, *ne-do-mysliti*, *ne-do-myšljati* ‘be in doubt’, *ne-do-stati* ‘lack’, and *ne-na-viděti* ‘hate’. These composites are nevertheless interesting: (a) in *iz-ne-mošti*, the negative prefix occurs internally, while the exterior preverb *iz-* seems to provide the composite with an ingressive meaning (*iz-* ‘ingressive’ + *ne* ‘negation’ + $\sqrt{\text{mog-}}$ ‘be able’). (b) The composites *ne-do-myšljati* ‘be in doubt’ and *ne-do-stati* ‘lack’ are only used in combination with the negative prefix (but cf. the *-i*-present *do-mysliti* ‘consider, understand’ from the same root $\sqrt{\text{mysl-}}$ ‘think’). (c) The composite *ne-na-viděti* ‘hate’

¹¹ Courtesy of Hanne M. Eckhoff, to whom I express my deep gratitude.

shows a non-compositional meaning that can be compared with that of its ingressive counterpart *vъz-ne-na-viděti* ‘conceive a hatred, come to hate’ (cf. Sections 3.4 and 4.2).

Table 30. Old Church Slavic composites with multiple preverbs

COMPOSITE	MEANING	CODEX			
		<i>Marianus</i>	<i>Zographensis</i>	<i>Suprasliensis</i>	<i>Total</i>
<i>is-po-vědati</i>	confess, explain	6	6	50	62
<i>is-po-věděti</i>	confess, explain	6	9	36	51
<i>is-po-vědovati</i>	confess, explain	0	0	2	2
<i>is-pro-vrěšti</i>	overturn, destroy	2	2	2	6
<i>iz-ob-rěsti</i>	find out	0	0	4	4
<i>iz-ob-rětati</i>	find out	0	0	1	1
<i>o-pro-vrěšti</i>	overturn	1	1	0	2
<i>prědъ-po-lagati</i>	distribute to	0	1	0	1
<i>pri-ižditi</i> (-iz-žiti)*	spend in addition	1	1	0	2
<i>pri-ob-rěsti</i>	acquire	8	6	17	31
<i>pro-po-vědati</i>	proclaim, predict	19	22	40	81
<i>pro-po-věděti</i>	proclaim, predict	10	3	6	19
<i>pro-po-vědovati</i>	announce, proclaim	0	1	0	1
<i>sъ-po-žiti</i>	live for a while with	0	0	1	1
<i>sъ-prě-byvati</i>	remain together with	0	0	1	1
<i>sъ-vъ-kupiti</i>	gather together	1	0	3	4
<i>sъ-vъ-kupljati</i>	unify, copulate	0	0	3	3
<i>vъs-po-męnōti</i>	start remembering, remind	2	2	2	6
<i>vъs-pri-imati</i>	receive in return	3	1	2	6
<i>vъs-pri-jęti</i>	receive in return	6	8	10	24
<i>vъz-ne-na-viděti</i>	come to hate	10	8	1	19
<i>za-po-vědati</i>	order	7	3	11	21
<i>za-po-věděti</i>	order	6	7	2	15
	TOTAL	88	81	193	363

*The following phonological rule comes into play here: $z + \dot{z} \rightarrow \dot{z}d$ (Lunt 1965: 44).

This selection process yielded 23 lemmas and 363 occurrences for Old Church Slavic composites, which are displayed in Table 30, together with their frequencies in each *Codex* contained in the TOROT Treebank (as discussed in Section 3, however, a number of such composites are organized in aspectual pairs or triplets). As Table 30 shows, *Codex Suprasliensis* alone attests to more than the half of occurrences of multiple preverbs (193 out of 363). Moreover, it contains six composites that do not occur in the other two manuscripts. These are *is-po-vědovati* ‘explain, tell’, *iz-ob-rěsti* ‘find out’, *iz-ob-rětati* ‘find out’, *sъ-po-žiti* ‘live for a while with someone’, *sъ-prě-byvati* ‘remain together with’, and

sv-vb-kupljati ‘unify, copulate’. As the language of the *Codex Suprasliensis* is usually regarded as being more recent than the Slavic variety attested by the translations of the Gospels (Lunt 1965: 9), these data might suggest that multiple preverbs have become more widespread in the later variety of language, and that the composites listed above are more recent than the remaining ones (with the caveat that, when working with inherently limited corpora, such as the Old Church Slavic Codices, a gap in the attestation does not necessarily correspond to an actual absence in the grammar or in the lexicon; Joseph & Janda 2003: 15–16). Interestingly, in cases of polysemous composites, *Codex Suprasliensis* usually attests to a more lexicalized meaning, as one may expect from its more recent dating. This is shown by examples (9) and (10):

- (9) *i* *dъsky* *trъžъnikъ* *i* *sědališta*
 and table.ACC.PL merchant.GEN.PL and bench.ACC.PL
prodajōštixъ *golōbi* ***isprovrъže***
 sell.PTCP.PRS.GEN.PL dove.ACC.PL overturn.AOR.3SG
 ‘(He) overturned the tables of the merchants and the benches of those selling doves.’ (Mar. *Mk* 11.15)
- (10) *ô* *glasa* *silo* *adъ* ***isprovrъgъši***
 PTC sound.GEN power.VOC hell.ACC destroy.PTCP.PST.VOC
 ‘O power of the word, (you) destroying death, ...’ (Supr. 27.200)¹²

While in (9) from *Codex Marianus*, the composite *is-pro-vrěšti* is used in a semi-compositional way, in example (10) from the *Codex Suprasliensis*, its usage is more lexicalized (cf. Section 4.3). In (9), Jesus destroys merchants’ tables by literally throwing (*√vrěg-*) them forward (*pro-*) completely (*iz(ъ)-*), i.e. by overturning them. By contrast, in (10), the event of destroying (*is-pro-vrěšti*) affects a metaphorical Patient (*adъ:ACC* ‘hell > death’), and is performed by a metaphorical Agent (*glasa:GEN silo:VOC* ‘power of word’).

¹² Examples from *Codex Suprasliensis* are numbered as in the TOROT Treebank.

Table 31 contains those composites that are attested in later (South) Slavic languages (here, I reported only Bulgarian), as well as their Old Church Slavic and Bulgarian meanings.¹³

Table 31. Composites attested in later (South) Slavic languages and their meanings

<i>Composite</i>	<i>Meaning</i>	<i>Bulgarian</i>	<i>Meaning</i>
<i>is-po-vědati</i>	confess, explain	<i>iz-po-vjadam</i> (PFV)	confess, profess
<i>is-po-vědovati</i>	confess, explain	<i>iz-po-vjadvam</i> (IPFV)	confess, profess
<i>iz-ob-rěsti</i>	find out	<i>iz-ob-retja</i> (PFV)	invent, devise
<i>iz-ob-rětati</i>	find out	<i>iz-ob-retjavam</i> (IPFV)	invent, devise
<i>o-pro-vrěšti</i>	overturn	<i>o-pro-vergavam</i> (IPFV) <i>o-pro-vergaja</i> (PFV)	refute, disprove
<i>prědъ-po-lagati</i>	distribute to	<i>pred-po-lagam</i> (IPFV)	suppose, assume
<i>pri-ižditi (iz-žiti)</i>	spend in addition	<i>pri-iždam</i> (IPFV)	arrive, rise
<i>pro-po-vědovati</i>	predict, proclaim	<i>pro-po-vjadvam</i> (IPFV)	preach
<i>vъs-po-męnъti</i>	start remembering, remind	<i>vъz-po-minavam</i> (IPFV)	remember
<i>vъs-pri-imati</i>	receive in return	<i>vъz-pri-emam</i> (IPFV)	perceive, apprehend
<i>vъs-pri-jęti</i>	receive in return	<i>vъz-pri-ema</i> (PFV)	perceive, apprehend
<i>vъz-ne-na-viděti</i>	come to hate	<i>vъz-ne-na-vidja</i> (PFV)	come to hate
<i>za-po-vědati</i>	order	<i>za-po-vjadam</i> (PFV)	order, command

As expected, a number of composites retaining a concrete meaning in Old Church Slavic develop more abstract meanings in Bulgarian. Three cases in point are *o-pro-vrěšti* ‘overturn’ (11), *prědъ-po-lagati* ‘distribute to’ (12), and *vъs-pri-jęti* ‘take, receive, have back’ (13).

- (11) *ι dъsky o-pro-vrěže*
and table.ACC.PL over-forth-throw.AOR.3SG

¹³ The time gap that divides Old Church Slavic from Bulgarian is wider than that separating R̥g-Vedic from Classical Sanskrit (Chapter 3) and Homeric Greek from Classical Greek (Chapter 4). In spite of that, Bulgarian composites are reported here, as they allow for enlightening comparisons, as shown in what follows.

‘(And he poured out the coins of the money-changers) and overturned (their) tables.’ (Mar. *Jn* 2.15)

- (12) *ι* *daěše* *oučenikomъ* *svoimъ* *da* *prědb-po-lagajotъ*
 and give.IMP.F.3SG disciple.DAT.PL his.DAT.PL so_that distribute_to.PRS.3PL
 ‘And (he) gave (them) to his disciples to distribute (them) to (the people).’
 (Zogr. *Mk* 8.6)

- (13) *ι* *ašte* *vbъ* *zaimъ* *daate* *otъ* *nichъže* *čaate*
 and if in loan.ACC give.PRS.2PL from REL.GEN.PL hope.PRS.2PL
vbъs-prijęti. *kaě* *vamъ* *chvala* *estъ*
 in_return-receive.INF.PRS what.NOM 2PL.DAT credit.NOM be.PRS.3SG
 ‘And if you give a loan (to those) from whom you hope to receive back, which credit do you have?’ (Mar. *Lc* 6.34)

The context of (11) is similar to that of (9) above. The effects of Jesus’ anger are described: Jesus overthrows the merchants’ tables in front of the temple. The elements building the composite *o-pro-vrěšti* profile different components of tables’ movement: *o(bъ)-* describes its endpoint (‘over’), whereas *pro-* the medial Path of movement (‘forward’); $\sqrt{vręg-}$ means ‘throw’. In Bulgarian, the same elements make up a lexicalized composite meaning ‘refute, disprove’. The semantic shift can be easily explained: e.g. refuting/disproving an argument can be seen as metaphorically overthrowing it.

In (12), Jesus gives food to his disciples, so that they can distribute it to the people around. The elements of the composite are *prědb-* ‘in front of’ + *po-* ‘distributive’ + $\sqrt{lag-}$ / *log-* ‘put’. In Bulgarian, the same composite *predpolagam* has gained the shifted meaning of supposing, assuming (cf. also Rus. *predpolagat* ‘suppose, assume’): its meaning is no longer spatial, nor compositional. Once more, this semantic shift is not surprising: for example, the English verb *to put* also shows a similar development in such expressions as *As Wackernagel puts it* (on this composite, see also Sections 4.2 and 5.1).

In (13), the composite *vbъs-prijęti* ‘receive in return’ is employed to describe the event of getting a repayment: the elements building the composite are *vbъz(bъ)-* ‘in return’ + *pri-* ‘resultative’ + *ъm-* ‘take’. In Bulgarian, the idea of repayment is no longer implied by

the composite, which simply means ‘perceive, apprehend’: the semantic contribution of *vъz(ъ)-* has bleached.

2.2. Verbal roots modified by multiple preverbs

In my sample, only 10 Old Church Slavic verbal roots allow for multiple preverbs. Table 32 shows these Old Church Slavic roots and their meanings, as well as their Proto-Indo-European roots and their meanings. Moreover, Table 32 provides their frequencies, i.e. the number of composites containing each root, and the verb types in the rightmost column (verbs’ classification is a simplified version of Levin’s (1993), which suffices for my purposes; cf. fn. 23, Chapter 3).

Table 32. Old Church Slavic verbal roots modified by multiple preverbs

<i>OCS</i>	<i>Meaning</i>	<i>PIE root</i>	<i>Meaning</i>	<i>Frequency</i>	<i>Verb Type</i>
√ <i>by-</i>	be	* <i>b^hueh₂-</i> (LIV ² : 98)	grow, come into being, become	1	location
√ <i>kup-</i>	buy	?uncertain	?uncertain	2	transfer
√ <i>log-</i>	lay	* <i>leg^h-</i> (LIV ² : 398)	lie down	1	posture
√ <i>min-</i>	think	* <i>men-</i> (LIV ² : 435)	come to think	1	mental activity
√ <i>rět-</i>	meet, find	* <i>reh₁t-</i> (LIV ² : 501)\ ? <i>ret-</i> (Vaillant 1966: 184–185)	meet, find\ run	3	obtaining\ motion
√ <i>věd-</i>	know	* <i>uejd-</i> (LIV ² : 665)	see, catch sight of	8	mental activity
√ <i>vid-</i>	see	* <i>uejd-</i> (LIV ² : 665)	see, catch sight of	1	perception
√ <i>vrěg-</i>	throw	* <i>uerg^u-</i> (LIV ² : 689)	throw	2	caused motion
√ <i>ъm-</i>	take	* <i>h₁em-</i> (LIV ² : 236)	take away	2	removing
√ <i>ži-</i>	live	* <i>g^uieh₃-</i> (LIV ² : 215)	live	2	existence

As Table 32 shows, composites containing a motion or a location verb proper are only a few (*sъ-prě-byvati* ‘remain together with’, *o-pro-vrěšti* ‘overthrow’, and *is-pro-vrěšti* ‘overturn, turn upside down, destroy’). This in itself suggests an advanced lexicalization for Old Church Slavic composites. As Arkadiev (2015: 217) remarks, the pattern of multiple preverbs was not productive in ancient Slavic languages, and was employed when the IP was lexicalized (cf. Sections 4.3 and 6).

A number of verbs of Table 32 can be assimilated to location verbs, including posture verbs (√*log-/lag-* ‘lay’), and verbs of existence (√*ži-* ‘live’). Also, other verbs can

be treated as motion verbs, such as perception verbs (\sqrt{vid} - ‘see’), given that eyes can be directed toward or away from a certain LM, and verbs of removing, such as \sqrt{bm} - ‘take away’. As for the two roots indicating a mental state, i.e. $\sqrt{v\check{e}d}$ - ‘know’ and \sqrt{min} - ‘think’, the former goes back to the same Proto-Indo-European root as \sqrt{vid} - ‘see’, that is, $*\underline{u}e\check{i}d$ - ‘see, catch the sight of’ (perception verb > verb of mental state) (LIV²: 665); the latter leads back to a Proto-Indo-European root indicating a mental state itself, i.e. $*men$ - ‘come to think’ (LIV²: 435).

The root $\sqrt{r\check{e}t}$ - ‘meet, find’ has no direct reflexes even in Baltic and is difficult to be given an etymology (Vaillant 1966: 184-185). It possibly belongs to the group of stems containing vowel lengthening (< CS $*r\check{e}t$ -, cf. CS $*s\check{e}d$ - ‘sit’ < $*sed$ -; Vaillant 1966: 78 ff.). If this is the case, then it might be a derivation from the Proto-Indo-European root $*ret$ - ‘run’, which exhibits a verbal reflex in Old Irish *reithid* ‘run’, as well as noun reflexes in Lithuanian *rātas* ‘wheel’, Latin *rota* ‘wheel’, Sanskrit *rāthaḥ* ‘wagon’, and Old Church Slavic *rota* ‘oath’ (possibly, the semantic shift originates from the *circle* in front of which one takes an oath). Baltic also documents *ritù*, *rìsti* ‘run’, while Old Church Slavic *ristati* ‘run’, which in this view must belong to the reduced grade of $*ret$ -, that is, $*rit$ -. However, according to LIV² (501), a sure connection to the root $*ret$ - cannot be proved for *-rěsti*. Thus, a further root $*reh_1t$ - is assumed in the LIV², with the meaning of meeting and finding and reflexes only in Slavic preverbed verbs. Accordingly, the Lithuanian verb *ritù*, *rìsti* ‘run’ is ascribed to another root, i.e. $*\underline{u}r\check{e}jt$ -, which shows reflexes only in Germanic and Baltic (LIV²: 700). Whatever its etymology, the meaning of $*r\check{e}t$ - can be assimilated to that of a motion verb. Either it is a motion verb proper (< $*ret$ -), or it is a verb of obtaining (< $*reh_1t$ -), whose semantics is similar to that of verbs of taking.

Lastly, there is no sure Indo-European etymology for the root \sqrt{kup} - ‘buy’. The Old Church Slavic verb *kupiti* ‘buy’ is a probable borrowing from German (Germ. *kaufen* ‘buy’ < OHG *koufōn*), which in turn is likely to be a borrowing from the Latin *caupō* ‘tradesman’. The origin of the Latin word is dubious itself, as well as its connection with the Greek *kápēlos* ‘retail dealer’ (the Greek vocalism does not match with that of its Latin putative counterpart; *kápēlos* is said to have a Mediterranean origin by DELG: 494 and De

Vaan 2008: 100). In any case, the Old Church Slavic lemma *kupiti* is a transfer verb and, as such, it can be associated to verbs of caused motion.

2.3. *Attested combinations of preverbs*

Old Church Slavic preverbs that occur in multiple preverbatation are the following: *iz(ъ)-* ‘out of’, *na-* ‘on(to)’, *o(bъ)-* ‘around’, *po-* ‘surface contact, ablativity’, *prě-* ‘across’, *prědъ-* ‘in front of’, *pri-* ‘at’, *pro-* ‘through’, *sъ-* ‘with’, *vъ-* ‘in’, *vъz(ъ)-* ‘up’, *za-* ‘behind’. Table 33 shows the attested combinations of preverbs. In the rightmost column, frequency refers to the number of composites containing each combination. None among these combinations has an overwhelming frequency with respect to the others, nor does it make up a double preposition in Old Church Slavic. No preverb is iterated.

Table 33. Old Church Slavic preverbs combinations and their frequencies

<i>Exterior preverb</i>	<i>Interior preverb</i>	<i>Frequency</i>
<i>iz(ъ)-</i>	<i>o(bъ)-</i>	2
<i>iz(ъ)-</i>	<i>po-</i>	3
<i>iz(ъ)-</i>	<i>pro-</i>	1
<i>o(bъ)-</i>	<i>pro-</i>	1
<i>prědъ-</i>	<i>po-</i>	1
<i>pri-</i>	<i>iz(ъ)-</i>	1
<i>pri-</i>	<i>o(bъ)-</i>	1
<i>pro-</i>	<i>po-</i>	3
<i>sъ-</i>	<i>po-</i>	1
<i>sъ-</i>	<i>prě-</i>	1
<i>sъ-</i>	<i>vъ-</i>	2
<i>vъz(ъ)-</i>	<i>na-</i>	1*
<i>vъz(ъ)-</i>	<i>po-</i>	1
<i>vъz(ъ)-</i>	<i>pri-</i>	2
<i>za-</i>	<i>po-</i>	2

*The composite attesting to this combination, i.e. *vъz-ne-na-*

viděti ‘come to hate’, also contains the negative prefix *ne*.

2.4. *The Greek counterparts of Old Church Slavic composites*

Table 34 displays the Greek counterparts of Old Church Slavic composites with multiple preverbs.

Table 34. The Greek counterparts of Old Church Slavic composites

<i>Composite</i>	<i>Meaning</i>	<i>Greek equivalent</i>
<i>is-po-vědati</i>	confess, explain	<i>omologéō, ex-omologéō, di-ēgéomai</i>
<i>is-po-věděti</i>	confess, explain	<i>omologéō, ex-omologéō, ex-agoreúō, ex-ēgéomai, an-aggéllō</i>
<i>is-po-vědovati</i>	confess, explain	<i>omologéō</i>
<i>is-pro-vrěšti</i>	overturn, destroy	<i>ana-stréphō, kata-stréphō, diarrégnumi</i>
<i>iz-ob-rěsti</i>	find out	<i>ex-eurískō</i>
<i>iz-ob-rětati</i>	find out	<i>ex-eurískō</i>
<i>o-pro-vrěšti</i>	overturn	<i>ana-trépō</i>
<i>prědъ-po-lagati</i>	distribute to	<i>para-títhēmi</i>
<i>pri-ižditi (iz-žiti)</i>	spend in addition	<i>dapanáō, pros-dapanáō</i>
<i>pri-ob-rěsti</i>	acquire	<i>(ana)-ktáomai, kerdainō, pro-xenizō</i>
<i>pro-po-vědati</i>	predict, proclaim	<i>kērúttō, pro-ana-kērúttō, euaggelizomai</i>
<i>pro-po-věděti</i>	predict, proclaim	<i>kērúttō</i>
<i>pro-po-vědovati</i>	predict, proclaim	<i>kērúttō</i>
<i>sъ-po-žiti</i>	live for a while with	<i>sun-ana-stréphomai</i>
<i>sъ-prě-byvati</i>	remain together with	<i>sun-ana-stréphomai</i>
<i>sъ-vъ-kupiti</i>	gather together	<i>epi-sun-ágō, sun-áptō, enōō</i>
<i>sъ-vъ-kupljati</i>	unify, copulate	<i>sun-áptō, sum-meígnumi, meígnumi</i>
<i>vъs-po-męnęti</i>	start remembering, remind	<i>ana-mimnếskō, hupo-mimnếskō, hupómnēsín lambánō</i>
<i>vъs-pri-imati</i>	receive in return	<i>apo-lambánō, ap-ékhō</i>
<i>vъs-pri-jęti</i>	receive in return	<i>lambánō, ana-lambánō, apo-lambánō, ap-ékhō</i>
<i>vъz-ne-na-viděti</i>	come to hate	<i>miséō</i>
<i>za-po-vědati</i>	order	<i>en-téllomai, dia-tássō, pros-títhēmi,</i>
<i>za-po-věděti</i>	order	<i>ep-aggéllomai</i>
		<i>en-téllomai</i>

The term counterpart must be taken with caution and holds a different significance for *Codices Marianus* and *Zographensis*, on the one hand, and for *Codex Suprasliensis*, on the other hand. The Gospels of the *Codices Marianus* and *Zographensis* allow for a more direct comparison with their Greek parallels, though the original Greek source text has not survived the funnel of time. A good approximation of the Greek text is provided by Von Tischendorf (1869–1872), and is available in the TOROT (here referred to as GNT, *Greek New Testament*). By contrast, the Greek sources of the *Codex Suprasliensis* either are reflected to a lesser extent in their Slavic translation, or are missing altogether. Zaimov & Capaldo (1982) nevertheless attempted to collect these sources, based on a single Greek manuscript, and amending it, either by removing certain Greek passages with no Slavic counterparts, or by integrating other passages from different Greek manuscripts (see also

Capaldo 1984). Their effort resulted in a combined Greek text, which can be now accessed on the website of the *The Codex Suprasliensis Project*. Despite this issue of the Greek sources, the language of the *Codex Suprasliensis* is usually said to have been influenced by the Greek original to a greater extent than the refined translations of the Gospels contained in the *Codices Marianus* and *Zographensis* (Lunt 1965: 7–9).

As bold emphasizes in Table 34, only four Old Church Slavic composites exhibit Greek counterparts containing multiple preverbs: i.e. *pro-po-vědati* ‘proclaim, predict’ ~ *pro-ana-kērúttō* (not exclusive), *sъ-po-žiti* ‘live, stay for a while with someone’ ~ *sun-ana-stréphomai*, *sъ-prě-byvati* ‘remain together with’ ~ *sun-ana-stréphomai*, and *sъ-vъ-kupiti* ‘gather, tie together’ ~ *epi-sun-ágō* (not exclusive). The composites *sъ-po-žiti* and *sъ-prě-byvati* only occur in *Suprasliensis*; the Greek multiple preverb counterparts for *pro-po-vědati* and *sъ-vъ-kupiti*, that is, *pro-ana-kērúttō* and *sun-ana-stréphomai*, are only attested in the Greek sources of *Suprasliensis* (in passages corresponding to Supr. 337.2, 341.27 ff.). As a matter of fact, the Greek composite *epi-sun-ágō* does occur in the GNT, but it corresponds to Slavic composites different from *sъ-vъ-kupiti*, such as *sъ-bъrati* ‘gather’. These data might back up the general assumption that *Codex Suprasliensis* has to a greater extent undergone Greek interference than *Marianus* and *Zographensis*: only in *Codex Suprasliensis*, one finds Greek equivalents containing multiple preverbs.

All in all, Old Church Slavic composites with multiple preverbs cannot be regarded as calques from Greek (see also Section 6.2). Nor does the Slavic usage of preverbs point to a single translation equivalent. For example, the EP *vъz-* means ‘in return, in exchange, back’ in the pair *vъs-pri-imati* and *vъs-pri-jeŕi* ‘receive in return’, as shown in (14), which directly continues the passage in (13).

- (14) *ibo i grěšnici grěšnikomъ vъ zaimъ dajotъ.*
indeed and sinner.NOM.PL sinner.DAT.PL in loan.ACC.PL give.PRS.3PL
da vъs-priimotъ ravъno
so_that **in_return**-receive.PRS.3PL equal.ACC
‘Even sinners lend to sinners, to get **back** the same amount.’ (Mar. *Lc* 6.34)

This preverb can either correspond to *apo-* (etym.) ‘away from’ or *ana-* (etym.) ‘upward’ in the Greek sources. Attested equivalents for these Old Church Slavic composites are *apo-lambánō*, *ap-ékhō*, on the one hand, and *ana-lambánō*, on the other hand. It is also unlikely that *vъz-* acquired the meaning of ‘in return’ as a calque from the Greek preverb *ana-*, on the basis of the fact that both *vъz-* and *ana-* mean ‘upward’ in their spatial usages. The preverb *vъz-* shows this meaning in several composites, whose Greek equivalent does not contain *ana-*: e.g. OCS *vъz-dati* ~ Gr. *apo-dídōmi* ‘give **back**’; OCS *vъz-vratiti* ~ Gr. *apo-stréphō* ‘turn **back**’.

By contrast, there are Old Church Slavic usages of preverbs that suggest Greek influence. One case in point is *iz-* in the composites *iz-ob-rěsti*, *iz-ob-rětati* ‘find out’, which translate the Greek *ex-eurískō* ‘find out’ (only in *Codex Suprasliensis*). As discussed in Section 2.2, the bare root $\sqrt{rět-}$ ‘meet, find’ is not attested without preverbs, thus the IP-verb altogether corresponds to the Greek simple verb *eurískō* ‘find’ (see also Section 6.2). Then, the addition of the preverbs *iz-* (*eurískō*) and *ex-* (Ancient Greek) further brings about the actional nuance of completion (cf. also Engl. *find* ~ *find out*, in which Engl. *out* has originally the same spatial usage as OCS *iz-* and Gr. *ex-* ‘out of’). As a matter of fact, Old Church Slavic *iz-* and Gr. *ex-* are also etymologically related (IEW: 292–293; LIPP II: 204 ff.).¹⁴

However, cognacy is not necessary for two preverbs to develop parallel uses. The phonetically similar (but not etymologically related) preverbs *sъ-* (OCS) and *sun-* (Gr.) are similarly used to convey the idea of togetherness in *sъ-vъ-kupiti*, *sъ-vъ-kupljati* ~ *sun-áptō*, *sum-meígnumi* ‘gather together’, and in *sъ-po-žiti*, *sъ-prě-byvati* ~ *sun-ana-stréphreō* ‘live for a while with’, ‘remain together with’.

¹⁴ Though this is far from receiving a demonstration from the data provided here, I would nevertheless suggest that the Bulgarian preference for perfectivizing *iz-* over *po-*, for example, which is the favorite perfectivizing preverb in Russian (Dickey 2007), has possibly been driven by the Greek influence. Since Homeric times (cf. Chapter 4), *ex-* frequently occurs in exterior position, and carries telic meanings.

3. The form of composites

Unlike their Vedic and Homeric Greek counterparts (cf. Chapters 3 and 4), Old Church Slavic preverbs are undoubtedly bound morphemes. Their morphological status is thus not under discussion. For this reason, this Section does not aim to assess the univerbation/non-univerbation of composites. Rather, it deals with their form from another angle: the interactions between preverbs and the secondary imperfectivizing suffixes, which is a particularly relevant matter for the development of the Slavic-style aspect (cf. Section 1.2).

3.1. *The actional suffixes of multiple preverb verbs*

As displayed in Table 35, a number of multiple preverb composites can be grouped in couples (or even triples) of verbs containing different suffixes (rows from 10 to 15). Suffixes (a)-(b) are explicit markers for bounded events. By contrast, suffixes from (e) to (h) are primary and secondary markers for unboundedness, and more or less directly go back to a Proto-Indo-European suffix **-a-*, marking various types of durative events (for a thorough discussion of the origins and the developments of such suffixes, see Wiemer & Seržant forthc. and references therein). The zero in (c) and the *-ě-* suffix in (d) do not express (un)boundedness: (c) constitutes an unproductive verb class including about 50 verbs of everyday activities (Lunt 1965: 131–135); (e) class mostly includes intransitives expressing a state (Lunt 1965: 116–118).

As demonstrated by Eckhoff & Haug (2015), the system of viewpoint aspect, which we know from Modern Slavic, was already quite developed in the Old Church Slavic of *Codex Marianus* and *Codex Zographensis*. In particular, Eckhoff & Haug (2015) showed what follows:

- (i) preverbed *and* unsuffixed verbs hardly occur as imperfectives, that is, in the imperfect, in the present infinitive, and in the present participle.
- (ii) verbs occurring in the imperfective contexts listed at (i) are explicitly imperfective: they contained one suffix among (e)-(h). Thus, as Eckhoff & Haug (2015) argue, in Old Church Slavic, there was already evidence for secondary imperfectivization.

Table 35. The actional suffixes of multiple preverb composites

	(a) -i- bound, causative	(b) -no- bounded	(c) -Ø- everyday activities	(d) -ě- intransitive, stative	(e) -(j)a-/jaj- unbounded, ipfv	(f) -aj- unbounded, iterative, durative	(g) -ova-/ unbounded, ipfv	(h) -va- unbounded, ipfv, iterative
1. -	-	-	-	vas-ne-na-viděti	-	-	-	-
2. -	vas-po-menoiti	-	-	-	-	-	-	-
3. -	-	pri-čditi	-	-	-	-	-	-
4. -	-	se-po-šiti	-	-	-	-	-	-
5. -	-	is-pro-vřešiti	-	-	-	-	-	-
6. -	-	o-pro-vřešiti	-	-	-	-	-	-
7. -	-	-	-	-	-	preče-po-logati	-	-
8. -	-	-	-	-	-	-	-	se-pre-byvati
9. -	-	-	-	za-po-veděti	-	za-po-veděti	-	-
10. -	-	-	-	is-po-veděti	-	is-po-veděti	is-po-veděvati	-
11. -	-	-	-	pro-po-veděti	-	pro-po-veděti	pro-po-veděvati	-
12. -	-	pri-ob-rěšiti	-	-	-	-	-	-
13. -	-	č-ob-rěšiti	-	-	č-ob-rěčati	-	-	-
14. -	-	vas-pri-jěti	-	-	vas-pri-imati	-	-	-
15. se-ve-kupiti	-	-	-	-	se-ve-kupjati	-	-	-

This new system, which was developed already, though not spread throughout the whole lexicon, coexisted alongside with the inherited alternations of Proto-Indo-European, whereby different verbal stems were employed to express different aspectual values. In Sections 1.3, 3.2, and 3.3, I examine Old Church Slavic multiple preverb verbs in light of Eckhoff & Haug's (2015) study.

3.2. *The alternations involving the suffix -(j)a-*

Within multiple preverb verbs, there are three pairs involving the suffix *-(j)a-*: *iz-ob-rěsti* ~ *iz-ob-rětati* 'find out', *sъ-въ-kupiti* ~ *sъ-въ-kupljati* 'gather together', and *въs-pri-jęti* ~ *въs-pri-imati* 'receive in return'. The former two pairs work as expected by Eckhoff & Haug (2015): *iz-ob-rěsti* and *sъ-въ-kupiti* attest no imperfective forms, whereas *iz-ob-rětati* and *sъ-въ-kupljati* behave the opposite.¹⁵

Data are more complicated for the latter pair, i.e. *въs-pri-jęti* ~ *въs-pri-imati* 'receive in return'. The *-jęti* composite, which is supposed to be the perfective element of the pair, does occur in the infinite present (Mar., Zogr. *Lc* 6.34, Supr. 1.297, 43.166, 48.650). The Slavic infinite present translates the Greek infinite present, which is doubtlessly imperfective. Thus, a non-explicitly imperfective form occurs in an imperfective context, though an explicitly imperfective form would be available. In addition, the *-imati* composite, which is instead explicitly marked for imperfectivity via the *-(j)a-* suffix, occurs once in the past participle. As Slavic past participles translate Greek aorist participles, it means that an imperfective form occurs in a perfective context. The latter mismatches are attested only in *Codex Suprasliensis*: this manuscript is younger than *Marianus* and *Zographensis*. Thus, such forms possibly represent an innovation, whereby the emergent viewpoint aspect has partially emancipated from its actional origins lying in telic boundaries.

However, the *-jęti* and *-imati* forms are also used interchangeably in the translations of the Gospels in a couple of passages. In *Mt* 6.5 and *Mt* 6.16, *Codex Marianus* attests to

¹⁵ It must be mentioned that we are dealing here with very low frequencies : *iz-ob-rěsti* x4, *iz-ob-rětati* x1, *sъ-въ-kupiti* x4, and *sъ-въ-kupljati* x2 (cf Table 30).

the *-(j)a-* form, whereas *Zographensis* the suffixless form. The context for one of these passages is shown in (15)a:

(15) Mt 6.5–6

a. (And when you pray, do not be like the hypocrites, for they love to pray standing in the synagogues and on the street corners to be seen by others.)

<i>aminь</i>	<i>gljǫ</i>	<i>vamъ.</i>	<i>ěko</i>	<i>vъspriemljotъ</i> [Mar.]
				<i>vъsprimotъ</i> [Zogr.]
truly	say.PRS.1SG	2PL.DAT	that	receive_in_return.PRS.3PL
<i>mъzdǫ</i>	<i>svojǫ.</i>			
reward.ACC	POSS. REFL.3PL.ACC			

‘Truly I tell you that they have received back their reward already.’

b. (But when you pray, go into your room, close the door and pray to your Father, who is unseen.)

<i>i</i>	<i>otcъ</i>	<i>tvoi</i>	<i>viděi</i>	<i>vъ</i>	<i>taině</i>
and	father.NOM	POSS.2SG.NOM	see.PTCP.PRS.NOM	in	secret.LOC
<i>vъz-dastъ</i>	<i>tebě</i>	<i>avě</i>			
back-give.PRS.3SG	DAT.2SG	openly			

‘And your Father, the one seeing in secret, will reward you openly.’

The present of *vъs-pri-jęti* or *vъs-pri-imati* translates the Greek present *ap-ékhoustin:PRS.3PL* ‘get in return’. Here (and in similar passages), Jesus is expressing an atemporal precept: he is warning not to perform good actions in public to be rewarded by people’s consensus. Rather – Jesus warns – one should privately behave to receive God’s compensation in the future. In a similar context, *Mt 6.2*, *Marianus* also hands down the *-jęti* form, unmarked for the imperfective aspect. To sum up, four passages (i.e. Mar. *Mt 6.2*, *Zogr. Mt 6.2*, *6.6*, *6.5*) contain a present form that is not explicitly marked for imperfectivity and has however no future meaning.

Interestingly, going ahead until *Mt 6.6* (15)b, one notes that the subsequent verb of giving back, i.e. *vъz-dati* in the present tense, which is unmarked for imperfectivity, does

have a future value. Accordingly, it always translates the future *apo-dōsei:FUT.3SG* ‘give back’ of the GNT. In light of this, it might be the case that Slavic translators were uncertain as to how to render the Greek opposition between the present and the future in Old Church Slavic. These hesitations possibly have produced the inconsistencies outlined above.

3.3. *The triplets containing speech verbs*

Further interesting cases are the couple/triplets *za-po-věděti ~ za-po-vědati* ‘order’, *is-po-věděti ~ is-po-vědati ~ is-po-vědovati* ‘confess, explain’, and *pro-po-věděti ~ pro-po-vědati ~ pro-po-vědovati* ‘predict, proclaim’. The verbs containing the *-ova-* suffix are extremely rare, and occur as variants for the *-aj-* forms in *Zographensis*, as shown in (16):

(16) *Mk 5.20*

<i>i</i>	<i>načęť</i>	<i>propovědovati</i> [Zogr.]
		<i>propovědati</i> [Mar.]
and	begin.AOR.3SG	tell_openly.INF.PRS
	‘And (he) began to tell...’	

The *-vědati* forms, though explicitly unbounded via the *-aj-* suffix, are occasionally used in the aorist and in the past participle, i.e. in perfective contexts.¹⁶ By contrast, the *-ě-* forms, which are unmarked for unboundedness, are never used in the imperfect, in the present participle and infinite, i.e. in imperfective contexts.

The aorists and the past participles of the unbounded form are mostly attested in *Suprasliensis* (Supr. 3.510, 4.481, 7.120, 10.3, 16.93, 16.97, 16.402, 23.214, 25.440, 28.289, 29.162, 31.11, 31.239, 31.343, 32.90, 32.377, 45.12, 45.206, 46.189, 46.465). However, similar aorists of imperfectives are not unknown to *Codex Marianus* as well (*Mt* 15.4, 28.20). In the same passages, *Zographensis* instead uses the *-ě-* verb, as shown in (17):

¹⁶ Eckhoff & Haug (2015: 218–221) also found these, as well as other speech and thought verbs occurring in the aorist, though explicitly imperfect.

(17) Mt 28.20

...oučęšte ję bljusti vbsě eliko
teach.PTCP.PRS.NOM.PL 3PL.ACC watch.INF.PRS all.ACC.PL REL.INDF

zapovědachъ [Mar.] vamъ
zapověděchъ [Zogr.]

order.AOR.1SG 2PL.DAT

‘Teaching them to observe all things, whatever I commanded you.’

Note further that the composites *po-věděti* ~ *po-vědati* ‘tell’, lacking the EP, attests to the same mismatches outlined above: *po-vědati* unexpectedly occurs in perfective contexts in *Zographensis* (Lc 8.47, 14.21, 18.37), where *Marianus* instead hands down *po-vědati*. To sum up, the composites containing *-vědati*, though explicitly unbounded, seem not to have specialized for imperfective contexts.

3.4. *The perfectivizing value of vьz-*

It is much harder to detect aspectual pairs based on the alternation of a preverbed verb (perfective) with a non preverbed one (imperfective) than to detect pairs and triplets of the types in Sections 3.2 and 3.3 (Lunt 1965: 92). As a matter of fact, in Old Church Slavic, the addition of any preverb virtually also determines alterations in meaning (cf. Section 4). By contrast, actual aspectual pairs imply both similarity in form and identity in meaning.

However, even in the small sample of multiple preverb verbs, such pairs exist. The composite *vьz-ne-na-viděti* ‘come to hate’, in which *vьz-* has an ingressive value (cf. Section 4.2), and which is explicitly perfective due to the presence of this preverb, does not occur in imperfective contexts. In parallel, *ne-na-viděti* ‘hate’ is unmarked for boundedness, and accordingly can be used both in perfective and imperfective contexts.

Another composite containing the ingressive *vьz-* only occurs in perfective contexts, i.e. *vьs-po-męnęti* ‘start remembering, remind’. This verb however also contains the suffix *-nę-*, which explicitly marks bounded events, and thus perfectivity. Indeed, the composite *po-męnęti* ‘remember’, which lacks *vьz-*, also selects only imperfective contexts.

Accordingly, it has an unbounded counterpart in *po-minati* ‘remember’, which only shows up in imperfective contexts.

4. The semantics of multiple preverbs

4.1. *Preverbs with spatial, abstract and actional meanings*

From a semantic standpoint, Old Church Slavic preverbs show different developments. Either they become polysemous elements, gaining new lexical meanings more or less straightforwardly connected with their basic spatial meaning; or they lose part of their lexical content, and in parallel acquire actional meanings, which are ultimately responsible for their subsequent grammaticalization into boulder perfectives (cf. Section 1.2).

In Old Church Slavic, however, the system of the viewpoint aspect was still under construction, as discussed in Sections 1.2.2 and 3: thus, one can easily observe the semantic linkage between the lexical and the actional meanings of preverbs (cf. Section 4.2; see also Ruvoletto 2016 for a comparable analysis on the Old Russian preverbs of the *Povest’ vremennykh let*). A preverb can attest both developments outlined above, as shown by means of *po-* in what follows. The preverb *po-* ‘surface-contact (Path), ablativity (Source)’ lexically modifies the simplex verbal stem in *pro-po-věděti*: *věděti* ‘know’ ~ *po-věděti* ‘tell’ (< ‘**cause to** know’) ~ *pro-po-věděti* ‘proclaim’ (< ‘tell **openly**’), ‘predict’ ‘(tell **in advance**)’. By contrast, *po-* shows an actional delimitative meaning in *sz-po-žiti* ‘live **for a while** with’.

Neither lexical nor actional meanings are associated with a specific position with respect to the verbal base: both EPs and IPs can exhibit lexical and actional meanings. It is worth pointing out this in light of the whole body of literature on modern Slavic multiple preverbs, which I briefly reviewed in Section 1.1. In formally-oriented studies on multiple preverbs, the so-called ‘internal’ and ‘external’ preverbs are distinguished based on various syntactic and semantic criteria, including preverbs’ ability of developing actional or quantizing meanings. In particular, external preverbs are said to be associated with

predictable actional meanings, whereas internal preverbs with unpredictable lexical meanings. In Old Church Slavic, however, multiple preverbs appear to constitute a quite different phenomenon (cf. Arkadiev 2015: 217; Section 6). For example, going back to *pro-po-věděti* ‘announce, foretell’ and *sb-po-žiti* ‘live for a while with’, one can observe that *po-* occurs internally within both composites. Nevertheless, this preverb brings about lexical content to the former composite, but actional content to the latter.

The comparison between *pro-po-věděti* ‘predict, proclaim’ and similar composites, i.e. *is-po-věděti* ‘confess, explain’ and *za-po-věděti* ‘order’, provides further pieces of evidence supporting the fact that the EPs can carry lexical content, as shown in (18):

$$(18) \quad \begin{array}{l} \textit{věděti} \\ \text{‘know’} \end{array} \rightarrow \begin{array}{l} \textit{po-věděti} \\ \text{‘tell’} \end{array} \rightarrow \left\{ \begin{array}{l} \text{a. } \textit{iz-po-věděti} \text{ ‘confess, explain’} \\ \text{b. } \textit{pro-po-věděti} \text{ ‘proclaim, predict’} \\ \text{c. } \textit{za-po-věděti} \text{ ‘order’} \end{array} \right.$$

The contribution of each EP is undoubtedly lexical in (18)a-c. The EP *iz-* (18)a metaphorically means ‘out of’ in *iz-po-věděti*: ‘tell **out of**’ > ‘confess, declare’ (interestingly, this composite also occasionally takes the prepositionless genitive in Euch. 68a13; cf. Vaillant 1977: 71). The preverb *pro-* ‘in front of’ (18)b provides the temporal indication ‘before’, or the meaning ‘openly’, due to the following metaphorical shifts: BEFORE IS IN FRONT OF and OPENLY IS IN FRONT OF, respectively (cf. also Section 4.2). The semantics of *za-* (18)c is more difficult to describe, but still detectable: in passages where *za-po-věděti* is used in the sense of ‘forbid’, the EP *za-* brings the idea of a metaphorical limit that cannot be overcome. In this respect, it is quite revealing that, in *Mk 7.36*, *Codex Zographensis* employs the composite *za-prěščati* ‘impose bans’, whereas *Codex Marianus* attests to *za-po-vědati*. Accordingly with the sense of ‘metaphorical obstacle’ just outlined, *za-* is also preverbed to several more concrete simplex verbs. In these formations, its obstacle meaning is clearer: cf. *za-tvoriti*, *za-klěpsti* and *za-ložiti* ‘close’ (‘put an obstacle **against** (a door)’), as well as *za-kryti* ‘cover, hide’ (‘put an obstacle **against** (one’s sight)’) (on the role of *za-* in Old Russian, cf. Böttger 2004; Tomelleri 2012; Ruvoletto 2016: 108 ff.).

The behavior of *iz-* also shows that both EPs and IPs can carry lexical and actional content. As an EP, *iz-* shows a lexical non-compositional meaning in the above-mentioned *iz-po-věděti*: ‘tell **out of**’ > ‘confess, declare’. As an actional preverb, it can give a sense of completeness occurring both externally and internally: compare *pri-iž-diti* ‘spend in addition’ (< ‘in_addition-**completely**-live on/by’; see Section 4.3) and *is-pro-vrěšti* ‘overturn, destroy’ (< ‘**completely**-forth-throw’; see Section 4.3).¹⁷

Interestingly, in my sample, no composites contain two actional preverbs stacked onto the same verbal stem. This could sound unexpected given the later development of modern Slavic languages, including Bulgarian, in which several actional preverbs can stack onto the same verb (cf. example (2)). In the composite *vъs-po-měņoti*, which means ‘start remembering’, both preverbs might be interpreted as ingressive, and thus be suspected of being actional. A closer investigation, however, reveals that they in fact do a quite different job. The ingressive IP *po-* lexically modifies the root $\sqrt{min-}$ ‘think’: *po- $\sqrt{min-}$* means ‘**start** thinking > remember’ (*po-* elsewhere shows ingressive meanings: *po-iti*, besides ‘go **along a surface**’, can also mean ‘**start** going > depart from’).¹⁸ The EP *vъz-* instead focuses one’s attention to the starting point of the event of remembering; hence, it is purely actional: *po-měņoti* ‘remember’ ~ *vъs-po-měņoti* ‘**start** remembering, remind’.

¹⁷ Further pieces of evidence supporting a telic reading for *iz-* in *is-pro-vrěšti* are provided by the comparison between this composite and the following verbs: (a) *iz-vrěšti* ‘cast **out of**’, in which *iz-* clearly retains its basic spatial usage in most contexts; (b) *o-pro-vrěšti* ‘overturn’, which occurs in the same context as *is-pro-vrěšti* in Mar. Zogr. Jn 2.15 (cf. (11)). As such composites contain two different EPs, *iz-* ‘out of’ and *o(bъ)-* ‘around’, that have two different basic spatial meanings, and nevertheless occur in the same context, the EPs must be bleached into telic markers. In Bes. 34, 238aα10 and 238bβ4, another composite occurs, i.e. *vъs-pro-vrěšti* ‘overturn’, with a different EP *vъs-* (etym.) ‘upward’ but the same meaning as *is-pro-vrěšti* and *o-pro-vrěšti*.

¹⁸ In *po-měņoti*, the preverb *po-* contributes, with the suffix *-no-*, which marks bound events, to assigning limits to the action of thinking ($\sqrt{min-}$, unbound event). The fact that it also carries lexical content is backed up by the secondary imperfective *po-minati* being built on this verb (see Section 3.2)

4.2. Same preverbs, different meanings

As anticipated for *po-* and *iz-* in Section 4.1, preverbs are polysemous morphemes, which have undergone multiple semantic shifts. In this Section, I discuss a number of interesting cases in point, i.e. *po-* ‘surface-contact (Path), ablativity (Source)’, *pri-* ‘beside’, *pro-* ‘in front of’, and *vъz-* ‘upward’ (cf. Table 37 for a summary).

The preverb *po-* originally indicates Path (‘surface-contact’) and ablativity (Source), and is etymologically related to Vedic *ápa* ‘away from’, Ancient Greek *apó* ‘away from’, and old Irish *ó, úa* ‘from’ (REW: 292–293; Watkins 2000: 5; LIPP II: 66 ff.). In combination with other preverbs, *po-* never retains its basic spatial usages, though it behaves so elsewhere in Old Church Slavic (cf. *po-iti* ‘go along a surface, depart from’). The preverb *po-* develops the following abstract meanings:

- (i) ingressive (*vъs-po-męnęti* ‘**start** remembering, remind’);
- (ii) delimitative (*sъ-po-žiti* ‘live **for a while** with’);
- (iii) distributive (*prědъ-po-lagati* ‘**distribute** to’);
- (iv) causative (*pro-po-věděti* ‘**predict, proclaim**’).

On meaning (i), discussed in Section 4.1, it should be added that it goes back to the ablative spatial meaning of *po-*, according to the following metaphor: EVENTS CAN BE THOUGHT OF AS LOCATIONS; the starting point of a non-spatial event (ingressive) can be thought of as a starting point of a spatial event (Source).

The delimitative meaning of *po-*, on which see Section 4.1, is instead related to the Path component of the spatial meaning of *po-*: focusing on a Path can carry the implication of focusing on its starting- and end-points (i.e. its limits). Then, the spatial Path is reinterpreted as a metaphorical Path, i.e. as an EVENT.

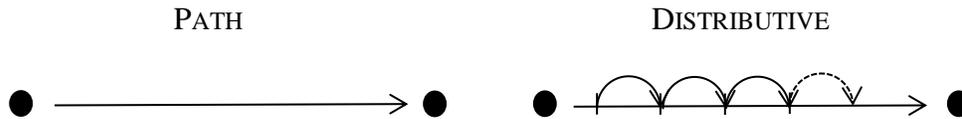
The distributive sense of *po-* is shown in example (19) (cf. also Sections 1.2.1, 1.3, and 2.1):

- (19) *ī* *daěše* *oučenikomъ* *svoimъ* *da* *prědъ-po-lagajętъ*
and give.IMPF.3SG disciple.DAT.PL his.DAT.PL so_that to-DISTR-put.PRS.3PL
‘And (he) gave (them) to his disciples to distribute (them) to (the people).’

(Zogr. *Mk* 8.6 = (12))

In (19), *po-* focuses reader's attention upon the movement of disciples, who go through the crowd to distribute, person by person, food to people. This abstract meaning is also grounded on the Path meaning of *po-*: covering a Path can imply covering all intermediate steps that make up the Path itself, as represented in Figure 4 (on the origin of distributive *po-*, see also Dickey 2012: 92; cf. the usages of the Ancient Greek *katá*, Luraghi 2003: 197 ff.).

Figure 4. The link between Path and distributive meanings of *po-*



Lastly, the preverb *po-* seems to function as a quasi-causative formation in *po-věděti* ‘tell’ and related composites with (cf. (18)). Compare examples (20) and (21) below:

- (20) *blōdite* *ne* *vědōšte* *kъnigъ* *ni*
 be_wrong.PRS.2PL NEG know_PTCP.PRS.NOM.PL scripture.GEN.PL neither
sily *bžiję (=božiję)*
 force-GEN of_G.GEN

‘You are in error because you do not know the Scriptures or the power of God.’

(Mar. *Mt* 22.29)

- (21) *povědešę* *že* *emu* *ěko* *isъ (=Isusъ)* *nazarěninъ* *mimochoditъ*
 tell.AOR.3PL PTC 3SG.DAT that J.NOM of_N.NOM pass_by.PRS.3SG

‘(They) told him that Jesus of Nazareth was passing by.’ (Mar. *Lc* 18.37)

In (20), the simple verb *vědeti* ‘know’ takes the direct object *kъnigъ* ‘of the scriptures’, playing the semantic role of Theme, which is in the genitive case because of the occurrence of the negation *ne* (Lunt 1965: 146). Example (21), instead, contains the speech verb *po-*

vědeti ‘tell’, which is a trivalent verb taking a direct object playing the semantic role of Theme (the completive clause introduced by *ěko* ‘that’), and an indirect object playing the role of Addressee (the dative *emu* ‘to him’). Thus, the preverb *po-* seems to function as a causative derivation: *po-* + *vědeti* ‘know’ results in *po-vědeti* ‘**make one** know > tell’. The preverb *po-* arguably adds a participant (the Addressee) to the described event. This function is semantically consistent with the distributive meaning of *po-*, which can be understood as introducing Recipients (the preposition *po*+LOC can also express Recipient in a distributive sense; cf. Thomason 2006: 123). Then, the link between Addressees and Recipients is easy to draw: an Addressee, as a Recipient, receives certain non-concrete entities, such as news, words, or pieces of information.¹⁹

The preverb *pri-* also displays interesting semantic shifts from its basic spatial meaning of ‘beside’. First, it has acquired the spatial + actional meaning that I named ‘beside + resultative’ based on Ruvoletto (2016: 72 ff.). This meaning entails gaining something through an active effort (hence, the resultative component), as shown by the comparison between *pri-ob-rěsti* ‘acquire, earn’ (22)a ~ *ob-rěsti* ‘find’ (22)b:

¹⁹ The causative-like ability of *po-* still remains unexplored, and deserves further investigation, given that there are other pairs of verbs in which *po-* appears to have a similar function (e.g. *mošti* ‘be able’ ~ *po-mošti* ‘help’ (< ‘**cause to** be able’)). At first sight, it can be observed that there are other languages in which the addition of a Recipient-like participant results in a causative-like formation, as shown in examples (a) and (b):

- (a) non-standard Engl. *learn **someone** something = teach **someone** something*

(Morris 1981: 744)

cf. also *the one who first noticed it **to me***

(cognition verb → communication verb; Croft 2017)

- (b) archaic (i) / current non-standard (b) Italian

i. *E dolce un canto **le** imparava*

and sweet INDF song **3SG.DAT** learn.IMPF.3SG

‘And, she (Aphrodite), sweet, was teaching her (Sappho) a poem.’

(G. Carducci, *Juvenilia*, 19th cent.)

ii. *Chi **ti** ha imparato a rispondere così?*

who **2SG.DAT** AUX learn.PTCP.PST.PASS to answer.INF.PRS that_way

‘Who taught you to answer that way?’ (Google search)

- (22) a. *šedъ že priemy. d (=nΔmъ) talanъtъ děla*
 go.PTCP.PST.NOM but receive.PTCP.PST.NOM five.ACC.F talent.GEN.PL do.AOR.3SG
o nichъ. i priobrěte drougojъ d (=nΔmъ) talantъ.
 about 3PL.LOC and acquire.AOR.3SG other.ACC.F five.ACC.F talent.GEN.PL
 ‘He who had received the five talents went at once and traded with them, and he made five talents more.’ (Mar. *Mt* 25.16)
- b. *i abie vъxodešta vъ nojъ*
 and suddenly enter.PTCP.PRS.NOM.DU in 3SG.ACC
obrěšteta žrěbecъ privezanъ.
 find.PRS.2DU foal.ACC tie_down.PTCP.PST.ACC.PASS
 ‘(Go to the village ahead of you,) and just as you enter it, you will find a colt tied (there).’ (Mar. *Mk* 11.2)

The event described in (22)a implies active participation of the Agent, who invests money in order to gain some more. By contrast, in (22)b, the Agent finds the colt (*žrěbecъ*:ACC) by simply entering the village, with no additional effort. The meaning just outlined typically occurs with verbs entailing an idea of approaching, such as the mentioned *pri-ob-rěsti* ‘acquire, earn’, and *vъs-pri-imati/ vъs-pri-jeti* ‘receive in return’, as well as many others (cf. e.g. *pri-zvati* ‘invite, call’, *pri-vleči* ‘attract, conquer’).

As remarked by Ruvoletto (2016: 72 ff.) for Old Russian, *pri-* ‘beside’ instead develops the meaning of ‘in addition’ with verbs lacking such an idea of approaching. So happens with *pri-iž-diti* ‘spend **in addition**’, as shown in (23):

- (23) *prileži emъ. i eže ašte*
 take_care_of.IMP.PRS.2SG LOC.3SG and REL.ACC.N ever
pri-iždiveši azъ egda vъz-vraštъ
 in_addition-spend.PRS.2SG 1SG.NOM when back-turn.PRS.1SG
sę vъzdamъ ti
 REFL.3SG.ACC back-give.PRS.1SG 2SG.DAT

‘Take care of him. And whatever you spend in addition, I will give you back when I come back.’ (Mar. *Lc* 10.35)

In this context, the Greek source text shows *pros-dapanáō* ‘spend **beside**, spend **in addition**’, in which the preverb *pros-* means ‘in addition’, as it frequently does in other composites as well (e.g. *pros-ktáomai* ‘gain **and add**’, *pros-didōmi* ‘give **in addition**’, which interestingly has an exact Slavic counterpart in *pri-dati* ‘give **in addition**’). Another good example for the correspondence OCS *pri-* ~ Gr. *pros-* ‘in addition’ is provided by the couple *pri-ložiti/ pri-lagati* ~ *pros-títhēmi* ‘put **beside**, add’. In (23), the EP *pri-* of *pri-iž-diti* ‘spend **in addition**’ might also draw an anaphoric reference to the locative *emь* ‘him’, taken by the preceding composite *pri-leži:IMP*, which also contains *pri-* (cf. Section 1.3.2 on the usages of prepositionless locatives). In this respect, *pri-* may also be regarded as a clue of textual cohesion.

The preverb *pro-* shows only lexical meanings in multiple preverb composites. In the composite *is-pro-vrěšti*, when used in the meaning of ‘overturn’, *pro-* still retains a spatial meaning:

- (24) *i dьsky trъžьnikъ i sědališta*
 and table.ACC.PL merchant.GEN.PL and bench.ACC.PL
prodajōštixъ golōbi isprovrbže
 sell.PTCP.PRS.GEN.PL dove.ACC.PL overturn.AOR.3SG
 ‘(He) overturned the tables of the merchants and the benches of those selling doves.’ (Mar. *Mk* 11.15 = (9))

The lexical contribution brought about by *pro-* is detectable, though not completely clear: this preverb etymologically means ‘forward’ (< **pr-ō* with the allative ending *-ō*; cf. LIPP II: 636), while in Old Church Slavic it acquires the spatial meaning of ‘through’ (Path, perlative). In (24), *pro-* arguably emphasizes the movement of the tables, overturned by Jesus. Thus the preverb *pro-* somewhat contributes to describing the motion caused on the

tables, even though the direction of this motion is not completely clarified by the addition of the preverb.²⁰

Interestingly, the preverb *pro-* gains different meanings in different contexts that contain the composite *pro-po-vědati*, as shown in (25)a-b:

(25) a. *pro-* ‘before’ (Mar. Mk 1.7)

i pro-povědaaše glę. grędetъ kręplei
 and **fore**-tell.IMPF.3SG say.PTCP.PRS.NOM come.PRS.3SG stronger.NOM
mene vъ slędъ mene...
 1SG.GEN in trace.ACC 1SG.GEN

‘And (John) proclaimed, saying: “After me (one who is) greater than I comes, ...’

b. *pro-* ‘openly’ (Mar. Mk 1.45)

onъ že iš-edъ načętъ
 DEM.NOM but away-go.PTCP.PST.NOM begin.AOR.3SG
pro-povědati mъnogo. i pronositi slovo.
openly-tell.INF.PRS much and make_known.INF.PRS word.ACC

‘(“See that you say nothing to anyone, but go, show yourself to the priest and offer for your cleansing what Moses commanded, for a proof to them.”) But he went out and began to talk openly about it, and to spread the word.’

In (25)a, John the Baptist is foretelling (*pro-* ‘fore-’) Jesus’ future coming. In (25)b, a leper, after being healed by Jesus’ hand, is strongly recommended not to tell anyone about this miracle. But (*že*) the leper disobeys at Jesus’ recommendation, proclaims (*pro-po-vědati*), and divulgates (*pro-nositi*) the miracle that Jesus has done.

The multiple preverb *vъz-* ‘upward’ shows both lexical and actional semantic developments. At example (14), I already discussed its meaning ‘in return, in exchange’. It can be added here that this semantic shift can be connected with the usage of the

²⁰ Old Russian also attests to *is-pro-vręšti*, as well as a very similar composite, i.e. *iz(ъ)-pro-metati* ‘throw out, devastate’, containing the same preverbs (*iz(ъ)-, pro-*) and the root $\sqrt{met-}$, which is semantically close to $\sqrt{vręg-}$ ‘throw’ (Zanchi & Naccarato 2016).

corresponding preposition *vbz*+ACC ‘in exchange for’ (Vaillant 1977: 114 ff.; Thomason 2006: 144 ff.).

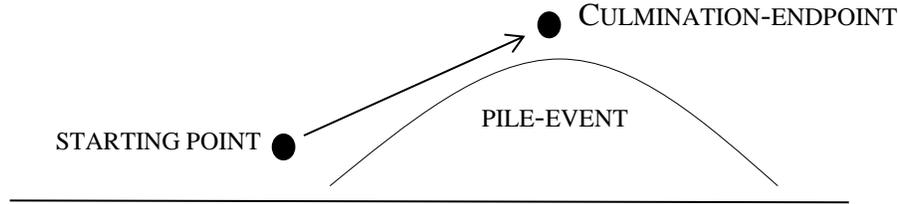
The preverb *vbz*- ‘upward’ can further develop an ingressive meaning, as is clearly shown by comparing *ne-na-viděti* ‘hate’ and *vbz-ne-na-viděti* ‘come to hate’ in example (26):

- (26) *ašte mirъ vasъ nenaviditъ. vědite ěko*
 if world.NOM 2PL.GEN hate.PRS.3SG know.IMP.PRS.2PL that
mene přēzde vasъ vbz-nenavidě
 1SG.GEN prior_to 2PL.GEN **start**-hate.AOR.3SG

‘If the world hates you, know that it came to hate me before you.’ (Mar. *Jn* 15.18)

The same passage shows the two composites occurring side by side: *ne-na-viděti* ‘hate’ lacks the ingressive component brought about by *vbz*-. The ingressive *vbz*- is particularly frequent with mental verbs (e.g. *vbz-po-męnęti* ‘**start** remembering, remind’), and verbs of emotion (e.g. *vbz-ljubiti* ‘**start** loving’, *vbz-chotěti* ‘**start** wishing’, *vbz-tužiti* ‘**start** suffering’), but is also attested for other types of verbs (e.g. *vbz-glagolati* ‘**start** speaking’). Though *vbz*- has problematic etymological origins (in LIPP II: 823 ff., Dunkel connects it with Ved. *úd* ‘upward’ and OIr. *oss-/uss-* ‘up, off’ (*contra* REW: 333)), its basic meaning is ‘upward’. The link between its basic spatial usage and its actional ingressive meaning can be easily drawn through the interplay of the following metaphors (cf. Figure 5). (a) MORE IS UP, LESS IS DOWN (Lakoff & Johnson 1980: 15–16), based on the fact that by adding more of a certain substance to a recipient or of physical objects to a pile, the level of the substance or the height of the pile goes up. (b) EVENTS can be thought of as PILES. (c) GOING UPWARD (*vbz*-) along a pile means GOING FROM THE STARTING POINT TOWARD THE CULMINATION of an EVENT.

Figure 5. The link between the spatial and ingressive meanings of *vbz-*



Interestingly, in Old Church Slavic, not only different preverbs can be associated with different meanings, but the converse situation is also attested: for example, as shown by (27) and (28), the delimitative meaning of Duration can be brought about by both *po-* and *prě-*. Arguably, the same metaphor outlined above for the delimitative *po-* comes into play with *prě-*: THE DURATION OF AN EVENT IS THE EXTENSION OF A PATH. The preverb *prě-*, like *po-*, has also an original spatial meaning indicating Path ‘across’.

- (27) *i tretiii dьnъ vьstavъ izъ mьrtvyichъ. javъ*
 and third.ACC day.ACC arise.PTCP.PST.NOM out_of dead.GEN.PL appear.AOR.3SG
svoimъ oučenikomъ. rek’še stymъ (=svjētimъ)
 his.DAT.PL disciple.DAT.PL say.PTCP.PST.NOM holy.DAT.PL
apslomъ (=apostolomъ) mnogomъ iže po istině
 apostle.DAT.PL many.DAT.PL REL.NOM.PL after truth.DAT
věrovanъšimъ vъ ѱъ.
 believe.PTCP.PST.DAT.PL in 3SG.ACC

sъ-po-živъ sъ ѱimi
 with-for_while_live.PTCP.PST.NOM with 3SG.INS

‘And, after rising on the third day from among the dead, (he) appeared to his own disciples (and) spoke with the holy apostles and with many (others) believing in him in truth, and (he) lived for a while with them.’ (Supr.1.52)

- (28) *sъ-prě-byvaatъ sъ člky (=člověky) aky člověkъ*
 with-for_a_while-be.with.PRS.3SG with man.INS.PL as man.NOM

věšte trii desěť lětъ
 more three.GEN.PL ten.GEN.PL year.GEN.PL

‘And (he) lived among men as a man for more than thirty years.’ (Supr.1.331)

The Duration of the event of ‘remaining with’ is further specified by means of the locution *věšte trii desěť lětъ* ‘for more than thirty years’ in (28). In addition, the durative reading of *prě-* is backed up by the fact that *byvati* contains the suffix *-va-*, which marks durative and iterative events (cf. Section 3.1). In (27), instead, the Duration is omitted. Given that the Greek equivalent for *sb-po-žiti* is *sun-ana-stréphomai* (cf. Table 34), one might wonder whether *po-* means ‘back’ (*iz mrětvychъ:GEN* ‘from among the dead’), as *ana-* does in the Greek composite. However, this interpretation is unlikely, given the occurrence of passages such as (29):

- (29) *iže malo po-živъ oumirajetъ*
 REL.NOM a_few for_a_while-live.PTCP.PST.NOM die.PRS.3SG
 ‘...(one) who dies after having lived for such a little while.’ (Supr. 258.12)

In (29), the meaning of *po-* is clearly delimitative: the composite *po-žiti* ‘live for a while’ is further specified by the adverb *malo* ‘for a little while’.

4.3. *Different degrees of compositionality*

Table 36 displays the semantic analysis of Old Church Slavic composites. To determine whether the composites are fully (+), partially (-/+), or non-compositional (-), I take into account the meaning of the simple verbal root, as well as the meaning of each preverb attaching to it. This semantic analysis can be occasionally very hard to perform: the same composite can display different degrees of compositionality in different contexts. One such composite is *is-pro-vrěšti*, which means ‘overturn’ in (24) above, but ‘destroy’ in (30):

- (30) *ô glasa silo adъ isprovъgъši*
 PTC sound.GEN power.VOC hell.ACC destroy.PTCP.PST.VOC
 ‘O power of the word, (you) destroying death, ...’ (Supr. 27.200 = (10))

Table 36. The compositionality of Old Church Slavic composites

COMPOSITE	MEANING	COMPOSITIONALITY
<i>is-po-vědati</i>	confess, explain	-
<i>is-po-věděti</i>	confess, explain	-
<i>is-po-vědovati</i>	confess, explain	-
<i>is-pro-vrěšti</i>	overturn, destroy	-/+ or -
<i>iz-ob-rěsti</i>	find out	-/+
<i>iz-ob-rětati</i>	find out	-/+
<i>o-pro-vrěšti</i>	overturn	-/+
<i>prědъ-po-lagati</i>	distribute to	+
<i>pri-iž-diti</i>	spend in addition	-/+
<i>pri-ob-rěsti</i>	acquire	-
<i>pro-po-vědati</i>	predict, proclaim	-
<i>pro-po-věděti</i>	predict, proclaim	-
<i>pro-po-vědovati</i>	predict, proclaim	-
<i>sъ-po-žiti</i>	live for a while with	+
<i>sъ-prě-byvati</i>	remain together with	+
<i>sъ-vъ-kupiti</i>	gather together	-/+
<i>sъ-vъ-kupljati</i>	unify, copulate	-
<i>vъs-po-měnōti</i>	start remembering, remind	-/+
<i>vъs-pri-imati</i>	receive in return	-/+
<i>vъs-pri-jěti</i>	receive in return	-/+
<i>vъz-ne-na-viděti</i>	come to hate	-/+
<i>za-po-vědati</i>	order	-
<i>za-po-věděti</i>	order	-

In (30), a metaphorical Agent, the ‘power of the word’, causes the destruction of a metaphorical Patient, the ‘death’: such a Patient, differently from the tables of example (24), cannot be overturned. The Greek equivalents for *iz(ъ)-pro-vrěšti* are either *ana-stréphō* or *kata-stréphō* ‘turn upside down, overturn’, when the Slavic composite is employed in its partially compositional usage, like in (24).²¹ The Greek source-text instead

²¹ The Greek composites *ana-stréphō* and *kata-stréphō* both include a preverb expressing telicity, i.e. *ana-* (etym.) ‘upward’ and *kata-* (etym.) ‘downward’. Importantly, the etymological spatial usages of these preverbs are opposite. As they are nevertheless translated by means of the same Slavic composite, they must be semantically bleached in these contexts, and have mere actional properties. Interestingly, such preverbs already show actional – but opposite – meanings in Homeric Greek: *ana-* can indicate the beginning of an event, whereas *kata-* its completion (Chantraine 1953: 90, 112).

contains *dia-rrégnumi* ‘break through/ asunder’, when *iz(ъ)-pro-vrěšti* is non-compositional.²²

Another case in point is the composite *za-po-věděti*, which shows two slightly different meanings, that is, ‘forbid’ in (31)a and ‘order’ in (31)b:

(31) a. ‘impose bans, forbid’

zapovědě imъ isъ glę. nikomouže ne
 forbid.AOR.3SG 3PL.DAT J.NOM say.PTCP.PRS.NOM nobody.DAT NEG
povědite viděniě.
 tell.IMP.2PL vision.GEN

‘Jesus instructed them: “Tell no one the vision”.’ (Mar. *Mt* 17.9)

b. ‘order’

nъ da razouměatъ mirъ ěko ljublju otca.
 but may understand.PRS.3SG world.NOM that love.PRS.1SG
 father.GEN

i ěkože zapovědě mъně otcъ. tako tvorjō
 and as order.AOR.3SG 1SG.DAT father.NOM so make.PRS.1SG

‘But the world may learn that I love the Father and do exactly what my Father has commanded me.’ (Mar. *Jn* 14.31)

In (31)a, Jesus provides his disciples with instructions on what should *not* be done. In (31)b, instead, Jesus says to follow his father’s instructions (lit. ‘what his Father ordered’).

²² In Old Russian, besides displaying both the partially compositional and the non-compositional usages outlined above, this composite is also frequently used in a fixed expression with the meaning of ‘killing oneself’, as shown in (i).

(i) *i tu isprovrěže životъ svoi zblě.*
 and there transform.AOR.3SG life.ACC his.ACC miserably

‘And there (he) killed himself miserably.’ (Usp. Sbor. *The Tale of Boris and Gleb* 659)

Within the idiom shown in (i), the composite *iz(ъ)-pro-vrěšti* seems to retain a less lexicalized meaning with respect to example (29), i.e. ‘transform, take out of’. It is the whole expression that is lexicalized (Zanchi & Naccarato 2016: 374; Dmitrij Sičinava, p.c.).

As mentioned in Section 4.1, the semantics of *za-* is less perspicuous in (31)b than it is in (31)a, where the preverb provides the idea of adding a metaphorical obstacle, that is, of posing a limit to one's behavior. The meaning of *za-* in (31)b can still be understood, however, if one also thinks of giving orders as the act of dictating certain behavioral limitations that cannot be surpassed.

As shown in Table 36, only a few composites with multiple preverbs retain their fully compositional meanings: these are *prědъ-po-lagati* 'distribute to' (> Blg. *prědpolagam* 'suppose, assume'; cf. Table 31), *sъ-po-žiti* 'live for a while with, and *sъ-prě-byvati* 'remain together with'. The vast majority of composites are either only partially compositional or non-compositional at all. In partially compositional composites, it is often the case that the EP retains a more distinct semantics with respect to the remaining composite, as represented through examples in (32)a-f:

- (32) a. 'spend in addition': *pri-[iž-diti]* 'in addition-[spend]' → *iž-diti* 'out_of-live'
 b. 'gather together': *sъ-[vъ-kupiti]* 'with-[gather]' → *vъ-kupiti* 'in-buy'
 c. 'find out': *iz-[ob-rěsti]* 'out-[find]' → *ob-rěsti* 'around-meet'
 d. 'receive in return': *vъs-[pri-imati]* 'in return-[receive]' → *pri-imati* 'result-take'
 e. 'start remembering': *vъs-[po-męnęti]* 'start-[remember]' → *po-męnęti* 'start-think'
 f. 'come to hate': *vъz-[ne-na-viděti]* 'start-[hate]' → *ne-na-viděti* 'neg-against-see'

By contrast, the semantic contribution of the IP is unclear (32)a-b, redundant (32)c-d, or lexicalized (32)e-f. In (32)a, for example, the telic meaning provided by the IP *iz-* and the semantics of the whole composite can only be understood interpreting the simplex verb *žiti* as 'live on/by', rather than as simply 'live' (cf. *žiti* 'live on/by' in Bes. 36.273bβ; 274bα; cf. OIr. *ar-√ber-* 'live, eat, use, employ' for a verb showing a similar polysemy). The fact that *iz-* assigns the act of living by/on a culmination also emerges from example (33):

- | | | | | |
|------|---------------------------------|-----------|-------------|----------------|
| (33) | <i>iž-divъšju</i> | <i>že</i> | <i>emou</i> | <i>vъsě...</i> |
| | completely-live_on.PTCP.PST.DAT | but | 3SG.DAT | whole.ACC |

‘After he had spent everything, (there was a severe famine in that whole country and he began to be in need).’ (Mar. *Lc* 15.14)

In (33), the composite *iž-diti* ‘completely-live on/by’ > ‘spend’ takes the direct object *vbsě:ACC*, which backs up the interpretation assigned to *iž-* in this context. The fact that the subject participant ends up his maintenance is also supported by how the passage continues: ‘...there was a severe famine in that whole country and he began to be in need’.

In (32)c-d, the spatial meanings of the IPs overlap with the meaning of the simple verbs: ‘meet’ (*√rět-*) can be said to imply the spatial component of ‘around’ (*obъ-*), as well as ‘take’ (*√bm-*) the spatial component of vicinity or approximation (*pri-*). Due to this overlap – i.e. the so-called Vey-Schooneveld effect (cf. Section 1.2.2.2) – the preverbs are reanalyzed as telic and resultative markers.

As for *vъz-ne-na-viděti* ‘come to hate’ (32)f, the semantic contribution brought about by the IP *na-* ‘against’ is both lexicalized (‘look **against** > hate’) and redundant, as the negatively oriented meaning of ‘against’ might also be provided by the negative prefix *ne-*. The preverb *na-* can also mean ‘against’ as a preposition: *na+ACC* can mean ‘against’ in Stimulus expressions, such as *na mę li gněvajete sę?* ‘Are you angry with me?’ (Mar. *Jn* 7.23) (Thomason 2006: 132) (Frigione 2015: 33).²³

In other partially compositional composites, the meaning of completeness brought about by the EP also results in a lexicalized formation:

²³ Interestingly, Old Church Slavonic attests to another composite with the same root that is used to express negative feelings, i.e. *za-viděti* ‘be envious’. Compare also the Latin compound *in-vidēō*, containing the prefix *in-* ‘against’ and the same root for seeing, which is metaphorically employed for ‘having negative feelings’, ranging from being envious to being hostile. In Latin, there is another composite containing a different root for seeing (PIE **spek-* ‘see, look at’ > Gr. *sképtomai* ‘look about carefully’, Lat. *speciō* ‘look, look at’, Ved. *pásyati* ‘(he) sees, looks at’; cf. LIV²: 575–576) and developing a meaning connected with negative feelings, i.e. *dē-spiciō* ‘look down upon > despise, disdain, disregard’ (Prof. Pierluigi Cuzzolin, p.c.). Hittite also shows a similar compound: the root *au(s)-, u(wa)-* ‘see, look, watch, behold, observe, inspect, read’ (PIE **h₁ey-* ‘see, catch sight of’; LIV²: 243), when modified by the adverb/preverb *parā* ‘(as a preverb) forth, ahead, along; away, off, out, over’, results in *parā au(s)-* ‘overlook, disregard, pay no attention to’ (Puhvel 1984: 234 ff., 2011: 106; Prof. Silvia Luraghi, p.c.).

- (34) *is-* *pro-* *vrěšti*
o(bъ)- *pro-* *vrěšti*
‘completely’ ‘forth’ ‘throw’ → ‘overturn’, ‘destroy’

The composites in (34) are still analyzable as partially compositional, as they retain the spatial component of movement, which pertains both the IP *pro-* ‘forth’, and the root $\sqrt{\text{vrěg-}}$ ‘throw’. As for non-compositional composites, their semantic developments have been already discussed through Sections 4.1–4.2.

4.4. Summarizing the meanings of preverbs in multiple preverb combinations

Table 37 summarizes the different meanings of Old Church Slavic multiple preverbs. The most relevant semantic shifts have been discussed through Sections 4.1–4.3. Each meaning is exemplified by a composite.

Table 37. The meanings of Old Church Slavic multiple preverbs

<i>Preverb</i>	<i>Meaning</i>	<i>Example</i>
<i>iz-</i>	metaphorical ‘out of’ telic	<i>is-po-věděti</i> ‘confess, explain’ <i>is-pro-vrěšti</i> ‘overturn, destroy’ <i>pri-iž-diti</i> ‘spend in addition’
<i>na-</i> <i>o(bъ)-</i>	upon - against spatial ‘around’ - telic	<i>vъz-ne-na-viděti</i> ‘come to hate’ <i>o-pro-vrěšti</i> ‘overturn’ <i>iz-ob-rěsti</i> ‘find out’
<i>po-</i>	delimitative ingressive distributive causative (< distributive)	<i>sъ-po-žiti</i> ‘live for a while with’ <i>vъs-po-męnęti</i> ‘start remembering, remind’ <i>prědъ-po-lagati</i> ‘distribute to’ <i>is-po-věděti</i> ‘confess, explain’
<i>prě-</i> <i>prědъ-</i>	extension in time beside, in front of	<i>sъ-prě-byvati</i> ‘remain together with’ <i>prědъ-po-lagati</i> ‘distribute to’
<i>pri-</i>	in addition, in excess resultative (< ‘beside’ position) (smth. generated through an action)	<i>pri-iž-diti</i> ‘spend in addition’ <i>pri-ob-rěsti</i> ‘acquire’ <i>vъs-pri-jęti</i> ‘receive in return’
<i>pro-</i>	in front (Path) before, in advance openly (< in front of)	<i>is-pro-vrěšti</i> ‘overturn, destroy’ <i>pro-po-vědati</i> ‘predict’ <i>pro-po-věděti</i> ‘proclaim’
<i>sъ-</i>	with (comitative) togetherness	<i>sъ-po-žiti</i> ‘live for a while with’ <i>sъ-vъ-kupiti</i> ‘gather together’
<i>vъ-</i>	in	<i>sъ-vъ-kupiti</i> ‘gather together’

<i>vbz(ъ)-</i>	back, in return	<i>vbz(ъ)-pri-jęti</i> ‘receive in return’; <i>vbS-pri-imati</i> ‘receive in return’
	ingressive	<i>vbz-ne-na-vidęti</i> ‘come to hate’ <i>vbS-po-męnęti</i> ‘start remembering’
	causative	<i>vbS-po-męnęti</i> ‘make one remember’
<i>za-</i>	metaphorical obstacle	<i>za-po-vędęti</i> ‘forbid, order’

5. The syntax of multiple preverb composites

As discussed in Sections 1.2 and 4.3, in Old Church Slavic, preverbs are much more advanced either in their grammaticalization process into markers of actionality or in their lexicalization process within non compositional composites than they are in Vedic (Chapter 3) and in Homeric Greek (Chapter 4). Accordingly, their meanings and behavior differ widely from those of the corresponding prepositions already (cf. Dickey’s 2012 ‘orphan prefixes’). In parallel, prepositions are also quite grammaticalized and prepositionless cases have already lost their ability of expressing semantic roles to a great extent (cf. Section 1.3).

These issues are addressed here from the standpoint of multiple preverbs. In next Section (5.1), I discuss a few relics of a previous more fluid situation, whereby preverbs and prepositions used to behave the same. Then (Section 5.2), I show passages in which multiple preverbs are repeated outside the preverbal context as prepositions. Lastly (Section 5.3), I present data suggesting that the semantic modifications brought about by preverbs occasionally have the byproduct of altering verb argument structures.

5.1. *The alternative constructions to multiple preverbs: scanty relics of a preceding stage*

In a few passages, composites showing no lexicalization or a low degree of lexicalization can be replaced by an equivalent construction in which the compound contains only the IP, whereas the EP occurs outside the composite as a preposition.

Compare, for instance, examples (35) and (36):

- (35) *ī daěše oučēnikomъ svoimъ da přědъ-polagajotъ*
 and give.IMPF.3SG disciple.DAT.PL his.DAT.PL so_that to-distribute.PRS.3PL
 ‘And (he) gave (them) to his disciples to distribute (them) to (the people).’
 (Zogr. *Mk* 8.6 = (12))
- (36) *ī daěše oučēnikomъ svoimъ da polagajotъ*
 and give.IMPF.3SG disciple.DAT.PL his.DAT.PL so_that distribute.PRS.3PL
prědъ nimi
 in_front_of 3PL.INS
 ‘Then (he) gave them to his disciples to distribute to them.’ (Mar. *Mk* 6.41)

The situation described in (35) and (36) is almost the same: Jesus is giving his disciples some food to be distributed to people around. In (35) from *Zographensis*, *prědъ*- ‘in front of’ functions as a preverb, and the Recipient is not explicitly mentioned, though recoverable from the previous context. By contrast, in (36) from *Marianus*, *prědъ* functions as a preposition and explicitly expresses the Recipient together with the instrumental case (*nimi*).

Another case in point is the composite *vъs-pri-imati/ vъs-pri-jęti* ‘receive in return’, as shown by example (37) in contrast with (38):

- (37) *ībo ī grěšnici grěšnikomъ vъ zaimъ dajotъ.*
 indeed and sinner.NOM.PL sinner.DAT.PL in loan.ACC.PL give.PRS.3PL
da vъs-priimotъ ravno
 so_that **in_return**-receive.PRS.3PL equal.ACC
 ‘Even sinners lend to sinners, to get **back** the same amount.’ (Mar. *Lc* 6.34 = (14))
- (38) *ī otъ isplъneniě ego my vъsi*
 and from fullness.GEN 3SG.GEN 1PL.NOM all.NOM
prijęchomъ blagoděť vъz blagoděť
 receive.AOR.1PL grace.ACC in_exchange_of grace.ACC
 ‘From his abundance we have all received one gracious blessing in exchange of another.’ (Mar. *Jn* 1.6)

Similarly to what described for (35) and (36), a construction with multiple preverbs alternates with a construction containing a composite with only one preverb and a prepositional phrase, i.e. *vbz*+ACC (differently from (35) and (36), though, the two passages are not equivalent). The multiple preverb composite of (37) occurs 30 times (cf. Table 30), whereas the construction in (38) is also attested in *Codex Suprasliensis* 411.18 and 446.3. As for (35) and (36), the participant recovered by the EP is usually omitted in case of multiple preverbs, but expressed in the construction with the prepositional phrase.

To be sure, there is one exception to this tendency. In (39) below, containing the multiple preverb composite *vbs-pri-imati* ‘receive in return’, the Substitute is explicit, and expressed by the prepositionless dative *dělomъ*:DAT ‘deeds’. Crucially, however, it is not expressed by means of the prepositionless accusative, as one might expect given the presence of *vbz*-.

- (39) *dostoinaa bo dělomъ naju vbs-priemlevě.*
 worthy.ACC.PL because deed.DAT.PL 1PL.GEN.DU in_return-receive.PRS.1DU
 ‘For we are receiving the due reward of our deeds.’ (Mar. *Lc* 23.41)

In (39), the prepositionless dative *dělomъ* functions as a Cause expression (cf. Vaillant 1977: 83 ff.) and translates a heavy Greek construction that contains a relative clause (*axia gâr hōn epráxamen apolambánomen*, GNT *Lc* 23.41).

What do examples (35)–(36) and (37)–(38) have in common? Out of the two variants above, the one with the EP usually omits a participant, i.e. the Recipient and the Substitute, respectively (but cf. (39)). These participants are however recoverable from the previous context. As Viti (2008a, 2008b) argued for Ancient Greek preverbs, one among the reasons why preverbs have developed into markers of telicity is their ability of introducing topical referents. These are typically known participants, and as such are likely to be conceptualized as *entire* in space and *complete* in time. Here lies the link between topicality and telicity (cf. Chapter 2).

5.2. Preverb repetition

As briefly discussed in Section 1.3, preverbed verbs can occasionally take the case required by the corresponding prepositions. This never happens with composites containing multiple preverbs. Instead, in a number of examples, the EP shows up both inside and outside the composite, i.e. it is repeated as a preposition, though not being semantically bleached.

For example, this frequently happens in the presence of *sъ-* ‘with’ in Old Church Slavic. The composites *sъ-po-žiti* ‘live for a while with’ (Supr.1.52), *sъ-prě-byvati* ‘remain with’, and *sъ-въ-kupljati* ‘gather, unite’ (Supr.1.208) take prepositional phrases constituted by *sъ* ‘with’ and the instrumental case, expressing the Comitative. An example with *sъ-въ-kupljati* ‘gather, unite’ is shown in (40):

- (40) *í* *съвъкуплѣ* *с□* *съ* *ñimi...*
 and gather.PTCP.PRS.NOM REFL.ACC with 3PL.INS
 ‘And after gathering together with them...’ (Supr.1.208)

The repetition of (40) is probably due to the fact that, in Old Church Slavic, prepositionless cases retain their concrete usages only to a limited extent, and thus can only express semantic roles under specific conditions. In particular, the prepositionless instrumental is rarely used to express a Comitative-like participant, e.g. in expressions such as *ženęi* (PTCP.PRS.NOM) *sę* (REFL.ACC) *puštenoję* (INS) (*Lc* 16.18) ‘he who married a divorced woman’ (Lunt 1965: 150–151; Hewson & Bubenik 2006: 179).

Preverb repetition of the type in (40) however is not obligatory in Old Church Slavic. With composites containing only a single preverb, for instance, two constructions are occasionally allowed: the one, containing a preverb (*отъ-* ‘from’) repeated outside the composite as a preposition (*отъ себе* ‘from yourself’) (41)a; the other, showing the corresponding simplex verb (*вързи* ‘throw’) and the expected prepositional phrase (*отъ тебе* ‘from you’) (41)b.

(41) a. Preverb repetition (Zogr. *Mt* 5.29)

i **otъ**-*vrъzi* **otъ** *sebe*
and away-throw.IMP.2SG from REFL.2SG.GEN

b. Simplex verb + prepositional phrase (Mar. *Mt* 5.29)

i *vrъzi* *otъ* *tebe*
and throw.IMP.2SG from 2SG.GEN

‘(And if your right eye causes you to stumble, pluck it out) and cast it from you.’

Alternations of this type are not uncommon: other relevant examples with the same verbal base *vrěšti* ‘throw’ are e.g. Mar. ~ Zogr. *Lc* 17.2; Mar. ~ Zogr. *Mk* 11.23. These pieces of evidence, again, support a view according to which preverbs used to have a freer positioning than that we observe in the earliest Old Slavic texts documented by the textual traditions.

5.3. *Preverbs as modifiers of verb argument structure*

Old Church Slavic preverbs occasionally modify the meaning of simplex verbs so as to result in composites with a different argument structure or taking a different case. These argument structure alterations however are better regarded as byproduct of the lexical modifications brought about by preverbs (Vaillant 1977: 35). As discussed in Section 4.2, this function is particularly remarkable for the preverb *po-*. This preverb, in its causative-like sense (cf. Section 4.2), is able to build a trivalent communication verb (*po-věděti* ‘tell’) out of a bivalent verb of mental state (*věděti* ‘know’).

Elsewhere, the semantic modifications brought about by preverbs do not alter the cases taken by the simplex verbs. Compare the two Old Church Slavic verbs *viděti* ‘see’ and *vbz(ъ)-ne-na-viděti* ‘begin to hate’. Both these verbs can take the accusative or the genitive case as a second argument (cf. Section 1.3.2); examples (42) and (43) show a second argument in the genitive case – *česo* ‘what?’ and *vraga svoego* ‘his enemy’.²⁴

²⁴ In the present Old Church Slavonic corpus, *vbz(ъ)-ne-na-viděti* ‘come to hate’ only takes masculine animate direct objects in the genitive case and that masculine animate nouns show genitive-accusative

- (42) *česo viděťv izidete vь poustynjǫ*
 what.GEN see.SUP.ACC go.out.AOR.2PL in desert.ACC
 ‘What did (you) go out into the desert to see?’ (Mar. *Mt* 11.7)
- (43) *vъzljubiši iskrъněgo svoego i vъznenavidiši vraga svoego*
 love.PRS.2SG neighbor.GEN REFL.GEN and hate.PRS.2SG enemy.GEN REFL.GEN
 ‘You will love your neighbor and hate your enemy.’ (Mar. *Mt* 5.43)

As expected (Vaillant 1977: 60; Lunt 1965: 145), in (42) the perception verb *viděti* ‘see’ takes the genitive case expressing Stimulus (occasionally, this verb also takes the accusative case). The addition of preverbs in this context does not change the cases required by the verb (i.e. genitive or accusative), as the resulting compound *vъz(ъ)-ne-naviděti* ‘begin to hate’ (43) also requires a Stimulus-participant.

6. Preverb ordering

Table 38 summarizes the positioning of Old Church Slavic preverbs. As is also valid for Vedic (Chapter 3), Homeric Greek (Chapter 4), and Old Irish (Chapter 5), not all possible preverb orders are attested. This Section offers some hints on why certain sequences of preverbs occur in the data and some others are lacking.

syncretism. Therefore, one may wonder whether *vraga svoego* and other similar forms should be better interpreted as accusatives, rather than as genitives. The interpretation as accusatives however is unlikely, as *nenaviděti* ‘hate’ can take neuter genitive direct objects (e.g. Mar. *Mk* 13.13, *Mt* 10.22, etc.). One may also wonder whether the genitive object taken by *vъz(ъ)-ne-na-viděti* and *nenaviděti* cannot be due to the presence of the negation *ne* as a prefix (cf. Section 1.3.2). However, this scenario is also unlikely, as *nenaviděti* ‘hate’ is a lexicalized compound, in which the semantic addition given by the negation is not detectable anymore (accordingly, **naviděti* is not attested). Furthermore, other verbs of emotion (and more generally, verbs requiring a Stimulus-participant) take the genitive case (see Vaillant 1977: 56–65).

Table 38. The positioning of Old Church Slavic preverbs and their frequencies

<i>Preverbs</i>	<i>Exterior</i>	<i>Interior</i>
<i>iz</i> (ъ)	6 (85, 7)	1(14, 3)
<i>na</i>	-	1 (100%)
<i>o</i> (bъ)	1 (25%)	3 (75%)
<i>po</i>	-	12 (100%)
<i>prě</i>	-	1 (100%)
<i>prědъ</i>	1 (100%)	-
<i>pri</i>	2 (66, 7%)	1 (33,3%)
<i>pro</i>	3 (60%)	2 (40%)
<i>sъ</i>	4 (100%)	-
<i>vъ</i>	-	2 (100%)
<i>vъz</i> (ъ)	3 (100%)	-
<i>za</i>	2 (100%)	-

6.1. *Preverb ordering: the account of Modern Slavic*

A number of formally-oriented works on Modern Slavic preverbs aim to identify rules of preverb stacking (cf. Section 1.1). In particular, the following predictions have been made:

- (i) whenever two preverbs modify a single verbal stem, the innermost should be lexical one (Babko-Malaya 1999);
- (ii) whenever more than two preverbs stack onto the same verbal stem, the innermost only is lexical (e.g. Istratkova 2004: 306 on Bulgarian). These authors generally do not admit the presence of two lexical preverbs stacked onto the same verbal stem, and even composites that survived till modern times are usually not cited in these works (cf. Table 31).²⁵

The Old Church Slavic multiple preverbs that I described throughout this chapter seem to represent a different phenomenon from the multiple prefixation of Modern Slavic languages. To begin with, in Old Church Slavic, actional preverbs can occur internally, as happens to delimitative *po-* and *prě-* in the composites *sъ-po-žiti* ‘live for a while with’ and *sъ-prě-byvati* ‘remain together with’. In parallel, in the same composites, the position of the lexical preverb *sъ-* ‘with’ is external. Admittedly, the composites that show this anomalous

²⁵ See however Svenonius (2004b: 242), who quotes the Slovenian verb *iz-pod-riniti* ‘drive **from under**’, which contains two lexical preverbs, and as such is regarded as problematic.

ordering did not survive in Bulgarian. Also, they are suspected of being calques of the Greek composite *sun-ana-stréphomai* ‘live together with’ (cf. Section 2.4).

Thus, what differentiates multiple preverbation in Old Church Slavic between that in Modern Slavic, is that in Old Church Slavic, two lexical preverbs are allowed to stack onto the same verbal base, as shown in (44) (= (18)):

$$(44) \quad \begin{array}{l} \textit{věděti} \rightarrow \textit{po-věděti} \\ \text{‘know’} \quad \text{‘tell’} \end{array} \rightarrow \left\{ \begin{array}{l} \text{a. } \textit{iz-po-věděti} \text{ ‘confess, explain’} \\ \text{b. } \textit{pro-po-věděti} \text{ ‘proclaim, predict’} \\ \text{c. } \textit{za-po-věděti} \text{ ‘order’} \end{array} \right.$$

Besides the composites in (44), in which the two preverbs are clearly lexical, there are also verbs in which one of the two preverbs seems to be actional, but nevertheless able to modify the lexical content of the simplex verb. One such instance is *vs-po-męnęti* ‘start remembering’, in which the IP *po-* has an ingressive value that changes the meaning of the bare root $\sqrt{\textit{min-}}$ ‘think’: *po-* + $\sqrt{\textit{min-}}$ ‘ingressive’ + ‘think’ → ‘remember’ (and not ‘start thinking’). Another relevant case is *pri-iz-žiti* ‘spend in addition’: *iz-* + $\sqrt{\textit{ži-}}$ ‘completely’ + ‘live on/by’ → ‘spend’ (and not ‘live completely on/by’). Note further that, in *pri-iz-žiti*, the EP is clearly lexical: it means ‘in addition’. Nevertheless, it occurs more externally than *iz-*.

These ambiguous cases, in which a quasi-actional preverb still modifies at a lexical level the simplex verb onto which it attaches, can shed light on the possible link between the lexical (and synchronically idiosyncratic), and the quantizing (and synchronically predictable) meanings of preverbs. Furthermore, accordingly, there are composites for which it is hard to draw a clear-cut distinction between lexical and actional usages. For example, does *prędb-po-lagati* mean ‘distribute to’ by means of *po-* being a lexical preverb, or by means of ‘put (*lagati*) repeatedly (*po-*) in front of (*prędb-*)? The fuzziness of the type just described for *po-* backs up the assumption that the homophonous lexical and superlexical preverbs are not distinct linguistic items; rather, preverbs are polysemous morphemes that have undergone two parallel paths of development: either lexicalization or grammaticalization into boulder perfectives.

As a matter of fact, a few Old Church Slavic composites already seem to instantiate a preverb ordering that resembles the modern pattern: accordingly, they display purely actional preverbs in the outermost position. In *vъz-ne-na-viděti* ‘come to hate’, for example, *vъz-* functions as an ingressive actional marker, and occurs externally (possibly, *vъz-* functions as a perfectivizing preverb; cf. Section 3.4).

6.2. *An integrated of preverb ordering*

My account of preverb ordering is partly diachronic and partly regards as crucial the fact that Old Church Slavic texts are translated from Greek sources. The diachronic side finds motivations in the fact that, for most composites, the EP seems to constitute a later addition to an existing composite lexicalized at a preceding stage. This explanation is consistent with the fact that Old Church Slavic EPs seem to retain a more distinct semantics than IPs (cf. Section 4.3). In addition, it is consistent with the ‘redundancy principle’, according to which preverbs whose semantics is closer, i.e. subsumed, by the semantics of the verbal stem are likely to attach closer to it.

This intuition is backed up by the fact that the Slavic sequences IP-VB frequently translate a Greek unpreverbed verb. This is clear at least for the composites displayed in Table 39. In addition, given that the simplex verb **rěsti* is not attested, and thus that *ob-rěsti* is lexicalized, the composite *pri-ob-rěsti* ‘acquire’ can also be included in the list in Table 39. The EP *pri-* has been possibly attached at a later stage to *ob-rěsti* ‘find’, providing it with a resultative semantics: *pri-* + *ob-rěsti* ‘resultative’ + ‘find’ → ‘acquire’. In this case, however, *pri-ob-rěsti* ‘acquire’ seems to be lexicalized as a whole: it corresponds to Greek *ktáomai* or *kerdáinō* ‘obtain’ in most passages. In addition, the semantics of *pro-po-vědeti* ‘proclaim, predict’, *za-po-vědeti* ‘order’, and *iz-po-vědeti* ‘confess, explain’ also suggests that all these composites are derived from the preverbed speech verb *po-vědeti* ‘tell’, rather than from the cognition verb *vědeti* ‘know’. Semantically, the generic speech verb *po-vědeti* ‘tell’ arguably constitutes the intermediate stage between the cognition verb *vědeti* ‘know’, and the specific speech verbs *pro-po-vědeti* ‘proclaim, predict’, *za-po-vědeti* ‘order’, and *iz-po-vědeti* ‘confess, explain’.

Table 39. Lexicalized IP-V sequences and their Greek counterparts

<i>Composite</i>	<i>Meaning</i>	<i>Greek equivalent</i>
<i>is-po-věděti</i>	confess, explain	<i>ex-omologéō</i> <i>ex-agoreúō</i> <i>ex-ēgéomai</i> <i>an-aggéllō</i>
<i>iz-ob-rěsti</i>	find out	<i>ex-eurískō</i>
<i>prědъ-po-lagati</i>	distribute to	<i>para-títhēmi</i>
<i>pri-ižditi (iz-žiti)</i>	spend in addition	<i>pros-dapanáō</i>
<i>sъ-vъ-kupiti</i>	gather together	<i>sun-áptō</i>
<i>vъs-po-męnōti</i>	start remembering, remind	<i>ana-mimnēskō,</i> <i>hupo-mimnēskō,</i> <i>hupómnēsīn lambánō</i>
<i>vъs-pri-jęti</i>	receive in return	<i>ana-lambánō</i> <i>apo-lambánō</i> <i>ap-ékhō</i>
<i>za-po-vědati</i>	order	<i>en-téllomai</i> <i>dia-tássō</i> <i>pros-títhēmi,</i> <i>ep-aggéllomai</i>

6 Multiple preverbs in Old Irish

1. Preverbs in Old Irish

1.1. *State of the art*

Traditional grammars of Old Irish include a section devoted to preverbs, which are called either ‘preverbs’ or ‘prepositions’ (VKG II: 242 ff.; GOI 495 ff.; Vendryes 1923: 231ff.; Lewis & Pedersen 1961[1937]: 245 ff.). Notably, because of their preverbal position, traditional grammars also address other preverbal morphemes, including the negation, the interrogative particles, and the relative preverbs, as ‘preverbs’. A major concern of such grammars is discussing preverbs’ accentual and positional properties (cf. Section 1.2.1.1), and the related formal changes that they undergo (cf. Section 3.1). In addition, traditional grammars usually offer an exhaustive catalogue of Old Irish lexical (i.e. word-forming) preverbs and their allomorphs, associated with their basic meanings and examples illustrating their usages in nominal and verbal composition.

Verbal bases are frequently modified by one or more preverbs in Old Irish, in which a single verbal root can constitute the basis for several composites. For example, alongside with the simplex verb *gairid* ‘call’, the root $\sqrt{\text{gari-}}$ functions as a basis for the following composites: *ad·gair* (*ad- $\sqrt{\text{gari-}}$*) ‘summon’, *ar·gair* (*air- $\sqrt{\text{gari-}}$*) ‘forbid’, *con·gair* (*com- $\sqrt{\text{gari-}}$*) ‘cry out’, *fris·gair* (*frith- $\sqrt{\text{gari-}}$*) ‘answer, reply’, *in·gair* (*in(de)- $\sqrt{\text{gari-}}$*) ‘call in’, *do·gair* (*to- $\sqrt{\text{gari-}}$*) ‘summon’, *ad·togair* (*ad-to- $\sqrt{\text{gari-}}$*) ‘recall’, and others (for a total of 20 composites; cf. KPV: 331-332; McCone 2006: 177).¹ Given this relative abundance of

¹ In morphological segmentations, I consistently used preverbs’ first allomorph cited in GOI (495 ff.), though the *Milan* and the *Priscian Glosses* databases occasionally employ different forms (e.g. they alternate *aith-* ~ *athi-*, *air-* ~ *ar-* ~ *are-*). The databases also contain inconsistencies as for the underlying form of certain verbal roots (e.g. $\sqrt{\text{ben-}}$ ~ $\sqrt{\text{bina-}}$ ~ $\sqrt{\text{bena-}}$, $\sqrt{\text{swizd-}}$ ~ $\sqrt{\text{seth-}}$). In this case, I chose and consistently kept the most frequent allomorph occurring in the databases (to facilitate the reader, all allomorphs are displayed in Table 43).

multiple preverbs, most grammars also touch upon the issue of preverb ordering and its motivations, as well as the complex matters of the semantic contributions brought about by accumulated preverbs, and of the difficult segmentation of Old Irish multiple preverb composites (cf. Sections 3, 4, 6; VKG II: 302 ff.; GOI 495; Lewis & Pedersen 1961[1937]: 267). Notably, multiple composition must have been a very ancient Celtic phenomenon: there is evidence for sequences of two preverbs in British (*dyrllyddu* (*to-ro-√sel-*) ‘merit’), as well as sporadic hints for that in Gaulish (Rossiter 2004: 9).

Moreover, a specific section of mentioned grammars is dedicated to non-lexical preverbs that play a grammatical role within the Old Irish verbal system: these are the so-called perfective preverbs (occasionally also referred to as ‘augment’ or ‘temporal preverbs’, e.g. by McCone 2006; and by Lewis & Pedersen 1961[1937]: 251 ff.), that is, *ro-*, *ad-*, *com-*, and less widespread others. The preverb *ro-* is paradigmaticized to indicate completion in the past, and potentiality in the future (cf. Section 1.2.3; VKG II: 261 ff.; GOI: 339 ff.; Vendryes 1923: 241 ff.; Lewis & Pedersen 1961[1937]: 251 ff.). Within the Old Irish catalogue, another grammaticalized preverb is the so-called empty (i.e. meaningless) *no-*, which serves the function of contributing to forming certain Old Irish verbal forms or filling certain positional gaps under particular morphosyntactic conditions (cf. e.g. GOI: 348; Lewis & Pedersen 1961[1937]: 259).

As in other Indo-European languages, (a number of) the same morphemes that function as preverbs can also behave as prepositions (‘position C’ in GOI): accordingly, traditional grammars also contain sections dedicated to the prepositional usages of Old Irish preverbs in combination with nominal morphological cases (cf. Section 1.2.2; VKG II: 72 ff.; GOI: 496 ff.; Vendryes 1923: 142 ff.; Lewis & Pedersen 1961[1937]: 162 ff.).

To sum up, preverbs play a prominent role within the Old Irish verbal system. On the one hand, they productively build new composite verbs; on the other hand, a number of preverbs are grammaticalized as markers of perfectivity. In addition, they are crucial to the morphological distinction between absolute and conjunct personal endings (cf. e.g. GOI: 350). Therefore, a number of works also deal with preverbs and accumulation of preverbs, while investigating wider issues as to the rise and the diachronic syntax of the Old Irish verbal complex.

McCone's (1997, 2006) monographies belong with this group, in that they explore the role of multiple preverbs in the origins and development of the Old Irish and Insular Celtic verbal complex. McCone (1997: 89-90) is notorious for his attempt at drawing a positional hierarchy ruling the relative order of preverbs that may be simultaneously added to a verb in primary (i.e. the first layer of) composition. To primary composition, which follows this hierarchy, McCone opposes a more recent stage of composition, that is, the so-called *secondary composition*, which consists of adding a further preverb among the still productive ones (i.e. *com-*, *eter-*, *fo-*, *frith-*, and *imm-*) to an already existing and lexicalized composite, even disregarding the hierarchy.

Though McCone's hierarchy works reasonably well, once one puts aside calques from Latin (cf. Section 6), McCone (2006) himself later discarded the idea of a clear-cut distinction between primary and secondary composition, especially in the light of Rossiter's (2004) results. Rossiter's (2004) dissertation shows that the removal of the EP predominantly results in an actually attested Old Irish composite. These data contributed to backing up the hypothesis of a single process as regards the formation of composites in Old Irish, and specifically a step by step accretion or recomposition (cf. Section 2.3 and 6).

McCone (1997, 2006) also pursues the broader goal of investigating the rise of the VSO pattern in Old Irish, as well as the rise of the differentiation between absolute and conjunct inflections in the light of both comparative and areal considerations.² In fact, preverbs are related to both issues. Though there is no general agreement on the exact mechanism(s) behind the generalization of the VSO pattern in Old Irish, this development, divergent from the rest of Indo-European, is possibly related to the following co-factors: (a) the tendency of Indo-European clitics to occupy the second position (Wackernagel's Law); (b) Vendryes' restriction (Vendryes 1911, 1912; Dillon 1943), whereby Old Irish second-position clitics tend to be hosted by specific elements, i.e. the simplex verbs, the first preverb of a composite, and the so-called conjunct particles. As a consequence, simplex verbs and preverbs were allegedly attracted toward the first position by second-position

² The VSO character of Celtic languages is explored in a language contact perspective in Morris-Jones (1899), Pokorny (1949), Wagner (1959, 1964), Hewitt (2009), Matasović (2012a, 2012b), Mikhailova (2012). In recent decades, VSO languages also raised typologists' interest (Carnie & Guilfoyle 2000; Carnie et al. 2005).

clitics. Later on, the verbal bases of the composites also underwent a leftward shift, due to the tendency toward univertation between preverbs and verbal bases (Watkins 1963). Lastly, the initial position was generalized even in clauses without second-position clitics (cf. also Eska 1994; Adger 2000; Doherty 2000; McCone 2006: 61 ff.; Eska 2007; and references therein).

The growth of the unmarked VSO pattern relates to other open issues regarding the Old Irish verbal complex, notably the dichotomy between the absolute and the conjunct endings. Conjunct endings always occur with composite verbs, after the preverbs *ro-* and *no-*, and after a number of other preverbal particles; absolute endings are employed elsewhere. What does this dichotomy have to do with preverbs? A number of scholars from Boling (1972) and Cowgill (1975) onward argue that the absolute flexion could not but be generated by the assumption of a second-position particle with the shape **=es* and of uncertain etymology, which prevented the apocope of *-i* that instead characterizes the conjunct flexion. Nowadays, some scholars either accept the asseverative particle **=es* but reject the apocope of *-i* (Kortland 1979, 1982, 1994), or viceversa (McCone 1979; 1982, 1985a, 2006, 2007; Sims-Williams 1984; Koch 1987; Isaac 1993, 2000). Others accept both parts of Cowgill's theory, but assume a different shape for the reconstructed particle, i.e. **et(i)* 'and' (Schrijver 1994, 1997; Schumacher 1999; KPV; Eska 2012). More recently, an innovative hypothesis has been put forward by Budassi (2017), which also comprises an explanation for the rise of relative endings (which are also morphologically distinct from declarative ones in Old Irish). Instead of a single discourse particle, Budassi assumes a whole set of clitic pronouns either with deictic or with anaphorical function. These pronouns later on allegedly underwent univertation and grammaticalization as absolute and relative endings, respectively. Whatever the solution to this puzzle is, it must take into account the following facts related to the phonology and the syntax of preverbs: (a) the lack of a regular lenition occurring after the proclitic first preverb of initial composite verbs (cf. Section 3); possibly, lenition is blocked by the presence of the assumed second position particle; (b) verbal forms occurring in tmesis (#PE...V#) and in Bergin's (#...PV#) construction show the conjunct flexion (cf. Section 1.2.1.3).

Along with these comprehensive works, a number of papers touch upon different aspects relating to a single Old Irish preverb. These papers mainly focus on etymological, phonetic, or syntactic aspects, and usually only cursorily address the semantic and functional properties of Old Irish preverbs (e.g. Russell 1988, and references therein, on *uss-* ‘up, off’; Stifter 2014, and references therein on *to-* ‘to, toward’; Dedio & Widmer forthc., and references therein, on *imm-* ‘about, mutually’).³

1.2. *The status and functions of Old Irish preverbs*

1.2.1. *The morphosyntactic status of Old Irish word-forming preverbs*

1.2.1.1. The accentual properties of Old Irish preverbs

Usually, composite verbs bear the accent on the second element of the composition: these are the so-called ‘deuterotonic’ forms of composites. This means that, with composites containing only one preverb, such a preverb occurs before the accent, that is, in ‘pretonic’ or ‘prenuclear’ (in Anderson’s 2016 terms) position, and the verb base is accented. With multiple preverb composites, instead, the EP still remains before the accent, but it is the first of the MPs or the IP that bears the accent. With deuterotonic forms, the EP occurring before the accent behaves as a separate unit. Accordingly, it can be split from the rest of the composite by a personal pronoun (Section 1.2.1.2; GOI: 27 ff., 351 ff., 534 ff.; Vendryes 1923: 232; Lewis & Pedersen 1961[1937]: 69, 245 ff.; McCone 1997: 1–8).

However, though the EP is usually pretonic, it does bear the accent under certain morphosyntactic conditions, e.g. in the imperative, after certain conjunctions and particles, (occasionally) in relative clauses (cf. (1)), and in the archaic constructions whereby the verb occurs in the last position (Section 1.2.1.3; GOI: 28 ff.). The accented position is called *nuclear* by Anderson (2016). The form of composites showing these behavioral properties are called *prototonic*. In prototonic forms, the EP bearing the accent becomes a fully-fledged part of the rest of the verb.

³ Within the main text, Old Irish preverbs are consistently translated as in GOI (495 ff.).

In (1), the same composite *do-indnaig* (*to-in(de)-√aneg-*) ‘give, bestow, grant’ is shown in deuterotonic and prototonic forms: accordingly, the EP *to-* surfaces as *du-* and *t-* (cf. Section 3):

(1) a. The composite *do-indnaig* in deuterotonic position

7 ***duindainsed*** *da [dam]* *inna-huli-se*
 and give.SBJV.PST.3SG to.1SG.DAT ART.ACC.PL-all.ACC.PL.N-DEM
 ‘...and who could give me all these things.’ (Ml.78b18)

b. The composite *do-indnaig* in prototonic position

tinnagat *ní* *ass-a-nucht* *di mainib*
 give.PRS.3PL INDF.ACC out_of-POSS.3PL-bosom.DAT of possession.DAT.PL
 ‘...who give some treasures out of their bosom.’ (Ml.93a20)

1.2.1.2. The morphological status of preverbs

In Old Irish, the lexical (i.e. word-forming) preverbs stacked onto a single verbal base show different statuses according to their position relative to the verbal base. In particular, the EP is usually a clitic, whereas the MPs and the IP are affixes (cf. further Kuryłowicz 1964: 174). This emerges from the position of the accent and from the fact that second position clitics can intervene in between the EP and the remaining composite. In the so-called deuterotonic forms (cf. Section 1.2.1.1) with two or more preverbs, the accent falls onto the first preverb after the EP (2).

(2) The position of the accent in deuterotonic multiple preverb composites

OLD IRISH TEXT	TRANSLATION	SEGMENTATION	LOCUS
<i>ad déicider</i> :SBJV.PRS.2SG	‘you may look’	<i>ad-di-in(de)-√kwis-</i>	Ml.43a19
<i>dufórbán</i> :PRS.3SG	‘it comes’	<i>to-for-√ben-</i>	Ml.61a22
<i>fuácbat</i> :PRS.3PL	‘they leave’	<i>fo-ad-√gabi-</i>	Ml.80a10

In addition, Old Irish syntax allows for infixed pronouns with different functions including the following: (a) direct objects; (b) various types of dative participants with the

verb ‘to be’; (c) first and second person subjects with passive verbs; (d) Goal after motion verbs; (e) (rarely) indirect objects in dative (GOI: 255 ff.; Lewis & Pedersen 1961[1937]: 196 ff.). These infix pronouns are always attached to the element that immediately precedes the accent, be it a lexical preverb (3) or a preverbal element of other type (4).

- (3) *at-[t]=chom-aing* *fri=* *agitofel*
 P-3SG.N=P-strike.PRS.3SG against= A.ACC
 ‘He struck it against Achitophel.’ (Ml.24c16)
- (4) *dia-ndam=chon-delc* *frit-su*
 if-1SG=P-compare.SBJV.PRS.1SG against-2SG.ACC
 ‘If I compare myself to you...’ (Ml.91d8)

Kuryłowicz (1964: 174ff.) relates the status of Old Irish EP and the particular productivity of multiple composition in Old Irish in the following way. Multiple preverbs are particularly productive, as they do not constitute an ambiguous structure: the preverb farthest from the verbal stem (the EP) is clearly separated from the rest of the composite. Albeit in differing terms, Kuryłowicz argues in favor of a process of formation that McCone later called ‘recomposition’ or ‘accretion’ (McCone 2006: 180): “a process of step by step accretion entailing the prefixing of a single extra preverb to an already existing simple or compound verbal form” (cf. further Sections 2.3 and 6). Accordingly, for example, on *gairid* ‘call’, the composites *in-gair* ‘herd, tend, protect’, *do-ingair* ‘call (by a name)’, and *for-dingair* ‘signify, express’ are successively built.

Deviations from the pattern outlined above either contain the preverbs *imm-* ‘about, mutually’ or *ro-* in their grammaticalized function, or can be explained through Latin influence (GOI: 30, 256). Example (5) shows the composite *imm-aig* ‘drive around’, which contains the preverb *imm-* ‘about, mutually’, and is preceded by the conjunction *an* ‘when’. Accordingly, one would expect to infix the personal pronoun after the conjunct particle (cf. example (4)). Surprisingly, the infix pronoun occurs after both the conjunctive particle and the preverb *imm-*. GOI (256) points out this anomalous positioning of *imm-* only for passages in which this preverb serves a reciprocal construction and means ‘mutually’. Thus,

the pattern exemplified in (5) is possibly analogical from the examples in which *imm-* functions as a reciprocal.⁴

- (5) *[a]n-im-da=[a]ig* *dia*
 when-around-**3PL**=drive.PRS.3SG God.NOM
 ‘...when God drives them around’ (Ml.66d18)

In (6), instead, the infix pronoun follows the grammaticalized preverb *ro-* in its perfectivizing function (glossed as AUG), as is also described in GOI (256):

- (6) *acht ni-ru-m=chom-ar-leicis* *se* *namma*
 but NEG-AUG-**1SG**=P-P-permit.PRF.2SG EM.1SG only
 ‘But only, you have not allowed me (to be captured)!’ (Ml.76d5)

The *Milan Glosses* allow for other anomalous formations. In (7), two lexical preverbs show the status of clitics:

- (7) Two preverbs in pretonic position:
ad-cuimtig ‘build up, build to’ (*ad-com-uss-ding-*)
ol *ad-com=rótaig*
 because P-P=build_to.PRF.3SG
 ‘Because it built up.’ (Ml.35b13)

In (7), the presence of *ad-* is arguably influenced by the corresponding Latin source text, which contains *ad-strueret*:SBJV.IMPF.3SG ‘build near, add’ (cf. also eDIL.ie/406). Note that the composite *con-utaing* (*com-uss-ding-*) ‘build, construct’, containing only the MPs and

⁴ The corresponding Latin text presents the expression *deo imminente*:ABL ‘with God’s command’. Though *imm-aig* ‘drive around’ is not a literal translation of Latin *in-mineo* (lit.) ‘bend/lean toward’, the Old Irish preverb *imm-* possibly echoes Latin *in-m-*.

the IP, is also attested in the *Milan Glosses* and is almost equivalent to *ad-cuimtig* ‘build up, build to’.

1.2.1.3. Syntactic patterns with the verb in non-initial position

As touched upon in Section 1.1, the usual position for the Old Irish verbal complex is clause-initial (8):

- (8) *ni= guid digail du= thabairt foraib*
 NEG=pray.PRS.3SG punishment.ACC to= inflict.DAT.SG on.3PL
 ‘He does not pray that punishment is inflicted upon them.’ (MI.42a4)

Old Irish is almost consistently a VSO language. However, verb-final/verb-medial patterns also occasionally occur in Old Irish poetry and rhythmic prose, both involving and not involving tmesis, i.e. the displacement of (a) preverb(s) from the verb it(they) modify(ies) (cf. Bergin 1938; Greene 1977; Binchy 1979–1980; Watkins 1963; Eska 2007, and references therein). Quite strikingly, these non-initial verbal complexes take conjunct endings, when simplex (cf. Section 1.1), and prototonic stress, when composite (cf. examples (10)a-b; Section 1.2.1.1). The tmesis pattern is exemplified in (9), the so-called Bergin’s Rule pattern in (10):

- (9) a. Tmesis pattern (*ad-√kwis-* ‘look at’) (adapted from Watkins 1963: 32)

ad- cruth caín -cichithir
 P form.NOM fair.NOM see.FUT.3SG.PASS
 ‘Fair form will be seen.’

- b. Usual preverbal position (*ad-√kwis-* ‘look at’)

noch ní ac-cam i-sint-saltair in
 however NEG P-see.PRS.1PL in-DAT.N-P.DAT ART.ACC
fers n-isin
 verse.ACC that.ACC

‘However we do not see that verse in the Psalter.’ (Ml.111d1)

(10) a. Bergin’s Rule pattern with verb in final position (adapted from Eska 2007: 255)

ar= *mind* *n-axal* *n-acallad*
1PL.GEN= hero.NOM apostle.ACC converse.IMPF.3SG.PROT

‘Our hero used to converse with the apostle.’ (ACC §82)

(corresponding deuterotonic form = *ad·gládad*)

b. Bergin’s Rule pattern with verb in medial position

(adapted from Eska 2007: 255)

lāithe *gailēoin* *gabsat* *inna=*
warrior.NOM.PL G.GEN take.PRET.3PL in.3PL.GEN

lāmaib *lāigne*
hand.DAT.PL spear.ACC.PL

‘The warriors of the Galēon took spears in their hands.’ (CGH 1.9)

(corresponding absolute form = *gabsait*)

In (9), the composite *ad-√kwis-* ‘look at’ is split by the subject *cruth cain* ‘fair form’, whereas in (9) *ad-* (i.e. its allomorph *ac-*) occurs close to the verbal base. In (10), the composite *ad·gládathar* ‘address, speak to’ is not ‘split’, but does not occur in its usual position: it is preceded by its subject (*ar=mind*) and its second argument (*n-axal*). In (10), the simple verb *gaibid* ‘take’ stands in medial position: it is preceded by the subject participant, but followed by the second argument and the Goal-participant.

A controversial issue is the actual significance of the orders shown in (9) and (10) for the reconstruction of the prehistoric clausal configuration of Irish. Tmesis and Bergin’s Rule constructions can be regarded as literary artifacts, aimed to produce alliterations or particular cadences in poetry and rhythmic prose (Wagner 1976; Greene 1977; Breatnach 1984). Indeed, for example, splitting *ad-* from *-cichither* produces a sequence of three alliterating words in (9). Alternatively, these orders can be considered as petrified relics of a pre-literary stage of the language, in which the positional properties of the Old Irish verbal complex were closer to the orders – mainly verb-final, but also verb-medial – found in other ancient Indo-European languages such as Hittite, Vedic, and Homeric Greek (e.g.

Watkins 1963; McCone 1979; Ahlqvist 1980; Hamp 1982; MacCoisdealbha 1998; Eska 2007). A few scholars, who support the antiquity of tmesis and Bergin's Rule constructions, have not very convincingly attempted to reduce these patterns to verb-second constructions (Koch 1987; Doherty 1999, 2000). They accordingly regard Old Irish as a residual V2 language, and not a residual verb-final/verb-medial language. This reconstruction is however unlikely, as several Old Irish passages contain more than a single clausal constituent occurring before the verb (cf. examples at (10) in Eska 2007: 258 ff. and the related discussion).

1.2.2. *The prepositional function of Old Irish preverbs*

A number of Old Irish preverbs can also occur outside the preverbal complex as prepositions. GOI (495 ff.) assigns to preverbs the following positions:

- A. under or after the accent (cf. Section 1.2.1.1), that is, in close composition with nouns and verbs (preverbs have the morphological status of affixes);
- B. before the accent in front of a verb or another preverb (clitic status, cf. 1.2.1.1);
- C. before the accent in front of an inflected noun (clitic status);
- D. before a suffixed personal pronoun (cf. example (11)).

Positions C and D above are those in which preverbs function as prepositions. Not all preverbs can occur in all the above positions. According to GOI, a number of them only occur in A and B, that is, they cannot function as prepositions: *ad-* 'to, toward' (*co* is used instead of *ad* in C and D); *aith-* 're-, ex-'; *cét-* 'with' (only in close composition, i.e. position A); *-ne-* 'down' (only A); *-uss-* 'up, off'; *ro-* 'forth' (cf. Section 1.2.3); *to-* 'to, toward'.⁵ Others are only employed in positions C and D, that is, they can *only* function as prepositions: *al* 'beyond' (obsolescent according to GOI: 500); *amal* 'as, like'; *cen* 'without'; *co* 'to, till' (replaced by *ad* in A and B); *do*, *du* 'to';⁶ *fíad* 'in the presence of'; *inge* 'except' (only C); *(h)is* 'underneath'; *la* 'with, along'; *ó*, *úa* 'from, by'; *oc* 'at'; *ós*

⁵ On the etymology of the preverb *to-*, and its etymological relation with the preposition *do* 'to', see Stifter (2014).

⁶ Cf. fn. 5.

‘above, over’. Moreover, *echtar* ‘outside, without’ never participates in verbal composition (i.e. it cannot occur in position B). These data are summarized in Table 40 and in Table 41.

Table 40. Old Irish preverbs and their positions (GOI)*

PREVERB	MEANING	A	B	C	D
1. <i>ad</i> (<i>aud, as</i>)	to, toward, up to	+	+	-	-
2. <i>air</i> (<i>er, ir, ar, are, aur, etc.</i>)	before, for, on account of, around	+	+	+ ^L (ACC, DAT)	+
3. <i>aith-</i> (<i>aid, ath, ad, aud, ed, id</i>)	re-, ex-	+	+	-	-
4. <i>com</i> (<i>cum, coim(m), cot, co, cu</i>)	with	+	+	+ ^N (DAT)	+
5. <i>di</i> (<i>de, dī, dī, do</i>)	of, from, between	+	+	+ ^L (DAT)	+
6. <i>ess</i> (<i>es, é, a, as, ass, as(s)a, ad, at</i>)	out of	+	+	+(DAT)	+
7. <i>eter</i> (<i>etar</i>)	between, among	+	+	+(ACC)	+
8. <i>fo</i> (<i>fu, fā, -f-, -b-</i>)	under	+	+	+ ^L (ACC, DAT)	+
9. <i>for</i> (<i>fur, far</i>)	on, over	+	+	+ ^(L) (ACC, DAT)	+
10. <i>frith</i> (<i>frid, fres, fris(s), fri</i>)	against	+	+	+(ACC)	+
11. <i>íarm</i> (<i>íar, íarmi</i>)	after	+	+	+ ^N (DAT)	+
12. <i>imm</i> (<i>imb, im, imp</i>)	about, mutually	+	+	+ ^L (ACC)	+
13. <i>in</i> (<i>ind, en, ini, inde</i>)	in, into	+	+	+ ^N (ACC, DAT)	+
14. <i>ne</i>	down	+	-	-	-
15. <i>os(s)</i> (<i>uss</i>)	up, off	+	+	+(DAT)	-
16. <i>re</i> (<i>ri, rem</i>)	before, pre-	+	+	+ ^N (DAT)	+
17. <i>ro</i> (<i>ru</i>)	*forth, intensive	+	+	-	-
18. <i>sech</i>	past, beyond	+	+	+(ACC)	+
19. <i>tar</i> (<i>dar, tairm, tarm</i>)	across, over	+	+	+(ACC)	+
20. <i>to</i> (<i>do, ta, t, te, tu, t</i>)	to, toward	+	+	-	-
21. <i>tri, tre, trem</i>	through	+	+	+ ^L (ACC)	+

*The apices L and N indicate initial mutations. Rare mutations are reported between brackets (cf. n. 9. *for*).

Preverbs are cited as in GOI.

1. Often mixed with *aith-*, *ess-*, and *in(de)-*. It often replaces *in(de)-* (Lewis & Pedersen 1961[1937]: 260).
5. *di+fo* → *dú* (Pokorny 1914: 120; GOI: 504), *di+in* → *din*, *di+ess* → *dé-*, *dii+uss* → *diiu-* (GOI: 504-505; Lewis & Pedersen 1961[1937]: 261).
6. The preverb *ad-* occasionally substitutes *ess-* (Pokorny 1914: 120–121).
14. The preverb *ne-* only combines with a few verbal roots (cf. *air-ne-√guid-* ‘pray’ in ML.61b1).
19. The preverbal usage of *sechmo-* ‘past, beyond’ is limited to motion verbs (GOI: 530); in *sechmo-ella* (*sechmo-in(de)-√ell-*) ‘pass by, pass, neglect’, it is combined with *√ell-* ‘put in motion’, resulting in compositional and spatial (‘pass by’), as well as in non-compositional and abstract (‘neglect’) meanings.
21. Cf. Stifter (2014); Table 41, n. 5. In combination with other LPs: *to+fo* → *tó, túa*, *to+for* → *tór, túar* (Pokorny 1914: 124).

‘In that he opposed...’ (Ml.51d3)

On the diachrony and usage of Old Irish cases and prepositions, I refer to Windisch (1879), Moore (1882: 65 ff.), GOI (495 ff.), Vendryes (1923: 136 ff.), Lewis & Pedersen (1961[1937]: 161 ff.), and Hewson & Bubenik (2006: 228 ff.). Very briefly, Old Irish retains the nominative, accusative, genitive, dative, and vocative cases out of the eight-fold Proto-Indo-European reconstructed case system. Old Irish cases can mostly be observed as resulting in phonetic shifts that affect vowels and syllable structure, along with palatalization and mutation of consonants. Proto-Indo-European instrumental, ablative, and locative all merged into the dative case. Accordingly, the dative is combined with various prepositions to express the senses previously assigned to the three merging Proto-Indo-European cases. Prepositionless dative is obsolescent in Old Irish, in which only a few petrified instrumental datives can be found as adverbs (cf. (20); *aithieriuch* ‘again’; cf. Vendryes 1923: 141). The accusative, combined with different prepositions, is instead employed to indicate Goal. A few motion verbs take a prepositionless accusative expressing Goal: e.g. the simplex verb *téit* ($\sqrt{tēg-}$) ‘go’ (Ml.62b20), and the composites *do-icc* (*to-√icc-*) ‘come to, approach’ (Ml.41d9, 123c3) and *ro-icc* (*ro-√icc-*) ‘come, attain, reach’ (Ml.9d20, 55d2) (Vendryes 1923: 139).⁷ The genitive, as expected, being a strictly adnominal case, is used with prepositions or prepositional locutions stemming from noun phrases (i.e. secondary prepositions of nominal origin such as *ar cuit* ‘on account of’, *in degaid* ‘beside’, *fri lorg* ‘behind’; cf. Vendryes 1923: 137). Old Irish prepositions govern the case that they precede; accordingly, they usually select only one case. However, case alternation marginally retains its significance with prepositions governing both the accusative and the dative case: accusative-dative alternation distinguishes Goal from Location (cf. Chapter 5, Section 1.3.2 on OCS).

Peculiar of Old Irish are the so-called conjugated prepositions (GOI: 272 ff.; Lewis & Pedersen 1961[1937]: 199 ff.; Vendryes 1923: 277 ff.), whose endings stand for personal

⁷ The simplex verb *téit* ($\sqrt{tēg-}$) ‘go’ can also take a Path-participant expressed by a prepositionless accusative (Ml.28c19).

pronouns. One relevant example is provided in (11): the preposition *fri* is followed by a suffixed accusative singular third person pronoun *-s*.

1.2.3. *The preverbs ro-, no-, and the other grammatical preverbs of Old Irish*

Alongside with the lexical or word-forming preverbs, Old Irish preverbal morphemes can also serve more grammatical functions (GOI: 339ff.; Vendryes 1923: 241 ff; Lewis & Pedersen 1961[1937]: 251 ff.). A few preverbs, variably called ‘verbal particles’ (GOI), ‘temporal preverbs’ (Lewis & Pedersen 1961[1937]), or ‘augment’ (McCone 2006: 190) work as aspectual markers. These temporal preverbs can be prefixed to express various meanings connected with perfectivity or potentiality. For example, they can be added (i) to the preterite to express the perfect (the most frequent use); (ii) to the imperfect to denote an action completed multiple times in the past; (iii) to the present indicative and subjunctive to describe general actions to be completed before another action can take place; (iv) to the present subjunctive with potential value.

Among the perfectivizing preverbs, the most paradigmaticized is *ro-* (etym.) ‘forward, forth’ (< **pr-ō-*, cf., among others, AG *pró*, OCS *pro-*, Ved. *prá*; see LIPP II: 637), which can be added to nearly all simplex and composite Old Irish verbs. Other reasonably frequent preverbs supplying the function of *ro-* are *ad-* (etym.) ‘to, toward’ and *com-* (etym.) ‘with’. The preverb *ad-* is mostly used with composite verbs containing lexical *com-* ‘with’ (e.g. *conaitecht*:PRF.3SG ‘(he) asked’ from *com-di-√sag-* ‘ask, seek, demand’), whereas *com-* mostly, but by no means exclusively, with roots ending in *-g-* (e.g. *√org-* ‘slay, kill’).⁸ Furthermore, a few perfectivizing preverbs (*di-*, *ess-*, *in(de)-*, *to-*) only occur in combination with specific verbal roots, possibly on account of their basic meaning. For example, *ess-* ‘out of’ (<**égh-s*, cf., among others, AG *ex-*, Lat. *ex-*, OCS *iz-*; see LIPP II: 204 f.) perfectivizes two verbs for drinking (*√ib-*, *√lu-*), as ‘drink out of’ can easily be understood as ‘drink completely’: e.g. *ibis*: PRET.3SG ‘drank’ vs. *as·ib*:PRF.3SG

⁸ The perfectivizing *ro-* can exceptionally be used with composites containing lexical *com-* (cf. in *MI.102d5*, *co[n]runes*:PRF.3SG from *con-nessa* ‘condemn, spurn, trample under foot’).

‘has drunk’ (cf. Germ. *trinken* ‘drink’ vs. *aus-trinken* (lit.) ‘out of-drink’ → ‘in_full-drink’) (for other examples, cf. GOI: 345).

The preverb *no-* (<**nú* ‘now’; cf. among others Hitt. *nu*, Ved. *nú*, Cypr. *nu*), always unaccented, works as a host (traditionally called ‘auxiliary’, e.g. in GOI) in a number of contexts: it functions as a dummy preverb used with simplex verbs to host infix pronouns, and to construct relative clauses. In addition, it is added to simplex verbs in those verbal tenses that require the conjunct forms, and consequently a prenuclear constituent, including the imperfect, the secondary future, and the past subjunctive. In three verbal forms, specifically *ro-cluinethar* ‘hear’, *ro-finnadar* ‘discover’, and *ro-laimethar* ‘dare’, *ro-* seems to be as empty as *no-*, in that it adds neither grammatical nor lexical meanings to the verbal bases.

These developments remind of the fully grammaticalized Slavic-style aspect system of ‘boulder perfectives’ (Bybee & Dahl 1989; Bybee et al. 1994; see further Chapter 5). What are the reasons for these similar developments? A first motivation is semantic broadening: spatial preverbs are able to add an inherent endpoint to spatial – and then also to non-spatial – events (e.g. Shull 2003; Wiemer & Seržant forthc.): thus, *ro-* is particularly appropriate to add telic meanings given its basic spatial semantics ‘through to the end’ (McCone 1997: 117; Rossiter 2004: 22; Dalle Ceste 2014: 145 ff.). However, this explanation does not work for Source-preverbs such as Old Irish *ess-* ‘out of’ or for preverbs with an original Comitative meaning such as *com-* ‘with’.⁹ Here, conceptual metaphor comes into play: (a) EVENTS CAN BE CONCEPTUALIZED AS LOCATIONS; as a consequence, departing from an event implies that the event is ended up (Zanchi 2017); (b) COMPLETION CAN BE THOUGHT OF AS TOGETHERNESS. Metaphor (a) explains the development of *ess-* ‘out of’, whereas metaphor (b) accounts for the employment of *com-* as a marker of perfectivity. In addition, in the case of *ess-* perfectizing verbs of drinking, it is the specific combination of these two elements that might result in a telic reading: one usually drinks a liquid *out of* a container, thus the meaning of the preverb is implied, or subsumed, by the meaning of drinking. Therefore, the redundancy of the expression ‘drink

⁹ Source-preverbs are also common telic markers in Slavic and other IE languages (cf. Dickey 2012; Zanchi 2017).

out of’ might trigger a new salient reading, that is, the actional meaning of completeness (so-called Vey-Schooneveld effect; cf. Chapter 5; Chapter 7, Section 2.3).¹⁰

2. Multiple preverbs in numbers

2.1. *Composites with multiple preverbs*

As mentioned in the Introduction, this study of Old Irish multiple preverb composites is limited to the *Milan* and the *Priscian Glosses*. The choice is motivated both by methodological and by practical reasons. On the one hand, given the overabundance of multiple preverb composites in Old Irish, these two corpora suffice for my comparative purposes; in addition, these Old Irish collections of glosses offer an obvious Latin text as a counterpart, which is crucial to understand the process of formation of multiple preverb composites (Section 2.4). On the other hand, these two collections of *Glosses* are available online in electronic format (Griffith & Stifter 2007–2013; Bauer & Schumacher 2014). The text provided online can be easily downloaded and queried, as the contained glosses are tagged for morphology and syntax, as well as fully translated and paired to the Latin text that they explain, comment, or translate. These corpora allow for queries starting both from specific lemmas and from specific morphemes, including preverbs and verbal bases. Multiple preverb composites have been manually extracted, starting from Anderson’s (2016) full catalogue of Old Irish composites.¹¹ Out of Anderson’s list, I selected those verbs occurring in the relevant texts, using the *Milan* and the *Priscian Glosses* databases.

This selection process yielded 178 composites, which are displayed in Table 42 together with their segmentation and their frequency in the *Milan* and in the *Priscian*

¹⁰ A number of verbs express perfective meanings by means of suppletive stems. In most cases, these suppletive stems contain a preverb, frequently *do-*, a Goal-preverb (GOI: 345; McCone 1997: 92; Rossiter 2004: 18).

¹¹ My deep gratitude goes to Cormac Anderson, who provided me with the source data of his dissertation during my stay in Jena, before his dissertation was completed.

Glosses.¹² The segmentation is necessary for Old Irish composites, as the surface form of Irish preverbs undergoes considerable changes according to the position that preverbs occupy (cf. Section 3). Segmentations of Table 42 follow the morphological analyses contained in the *Milan* and *Priscian Glosses* databases; I signal through an asterisk those composites for which the eDIL and/or Anderson (2016) suggest a different segmentation.

The number of Old Irish composites (178), if compared to Homeric Greek (64) and to Old Church Slavic (23), is considerably high: this confirms Lewis & Pedersen's (1961[1937]: 267) remark according to which Old Irish has gone further in the development of multiple composition than any other ancient Indo-European language. A limited corpus of Old Irish *per se* counts a number of composites that even surpasses that of Vedic (OIr. 178 vs. Ved.114). In addition, Old Irish attests to a number of composites with a relatively high frequency (e.g. a frequency higher than 10 is shown by 30 out of 178 composites): these data are different from the Vedic situation (Chapter 3), in that Old Irish composites frequently seem to constitute conventionalized formations. Furthermore, the number of occurrences is far higher than the number of composites (1240 vs. 178): this also backs up the assumption that multiple preverb composites occupy an established position within the Old Irish lexicon. This analysis also finds a confirmation in the accentual properties (cf. Section 1.2.1.1) and in the non-compositional semantics (cf. Section 4.3) of Old Irish composites.

Table 42. Old Irish composites with multiple preverbs (*Milan* and *Priscian Glosses*)*

<i>Composite</i>	<i>Segmentation</i>	<i>Meaning</i>	<i>Milan</i>	<i>Priscian</i>	<i>Total</i>
<i>do-futhracair</i>	di-fo-tre-√acc-*	desire, wish	4	0	4
<i>con-osna</i>	com-uss-√anā-*	cease, stop, desist, remain, end in	6	3	9
<i>fo-fúasna</i>	fo-uss-√anā-	perturb, disturb	2	1	3
<i>do-indnaig</i>	to-in(de)-√aneg-	give, bestow, grant, hand over	16	1	17
<i>imm-comairc</i>	imm-com-√arc-	question, ask, inquire of	5	4	9
<i>ar-díbdai</i>	air-di-√bādī-	submerge, drown, sink, wreck	2	0	2
<i>do-aithbig</i>	to-aith-√beg-	dissolve, break up	0	1	1
<i>airdbidi</i>	air-di-√ben-	be destroyed, cut off	1	0	1
<i>foindarbaide</i>	fo-in(de)-ad-ro-uss-√ben-	be relegated, be subjected	1	0	1
<i>in-árban</i>	in(de)-ad-ro-uss-√ben-*	drive out, expel	8	2	10
<i>do-eipen</i>	to-ess-√ben-	excise, cut (out of, off)	0	1	1

¹² In the entire corpus of multiple preverb composites compiled from DIL and contained in her dissertation (Rossiter 2004: 172 ff.), Rossiter included as many as 483 multiple preverb composites.

<i>do-forban</i>	to-for-√ben-	come, arrive, happen to, reach	11	2	13
<i>ad-cuimben</i>	aith-com-√ben-	cut, strike, wound, lacerate	1	0	1
<i>ar-díben</i>	air-di-√ben-	cut off, slay, destroy	0	1	1
<i>etar-díben</i>	eter-di-√ben-	destroy	8	1	9
<i>imm-díben</i>	imm-di-√ben-	excise, circumcise	0	1	1
<i>do-fuiben</i>	to-fo-√ben-	cut, cut down, cut out, destroy	6	2	8
<i>do-immdíben</i>	to-imm-di-√ben-	cut away, shorten	1	0	1
<i>ad-tairbir</i>	ad-to-air-√ber-	bring back, deliver again	0	1	1
<i>ad-opair</i>	ad-uss-√ber-	sacrifice, offer up	6	0	6
<i>fo-tabair</i>	fo-to-√ber-	place under	4	0	4
<i>fris-tabair</i>	frith-to-√ber-*	set against, oppose	1	1	2
<i>imm-tabair</i>	imm-to-√ber-	carry around, surround	1	0	1
<i>remi-epir</i>	rem-ess-√ber-	say beforehand, say previously	11	1	12
<i>do-adbair</i>	to-ad-uss-√ber-	display, show, bring forward, offer	4	0	4
<i>do-airbir</i>	to-air-√ber-	bend, bend down, incline, lower	3	2	5
<i>do-opair</i>	to-uss-√ber-*	take away, deprive, defraud	0	1	1
<i>do-eprainn</i>	to-ess-√brenn-	flow, trickle, gush	1	2	3
<i>do-airchain</i>	to-air-√can-*	prophecy, foretell	11	1	12
<i>do-inchain</i>	to-in(de)-√can-	chant, utter	1	0	1
<i>fo-acain</i>	fo-ad-√can-	sing to, accompany in song	0	1	1
<i>ar-foichlea</i>	air-fo-√cēllā-	look after, take care of, attend to	1	0	1
<i>imm-timchella</i>	imm-to-imm-√cēllā-	surround	15	0	15
<i>do-imchella</i>	to-imm-√cēllā-	surround, encompass	4	0	4
<i>do-fuinchid</i>	to-fo-in(de)-√cid-*	descend	2	0	2
<i>remi-escaid</i>	rem-ess-√cid-	stretch forth	1	0	1
<i>con-érchloí</i>	com-air-√clow-	stir up, disturb, drive away, agitate	3	0	3
<i>con-imchloí</i>	com-imm-√clow-	change	0	1	1
<i>as-rochoíli</i>	ess-ro-√coil-	define, determine	7	0	7
<i>do-rochoíni</i>	di-ro-√coin-	despair of	8	0	8
<i>do-aithchuireadar</i>	to-aith-√cori-	return	3	1	4
<i>do-accradi</i>	to-ad-√crād-	exasperate, provoke	5	0	5
<i>do-aithchren</i>	to-aith-√crina-	buy back, redeem	3	0	3
<i>ar-condla</i>	air-com-√dālī-	share	0	1	1
<i>con-fodlai</i>	com-fo-√dālī-	share jointly, divide, apportion	1	0	1
<i>ad-cuimtig</i>	ad-com-uss-√ding-	build to, build up	1	1	2
<i>ar-utainig</i>	air-uss-√ding-	build up, restore, refresh	4	0	4
<i>con-utainig</i>	com-uss-√ding-	build, construct, build up, embellish	4	2	6
<i>do-aidlea</i>	to-ad-√vell-	come to, approach, visit, touch	1	0	1
<i>ad-comla</i>	ad-com-√vell-	joint, unite	2	0	2
<i>do-ella</i>	di-en-√vell-	turn aside, deviate, bend, decline	7	7	14
<i>fo-accomla</i>	fo-ad-com-√vell-	subjoin	1	0	1
<i>fo-indlea</i>	fo-in(de)-√vell-	wander, rove	1	0	1
<i>sechmo-ella</i>	sechmo-in(de)-√vell-	pass by, pass, neglect	5	2	7
<i>do-inóla</i>	to-in(de)-uss-√vell-	gather, collect, assemble	4	1	5
<i>ar-foim</i>	air-fo-√em-	accept, receive, assume, take	26	10	36
<i>as-toasci</i>	ess-to-√fāscī-	express	1	2	3
<i>ar-coat</i>	air-com-√fēd-	prevent, injure	4	0	4
<i>as-indet</i>	ess-in(de)-√fēd-	declare, relate, tell, set forth	45	4	49
<i>fo-tuidchet</i>	fo-to-di-com-√fēd-	subdue	1	0	1
<i>remi-aisndet</i>	rem-ess-in(de)-√fēd-	tell beforehand, predict	1	0	1
<i>do-adbat</i>	to-ad-√fēd-	show, manifest, set forth	46	13	59
<i>do-diat</i>	to-di-√fēd-	lead down, lead, bring	4	3	7
<i>con-foíra</i>	com-fo-√ferā-	provide	2	0	2
<i>remi-foírea</i>	rem-fo-√ferā-	provide previously	1	0	1

<i>ar-ingaib</i>	air-in(de)-√gabi-	avoid, flee from	1	0	1
<i>con-ocaib</i>	com-uss-√gabi-	lift up, raise, exalt	16	0	16
<i>as-ingaib</i>	ess-in(de)-√gabi-	exceed, surpass, go beyond	13	4	17
<i>fo-acaib</i>	fo-ad-√gabi-	leave	6	0	6
<i>imm-ingaib</i>	imm-imm-√gabi-	avoid, shun, evade	17	2	19
<i>do-furgaib</i>	to-air-uss-√gabi-*	raise up, produce, cause	6	4	10
<i>do-fúarascaib</i>	to-for-ess-√gabi-	express, characterize	0	1	1
<i>do-rogaib</i>	to-ro-√gabi-	commit, transgress	12	0	12
<i>do-focaib</i>	to-uss-√gabi-	rise	1	0	1
<i>as-congair</i>	ess-com-√gari-	proclaim, give notice	4	0	4
<i>for-congair</i>	for-com-√gari-	command, order	12	6	18
<i>for-díngair</i>	for-di-en-√gari-	signify, express	1	3	4
<i>imm-freccair</i>	imm-frith-√gari-	correspond, answer, encounter	2	0	2
<i>in-togair</i>	in(de)-to-√gari-	call on, invoke	1	0	1
<i>do-accair</i>	to-ad-√gari-*	declare, tell	1	0	1
<i>do-airngir</i>	to-air-in(de)-√gari-	promise	17	1	18
<i>do-ogcell</i>	dē-uss-√gell-	purchase	1	0	1
<i>imm-accaldathar</i>	imm-ad-√glādī-	converse together	1	0	1
<i>do-eclainn</i>	to-ess-√glenn-	pick out, select	2	0	2
<i>fodéinti</i>	fo-di-√gnī-	be sufficient	1	0	1
<i>imm-fogni</i>	imm-fo-√gnī-	be construed with (grammar)	2	1	3
<i>ar-neget</i>	air-ne-√guid-	pray	1	0	1
<i>remi-uicsed</i>	rem-uss-√gus-	choose beforehand, pre-elect	1	0	1
<i>con-ricc</i>	com-ro-√icc-	meet, encounter, join	6	0	6
<i>con-táirci</i>	com-to-ad-ro-√icc-*	confer	1	0	1
<i>fo-tairci</i>	fo-to-ad-ro-√icc-*	substitute, supply	2	0	2
<i>for-cumaing</i>	for-com-√icc-	happen, occur, be made, be brought about	8	4	12
<i>imm-airicc</i>	imm-air-√icc-	be appropriate to	23	0	23
<i>ad-cumaing</i>	in(de)-com-√icc-	strike, cut, happen	6	0	6
<i>do-áirci</i>	to-ad-ro-√icc-*	cause, effect, induce, bring about	22	0	22
<i>do-ecmaing</i>	to-in(de)-com-√icc-	strike, hit a mark	2	9	11
<i>ad-déici</i>	ad-di-en-√kwis-	regard, look at	1	0	1
<i>do-écai</i>	dē-en-√kwis-	look at, behold, see	9	2	11
<i>etar-décai</i>	eter-di-en-√kwis-	introspect	1	0	1
<i>imm-accai</i>	imm-ad-√kwis-	look after, regard, examine, consider	4	0	4
<i>remi-décai</i>	rem-di-en-√kwis-	provide for, foresee	3	0	3
<i>do-incai</i>	to-in(de)-ad-√kwis-	look, gaze at	1	0	1
<i>do-farcaí</i>	to-for-ad-√kwis-	look down on, guard, fence around	0	1	1
<i>fris-accai</i>	frith-ad-√kwis-	look forward to, expect, hope	23	2	25
<i>ar-osailci</i>	air-uss-√lēcī-	be opened	20	1	21
<i>con-airléici</i>	com-air-√lēcī-	permit, allow, let go	28	0	28
<i>do-atailci</i>	to-ad-to-ad-√lēcī-	fondle, caress, pacify	3	0	3
<i>do-fúasailci</i>	to-fo-uss-√lēcī-	loosen, relax	5	4	9
<i>as-cuindligi</i>	ess-com-di-√logī-	disrupt	1	0	1
<i>fo-álgi</i>	fo-ad-√logī-	lay low, prostrate, throw down	3	3	6
<i>imm-folngai</i>	imm-fo-√longī-	cause, produce, make, affect	45	8	53
<i>remi-folngi</i>	rem-fo-√longī-	bear beforehand, anticipate	3	0	3
<i>as-comlai</i>	ess-com-√lu-	depart, escape, set out, start	1	2	3
<i>comforaithmiti</i>	com-for-aith-√mani-	be commemorated	1	0	1
<i>do-romnathar</i>	di-ro-√mani-	forget	8	0	8
<i>for-aithminedar</i>	for-aith-√mani-*	call to mind, commemorate, remember	9	1	10
<i>do-aithmenadar</i>	to-aith-√mani-	call to mind, commemorate, remember	2	2	4
<i>imm-ruimdethar</i>	imm-ro-√medi-	sin, transgress	8	0	8

<i>do-inmliġ</i>	to-en-uss-√mliġ-	promulgate, proclaim, announce	2	0	2
<i>do-fonaig</i>	di-fo-√nig-	wash, wash away	2	3	5
<i>do-immna</i>	to-imm-ad-√no-	command, enjoin	1	0	1
<i>con-erairġ</i>	com-air-√org-	go astray	1	1	2
<i>con-túairċ</i>	com-to-√org-	strike, pound	4	0	4
<i>do-essuiriġ</i>	di-ess-√org-	smite, slay	1	0	1
<i>fris-túairċ</i>	frith-to-fo-√org-	thump, blunt	1	0	1
<i>do-fúairċ</i>	to-fo-√org-*	crush, grin, beat, pound	18	1	19
<i>do-immoirc</i>	to-imm-√org-	press, compress, chastise	9	2	11
<i>for-comai</i>	for-com-√ow-	keep, preserve, retain	1	10	11
<i>con-tetarrat</i>	com-to-eter-√reth-	comprise, comprehend	0	2	2
<i>fo-timmthirid</i>	fo-to-imm-di-√reth-	subminister, fumigate	0	3	3
<i>for-deret</i>	for-di-√reth-	pass through, go over	2	0	2
<i>for-dúurat</i>	for-di-uss-√reth-	remain, remain over	1	0	1
<i>do-airndret</i>	to-air-in(de)-√reth-	run about, roam over	1	0	1
<i>do-etarrat</i>	to-eter-√reth-	comprehend, grasp, overtake	2	0	2
<i>do-íarmórat</i>	to- íarm-fo-√reth-	follow, come after, go after	1	1	2
<i>ad-éirriġ</i>	aith-ess-√rig-	repeat, reiterate, change, emend	5	0	5
<i>do-ériġ</i>	di-ess-√rig	abandon, forsake	9	1	10
<i>as-éiriġ</i>	ess-ess-√rig-	rise again, arise	2	0	2
<i>du-dúriġ</i>	to-di-uss-√rig-	be enticed, be excited	1	0	1
<i>ad-tóirndea</i>	ad-to-fo-√rindā-*	prick again	0	1	1
<i>fris-tóirndea</i>	frith-to-fo-√rindā-	mark off, trace (a limit)	1	0	1
<i>do-foirndea</i>	to-fo-√rindā-	express, signify, denote	5	18	23
<i>con-dieġ</i>	com-di-√sag-	ask, seek, demand	20	0	20
<i>íarmi-foich</i>	íarm-fo-√sag-	seek after, inquire about	3	1	4
<i>imm-tascra</i>	imm-to-√scarā-	struggle together	1	0	1
<i>do-foscart(a)</i>	di-uss-√scart(ā)-	remove, put aside	2	0	2
<i>con-oscaigi</i>	com-uss-√scochī-	move, change, remove, shake, upset	15	10	25
<i>do-róscai</i>	di-ro-uss-√scochī-	stand forth, distinguish oneself	31	11	42
<i>remderscaighi</i>	rem-di-ro-uss-√scochī-	be pre-distinguished	1	0	1
<i>di-fiuschi</i>	di-uss-√sech-	arouse, excite, call into	0	1	1
<i>in-coisig</i>	in(de)-com-√sech-	signify beforehand	13	0	13
<i>do-díuschi</i>	to-di-uss-√sech-	awake, arouse	0	1	1
<i>ar-neät</i>	air-ni-√sed-	expect, await	10	0	10
<i>fo-coislea</i>	fo-com-√selā-	take away, remove	2	1	3
<i>do-fochsla</i>	to-fo-com-√selā-*	bring, drag over, draw over	1	0	1
<i>do-aissilbi</i>	to-ad-√selbī-	assign, ascribe	14	2	16
<i>fo-teissim</i>	fo-to-ess-√sem-	pour down, pour out	1	0	1
<i>fo-uisim</i>	fo-uss-√sem-	be stored, be put away	1	0	1
<i>do-eissim</i>	to-ess-√sem-	shed, pour out	8	0	8
<i>do-fuissim</i>	to-uss-√sem-	bring, bring forth	11	8	19
<i>con-tairissedar</i>	com-to-air-√sistā-	remain constant, consist	1	0	1
<i>do-airissedar</i>	to-air-√sistā-	stand, stay, remain	5	0	5
<i>fris-tairissedar</i>	frith-to-air-√sistā-	make a stand against, oppose	3	0	3
<i>ad-roilli</i>	ad-ro-√slī-	deserve, be entitled to	25	1	26
<i>ad-cosnai</i>	ad-com-√snī-	make for, strive, seek	5	0	5
<i>as-roinni</i>	ess-ro-√snī-	escape	1	0	1
<i>fo-cosnai</i>	fo-com-√snī	steal, snatch away	1	0	1
<i>imm-fresnai</i>	imm-frith-√snī-	contend, dispute, disagree, gainsay	2	0	2
<i>con-toi</i>	com-to-√sow-	turn, convert, change	4	0	4
<i>do-intai</i>	to-in(de)-√sow-	turn back, return, translate	6	2	8
<i>fris-tinfet</i>	frith-to-in(de)-√swizd-*	blow against	1	0	1
<i>do-infet</i>	to-in(de)-√swizd-*	blow, breathe, blow on, breathe on	2	0	2

<i>ad-cota</i>	en-com-√tā-*	get, obtain, procure	31	3	33
<i>do-esta</i>	to-ess-√tā-	be absent, lacking, wanting	5	1	6
<i>con-éitet</i>	com-en-√tēg-	go with, accompany, agree with	1	2	3
<i>fris-tait</i>	frith-to-√tēg-	come against, be at variance with, oppose	9	0	9
<i>in-otat</i>	in(de)-uss-√tēg-	enter into	10	0	10
<i>fo-éitsi</i>	fo-in(de)-√tōsī-	understand	1	0	1
TOTAL			1014	226	1240

*The segmentations included in Table 42 rely on those of the *Milan* and the *Priscian Glosses* databases. If eDIL and/or Anderson (2016) suggest a different morphological analysis, this is marked, row by row, through an asterisk. Composites are sorted first by root, and then by EP, MPs, and IP.

The composites usually have similar meanings in the two series of glosses, which roughly date back to the 9th century (cf. Introduction). However, a number of composites exhibit more specialized meanings in the *Priscian Glosses*, due to the grammatical character of the Latin commented text, that is, Priscian's *Institutiones Grammaticae*. Some cases in point are shown in (12). Relevant passages are provided for *con-osna* 'stops, ends in' in (13):

(12)	<u>Composite</u>	<u>Meaning in Ml.</u>	<u>Meaning in Sg.</u>
	<i>con-osna</i>	stops	end in
	<i>do-ella</i>	turns aside	inflect, decline
	<i>do-fúasailci</i>	sets free	lose into constituent elements, solve a question

(13) a. The meaning of *con-osna* in Ml. (Lat. *cessare*)

conosnai-ssiu

stop.SBJV.PRS.2SG-EM.CL.2SG

'may you cease' (Ml.70c3)

b. The meaning of *con-osna* in Sg. (no Latin equivalent)

air cheso in .us. conosna són

for although in -us ends_in.PRS.3SG EM.ANA.CL.3SG.N

'for although this ends in -us.' (Sg.206a3)

2.2. Verbal roots modified by multiple preverbs

Table 43 contains the 43 Old Irish verbal roots modified by multiple preverbs. The simplex verb is provided for the roots that are also attested without preverb(s).¹³ In addition, Table 43 displays the meaning of these roots, and their PIE etymologies paired with the corresponding reconstructed meaning. Moreover, the frequency is counted for each root, that is, the number of composites containing that root. In the rightmost column of Table 43, the verb type is also indicated; as for the other languages of the sample (Chapters 3, 4, 5), a coarse-grained semantic classification of verb types suffices for the purposes of this study.

With respect to the other languages under investigation, Old Irish allows for multiple preverbs in combination with a wider range of verbal roots that also show a wider range of meanings, as is discussed in what follows. Location and motion verbs (e.g. $\sqrt{t\bar{e}g}$ - ‘go’) are regarded so as to include manner of motion verbs (e.g. \sqrt{reth} - ‘run’), verbs of caused motion (e.g. \sqrt{ber} - ‘bring’), and posture verbs (e.g. \sqrt{sed} - ‘sit’). In Old Irish, only 21 out of 66 verbal bases belong to this group. These data *per se* suggest an advanced lexicalization, which in turn implies the loss of spatial meanings and the semantic bleaching of Old Irish preverbs. The majority of the remaining verbal roots can be assimilated to motion and location verbs, including the following:

- (a) transfer verbs and verbs of putting/removing, which are similar to verbs of caused motion (e.g. $\sqrt{fer\bar{a}}$ - ‘grant, supply’; \sqrt{em} - ‘take’);
- (b) verbs of existence and of possession, which can be assimilated to location verbs (e.g. $\sqrt{t\bar{a}}$ - ‘exist’; $\sqrt{selb\bar{i}}$ - ‘have’);¹⁴
- (c) change of state and change of possession verbs, which can be paired with verbs of caused motion via verbs of putting/removing; this closeness is occasionally mirrored

¹³ Among the primary verbs collected in the KPV, 10% only does not allow for composition, while about 17% is attested *only* in composition (cf. also McCone 2006: 177).

¹⁴ The semantic closeness of Location and possession can also be observed from the fact that, among the sources for Possessor expressions, Locations play a prominent role (Narrog 2014: 77, 80). Notably, in Old Irish, the possessive construction is built on a Location expression containing the existential verb *attá* and the preposition *la* (lit.) ‘beside’ (cf. Nuti 2010).

Table 43. Old Irish verbal roots modified by multiple preverbs*

Verbal root	Simple verb	Meaning	PIE root	Meaning	Frequency	Verb type
<i>acc-</i>	in composition (KPV: 207)	be inclined to	* <i>h₂enk-</i> (LIV ² : 268)	bend, incline	1	mental state
<i>anā-</i>	<i>anaid</i> (VKG II: 455)	breathes > stays, stays calm	* <i>h₁enhi-</i> (LIV ² : 267)	breathes	2	bodily process
<i>aneg-</i> (<i>anag-</i>)	<i>aingid</i> (VKG II: 456)	saves, protects	?* <i>h₁egH-</i> ? * <i>h₁egH-</i> (LIV ² : 231, IEW: 45-47; Vend. A-77)	reach, lead	1	helping
<i>arc-</i>	in composition (VKG II: 457)	ask, beg	* <i>prek-</i> (LIV ² : 490)	ask	1	communication
<i>báid-</i> (<i>báid-</i>)	<i>báidid</i> (VKG II: 458)	sinks, destroys	* <i>g^héhi-</i> (LIV ² : 205)	step	1	caused motion
<i>beg-</i> (<i>bong-</i>)	<i>bongid</i> (VKG II: 477)	breaks, reaps	* <i>b^hégg-</i> (LIV ² : 84-85)	use, benefit	1	contact/impact
<i>ben-</i> (<i>binā-</i> , <i>bema-</i>)	<i>benaid</i> (VKG II: 461)	cuts, beats	* <i>b^héiH-</i> (LIV ² : 72)	hits	11	removing
<i>ber-</i>	<i>beraid</i> (VKG II: 463)	brings, bears	* <i>b^her-</i> (LIV ² : 76)	carry, bring	9	caused motion
<i>brenn-</i>	<i>béarnatar</i> -PPF.3PL (VKG II: 477)	pour out, spring	* <i>b^hrend-</i> (LIV ² : 95)	pour out	1	manner of motion
<i>can-</i>	<i>canaid</i> (VKG II: 479)	sings	* <i>kan-</i> (LIV ² : 342)	sings, sounds	2	communication
<i>céllā-</i>	<i>céllid</i>	go around	* <i>kel</i> (LIV ² : 322)	go around	3	motion
<i>ciad-</i>	(VKG II: 482)	hides, conceals	* <i>k^helh₁-</i> (LIV ² : 342)	turn		
<i>cid-</i>	in composition	create	?* <i>kéiz-</i> (IEW: 538-539; KPV: 391)	move	2	creation
<i>(cis-</i>)	(VKG II: 490)		?* <i>zed-</i>	sit		
<i>clow-</i> (<i>clo-</i>)	<i>cluid</i> (VKG II: 493)	turns, conquers	(IEW: 887; Vend. C-97)	turn around	2	manner of motion
<i>coil-</i>	denom. from <i>cáel</i> (VKG II: 495)	thin, clear sign	* <i>k^helh₁-</i> (Vend. C-122; IEW: 639-640; LIV ² : 386)	naked, miserable	1	-
<i>coim-</i>	<i>caimid</i> (VKG II: 495)	laments	* <i>ko^h-lo-</i> (IEW: 610, Vend. C-6)	sing	1	communication
<i>cori-</i> (<i>cuir-</i>)	in composition (VKG II: 498)	put, throw	?* <i>kan-</i> (IEW: 523f; LIV ² : 342f.)	howl		
<i>cráid-</i> (<i>cráid-</i> , <i>cráid-</i>)	<i>cráidid</i> (VKG II: 496)	torments	?borrowing cf. Goth. <i>gairwōn</i> 'laments' (Vend. C-18)	scatter	1	caused motion
<i>crina-</i> (<i>cren-</i>)	denom. from <i>cráid</i> 'torment' <i>crenaid</i> (VKG II: 496)	torture	* <i>kerH-</i> (LIV ² : 353)	?uncertain (Vend. C-221)	1	mental activity
<i>dáil-</i> (<i>dál-</i>)	<i>dáilid</i> (VKG II: 502)	buys, obtains	* <i>k^hreih₁-</i> (LIV ² : 395)	exchange	1	change of possession
<i>díng-</i>	<i>dáilid</i> (VKG II: 502)	portions out	* <i>deh₁(i)-</i> (LIV ² : 103)	divide	2	removing
<i>éil-</i> (<i>lā-</i> , <i>élnā-</i>)	<i>díngid</i> (VKG II: 505)	presses, thrusts	* <i>d^héig^h-</i> (LIV ² : 381)	smear, model	3	change of state
	in composition (VKG II: 509)	go, put in motion	* <i>pelh₁-</i> (LIV ² : 470)	approach	7	(caused) motion

<i>em-</i> (<i>eim-</i>)	in composition (VKG II: 511)	take	* <i>h'em-</i> (LIV ² : 236)	take	1	removing
<i>faisic-</i> (<i>fāstc-</i>)	<i>faisicid</i> (VKG II: 515)	presses, squeezes	? * <i>jed'h-</i> (LIV ² : 660)			emission
<i>fed-</i>	<i>fedid</i> (VKG II: 515)	brings, leads	* <i>jedh-</i> (LIV ² : 659)	drive	6	caused motion
<i>ferā-</i>	<i>ferāid</i> (VKG II: 518)	grants, supplies	noun <i>fer-</i> (IEW: 1166)	friendship	2	transfer
<i>gabī-</i> (<i>gaib-</i>)	<i>gabīd</i> (VKG II: 527)	grasps, reaches, goes	* <i>gēhā-</i> (LIV ² : 195)	grasp, take	9	removing
<i>garrī-</i> (<i>gair-</i>)	<i>garrīd</i> (VKG II: 533)	calls	* <i>gar-</i> (LIV ² : 161)	sound, call	7	communication
<i>gell-</i>	<i>gelland</i> (VKG II: 573)	pledges, promise	* <i>g'ejdā-</i> (IEW: 426; LIV ² : 196)	yearn for, wait for	1	communication
<i>glādā-</i> (<i>glād-</i>)	<i>gell</i> : NOUN	deposit				
<i>glādf-</i> (<i>glād-</i>)	in composition	talk	? * <i>ghlād-</i>	sound, call	1	communication
<i>glenn-</i>	(VKG II: 537)	examine	(IEW: 451; Tichy 1983: 64-65)	see, catch sight of	1	perception
<i>gnf-</i> (<i>gñi-</i>)	in composition	does, makes	* <i>g'lemdā-</i> (LIV ² : 200)			
<i>gnid-</i>	(VKG II: 539)	prays, asks		generate	2	creation
<i>gnus-</i>	<i>gnīd</i> (VKG II: 540)	choose	* <i>gēh-</i> (LIV ² : 163)	ask, wish	1	communication
<i>icc-</i>	<i>gnīdā</i> (VKG II: 550)	reach	* <i>g'ejū-</i> (LIV ² : 166)	cost	1	removing
<i>ikris-</i> (<i>cr-</i>)	in composition	sees	* <i>h,neš-</i> (LIV ² : 282)	reach	8	motion verb
<i>leč-</i> (<i>leic-</i>)	(VKG II: 552)	lets go, releases	* <i>h'ejz-</i> (LIV ² : 381)	perceive, look	8	perception
<i>logf-</i> (<i>luig-</i>)	(VKG II: 487)	concedes, obtains	* <i>lejā-</i> (LIV ² : 406)	leave, take away	4	caused motion
<i>long-</i>	<i>leicid</i> (VKG II: 562)	causes	* <i>leg-</i> (LIV ² : 398)	put, place	2	change of possession
<i>lu-</i>	<i>logāid</i> (VKG II: 572)	moves	* <i>lejg-</i> (LIV ² : 416)	bend	2	creation
<i>mani-</i> (<i>muin-</i>)	in composition	meditates	* <i>h,nejdā-</i> (LIV ² : 248)	climb, grow	1	caused motion
<i>medf-</i> , <i>mid-</i>	(VKG II: 568)	weighs, measures		think	4	mental activity
<i>mīg-</i> (<i>meig-</i>)	<i>lud, lotar</i>	milk	* <i>men-</i> (LIV ² : 435)	measure, look	1	measure
<i>nig-</i>	(VKG II: 571)	washes, washed	* <i>med-</i> (LIV ² : 423)	after	1	emission
<i>no-</i>	<i>muinithir</i> (VKG II: 580)	?nod	* <i>h,neig-</i> (LIV ² : 279)	milk	1	removing
<i>org-</i>	<i>midithir</i> (VKG II: 577)	kills, slays, strikes	* <i>neig-</i> (LIV ² : 450)	wash	1	communication
<i>ow-</i> (<i>o-</i>)	in composition	?have	? * <i>nej-</i> (LIV ² : 455; KPV: 491)	nod	1	communication
<i>reih-</i>	(VKG II: 585)	runs	* <i>h,erg-</i> (LIV ² : 301)	die	6	contact/impact
<i>rig-</i> (<i>reg-</i>)	<i>oirgid</i> (VKG II: 587)	stretches	? * <i>h,ej-</i> (LIV ² : 274)	enjoy	1	possessing
<i>rindā-</i> (<i>rind-</i>)	in composition	cuts, engraves	* <i>ret-</i> (LIV ² : 274)	run	7	manner of motion
<i>sag-</i> (<i>saig-</i>)	(VKG II: 586)	peak, mocks	* <i>reig-</i> (LIV ² : 503)	stretch	4	change of state
	<i>reihid</i> (VKG II: 597)	approaches, seeks out	* <i>h,er-</i> (IEW: 326-332)	rise, move	3	removing
	<i>rigid</i> (VKG II: 593)		* <i>seh-g-</i> (LIV ² : 520)	follow a trail	2	motion
	<i>rindāid</i> , denom. from <i>rind</i> (VKG II: 603)					
	<i>saigid</i> (VKG II: 606)					

<i>scarā-</i> (<i>scar-</i>)	<i>scaraid</i> (VKG II: 613)	separates, throw down	* <i>(s)kerH-</i> (LIV ² : 558)	1	separate	removing
<i>scarā(ā)-</i>	<i>scaritid</i> (VKG II: 616)	strips, scrapes	* <i>(s)kerā-</i> (LIV ² : 558)	1	?cut	removing
<i>scāch-</i>	<i>scāchaid</i> , <i>scāchid</i>	moves, starts	* <i>sker-</i> (LIV ² : 558)	3	move quickly,	motion
<i>(scūch-</i>)	(VKG II: 617)				leap	
<i>scēh-</i>	in composition (VKG II: 619)	say	* <i>sel-</i> (LIV ² : 526)	3	say	communication
<i>sed-</i> (<i>said-</i>)	<i>saidid</i> (VKG II: 604)	sit	* <i>sed-</i> (LIV ² : 513)	1	sit	posture
<i>selā-</i> (<i>sel-</i>)	in composition cf. <i>sel</i> 'turn, while'	go, leave	* <i>sej-</i> (Vend. S-78)	2	balance, turn	motion
	<i>siliid</i> (VKG II: 621)	carry, take off				
		turn, a while				
		drops, flows				
<i>selb-</i> (<i>selb-</i>)	<i>selbaid</i>	has	* <i>selh-</i> (Vend. S-80)	1	take, grab	possessing
	denom. from <i>selb</i>	property				
	'property' (VKG II: 623)					
<i>sem-</i>	in composition (VKG II: 624)	pour, create, give birth	* <i>semH-</i> (LIV ² : 531)	4	dig, scoop	creation
<i>sisā-</i> (<i>sis-</i>)	<i>sessaid</i> (< <i>sessam</i> 'act of standing')	stands	* <i>steh-</i> (LIV ² : 590)	3	step, stand	posture
	(VKG II: 628)					
<i>sit-</i> (<i>siti-</i>)	in composition (VKG II: 630)	earns	* <i>selh-</i> (LIV ² : 529; Vend. S-130)	1	take, grab	change of possession
<i>sn-</i> (<i>sn-</i>)	<i>sniid</i> (VKG II: 633)	twists, binds, ties	* <i>snēh-</i> (LIV ² : 571)	4	spin	manner of motion
<i>sov-</i> (<i>sov-</i>)	<i>soiid</i> (VKG II: 635)	turns	* <i>sejh-</i> (LIV ² : 538)	2	drive, keep in movement	manner of motion
<i>svicd-</i>	in composition (VKG II: 627)	blow, inspire	? <i>sejejsd-</i> (KIPV: 611; Vend. S-100)	2	breathe	bodily process
<i>(serh-</i>)	suppletive <i>rd-</i>	exist, be	* <i>steh-</i>	2	step, stand	existence
<i>rd-</i> (<i>rd-</i>)	(VKG II: 638)	goes	(LIV ² : 590; Vend. T-2)			
<i>tēg-</i>	<i>tēit</i> (VKG II: 639)	be still	* <i>steig-</i> (LIV ² : 593)	3	climb	motion
<i>(tēt-, tiag-)</i>						
<i>tōst-</i>	denom. from <i>tō</i>	be still	* <i>tih-ējst-</i> (LIV ² : 642)	1	be still	posture
<i>(tōis-, tuais-)</i>	(VKG II: 651)					

*Verbal roots are sorted as in VKG II (441–658).

by their etymologies (e.g. PIE **leg^h*- ‘put, place’ > OIr. *√lōgī-* ‘concede, obtain’ = verb of putting > change of possession verb; PIE **seh₁-* ‘take, grab’ > OIr. *√slī-* ‘earn’ = verb of removing > change of possession verb); verbs of contact/impact, which can be regarded as a subtype of change of state verbs, in that the impact causes a change of state on a certain entity (e.g. *√beg-* ‘break’);

- (d) creation verbs, which can also be associated to change of state verbs, in that the act of creating can be seen as turning a certain entity (TR) from non-existence into existence (e.g. *√long-* ‘cause’);
- (e) perception verbs, which can be treated as caused motion verbs, in that eyes, as moving entities, can be directed toward or away from certain entities (e.g. *√kwis-* ‘see’);
- (f) emission verbs, in which a substance is extracted/goes out of a certain entity (LM) (e.g. *√mlig-* ‘milk’), and communication verbs, in which word or utterances are seen as moving entities going from one to another speaker (e.g. *√sech-* ‘say’).

The remaining verbal bases include measure verbs, verbs indicating bodily processes or mental states/activities, and verbs of helping. As its etymology suggests, the only measure verb contained in Table 43 (i.e. PIE **med-* ‘measure, look after’ > *√med-*) can be grouped together with perception verbs: the act of measuring can be thought of as the act of looking carefully at a certain entity. The two roots expressing bodily processes both mean ‘breathe’: one of them, *√anā-*, develops the meaning of a posture verb, and comes to mean ‘stay, stay calm’; the other one instead can be seen as an emission verb with breath as a TR going out of a body (LM) (*√swizd-* ‘blow’).

Two verbal bases indicate mental states. The root *√acc-* ‘be inclined to’ can be regarded as indicating a metaphorical location verb, as is also suggested by its probable etymology: *√acc-* ‘be inclined to’ possibly go back to PIE **h₂enk-* ‘bend, incline’, whose reconstructed meaning is more concrete (cf., in the same vein, the discussion contained in KPV: 207). In fact, the composite *do-futhraccair* ‘desire, wish’, is segmented differently by different authors. Different morphological analyses can also result in segmentations including different verbal roots, as shown in (14):

(14) The segmentations of *do·futhraccair* ‘desire, wish’

a. *di-fo-√tracc-*

VKG II: 653

eDIL (dil.ie/17715)

< PIE **trenk-* (LIV²: 649)

b. *di-fo-√tre-√acc-*

KPV: 207

Milan Glosses database

< PIE **h₂enk-* (LIV²: 268)

According to Pedersen (VKG II: 653), this composite belongs to a root $\sqrt{tracc-}$ that goes back to PIE **trenk-* (LIV²: 649), related to Gothic *þreihan* ‘push, force’. However, this analysis is problematic, as the attested form of the perfect does not match the expected perfect for **trenk-* in Proto-Irish (GOI 112; McCone 1996: 124; KPV: 208). Thus, Schumacher (KPV: 207–208) suggests to further split *-thrac-* into *-thr-* and *-ac-*, in which *-thr-* is allegedly the elided form of an additional preverb **tri-* ‘through’.

The other verb indicating a mental activity, $\sqrt{crādi-}$ ‘torment’, instead can be considered a metaphorical contact/impact verb, though this analysis cannot find an etymological confirmation, as the PIE root for this verb is uncertain. The last mental verb, $\sqrt{mani-}$, indicates the activity of meditating: this verb cannot easily be boiled down to a motion/location verb, though the activity of thinking is possibly seen as the act of remaining in a certain mental state (that is in a certain metaphorical location). The only verb of helping belonging to my Old Irish sample, that is, $\sqrt{aneg-}$ ‘save, protect’, can be assimilated to a transfer verb: saving or protecting is the act of bringing aid, protection, and salvation (accordingly, one of its probable PIE etymologies goes back to **h₁eġH-* ‘lead’).

Generally, multiple preverbs seem to attach frequently onto roots that not only express motion or location events proper (cf. Table 43):

- $\sqrt{ben-}$ ‘cut, beat’ (x11), $\sqrt{gabi-}$ ‘grasp’ (x8) → removing;¹⁵
- $\sqrt{ber-}$ ‘bring’ (x9), $\sqrt{ell-}$ ‘put in motion’ (x7), $\sqrt{fēd-}$ ‘bring, lead’ (x6) → caused motion;
- $\sqrt{gari-}$ ‘call’ (x7) → communication;
- $\sqrt{kwis-}$ ‘see’ (x8) → perception;

¹⁵ The root $\sqrt{gabi-}$, which gives the simplex verb *gaibid*, can mean ‘grasp’, but also ‘reach, go’. Cf. the semantic change undergone by the PIE root **seġk-* (LIV²: 522) ‘grasp, reach, achieve’ > AG *hiknéomai* ‘come’.

- \sqrt{org} - ‘kill, slay’ (x6) → contact/impact;
- \sqrt{reth} - ‘run’ (x7) → motion.

2.3. Attested combinations of preverbs

In Old Irish, there are as many as 116 combinations of multiple preverbs (more than twice the number of Vedic combinations; cf. Chapter 3). These are displayed in Table 44, together with their frequencies, that is, the number of composites instantiating each combination.

Table 44. Old Irish combinations of preverbs and their frequency*

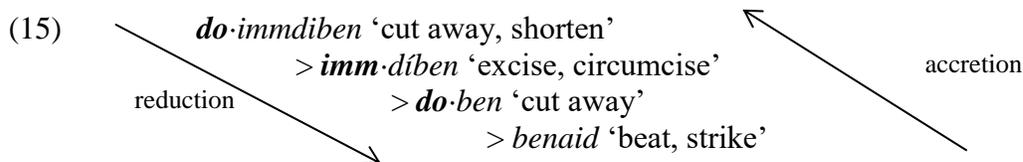
<i>Preverbs</i>	<i>Meanings</i>	<i>Frequency</i>
<i>ad+com</i>	toward+with	2
<i>ad+com+uss</i>	toward+with+up/off	1
<i>ad+di+en</i>	toward+of/from+in(to)	1
<i>ad+uss</i>	toward+up/off	1
<i>ad+ro</i>	toward+forth	2
<i>ad+to+air</i>	toward+to+before/for	1
<i>ad+to+fo</i>	toward+to+under	1
<i>air+com</i>	before/for+with	2
<i>air+di</i>	before/for+of/from	3
<i>air+fo</i>	before/for+under	3
<i>air+in</i>	before/for+in(to)	1
<i>air+ne</i>	before/for+down	1
<i>air+uss</i>	before/for+up/off	4
<i>aith+com</i>	re-+with	1
<i>aith+ess</i>	re-+out of	1
<i>com+air</i>	with+before/for	3
<i>com+di</i>	with+of/from	1
<i>com+fo</i>	with+under	2
<i>com+imm</i>	with+about	1
<i>com+en</i>	with+in(to)	1
<i>com+uss</i>	with+up/off	4
<i>com+ro</i>	with+forth	1
<i>com+to</i>	with+to	2
<i>com+to+ad+ro</i>	with+to+toward+forth	1
<i>com+to+air</i>	with+to+before/for	1
<i>com+to+eter</i>	with+to+between	1
<i>com+for+aith</i>	with+over+re-	1
<i>di+ess</i>	of/from+out of	3
<i>di+fo</i>	of/from+under	1
<i>di+fo+tre-</i>	of/from+under+through	1
<i>di+en</i>	of/from+in(to)	3
<i>di+uss</i>	of+up/off	4
<i>di+ro</i>	of/from+forth	2

<i>di+ro+uss</i>	of/from+forth+up/off	1
<i>ess+com</i>	out of+with	3
<i>ess+com+di</i>	out of+with+of	1
<i>ess+ess</i>	out of+out of	1
<i>ess+in(de)</i>	out of+in(to)	3
<i>ess+ro</i>	out of+forth	2
<i>ess+to</i>	out of+to	1
<i>eter+di+en</i>	between+of/from+in(to)	1
<i>eter+di</i>	between+of/from	1
<i>fo+ad</i>	under+toward	3
<i>fo+ad+com</i>	under+toward+with	1
<i>fo+com</i>	under+with	2
<i>fo+di</i>	under+of/from	1
<i>fo+in(de)</i>	under+in(to)	2
<i>fo+in(de)+ad+ro+uss</i>	under+in(to)+toward+forth+up/off	1
<i>fo+uss</i>	under+up/off	2
<i>fo+to</i>	under+to	1
<i>fo+to+ad+ro</i>	under+to+toward+forth	1
<i>fo+to+di+com</i>	under+to+of/from+with	1
<i>fo+to+ess</i>	under+to+out of	1
<i>fo+to+imm+di</i>	under+to+about+of/from	1
<i>for+aith</i>	over+re-	1
<i>for+com</i>	over+with	3
<i>for+di</i>	over+of/from	1
<i>for+di+in(de)</i>	over+of/from+in(to)	1
<i>for+di+uss</i>	over+of/from+up/off	1
<i>frith+ad</i>	against+toward	1
<i>frith+to</i>	against+to	2
<i>frith+to+air</i>	against+to+before/for	1
<i>frith+to+fo</i>	against+to+under	2
<i>frith+to+in(de)</i>	against+to+in(to)	1
<i>iarm+fo</i>	before+under	1
<i>imm+ad</i>	about+toward	3
<i>imm+air</i>	about+before/for	1
<i>imm+com</i>	about+with	1
<i>imm-di</i>	about+of/from	1
<i>imm+fo</i>	about+under	2
<i>imm+frith</i>	about+against	2
<i>imm+imm</i>	about+about	2
<i>imm+ro</i>	about+forth	1
<i>imm+to</i>	about+to	2
<i>imm+to+imm</i>	about+to+about	1
<i>in(de)+ad+ro+uss</i>	in(to)+toward+forth+up/off	1
<i>in(de)+com</i>	in+with	3
<i>in(de)+uss</i>	in(to)+up/off	1
<i>in(de)+to</i>	in(to)+to	1
<i>rem+di+en</i>	pre-+of/from+in(to)	1
<i>rem+di+ro+uss</i>	pre-+of/from+forth+up/off	1
<i>rem+ess</i>	pre-+out of	2
<i>rem+ess+in(de)</i>	pre-+out of+in(to)	1
<i>rem+fo</i>	pre-+under	2
<i>rem+uss</i>	pre-+up/off	1
<i>sechmo+in(de)</i>	beyond+in(to)	1
<i>to+ad</i>	to+toward	6

<i>to+ad+uss</i>	to+toward+up/off	2
<i>to+ad+ro</i>	to+toward+forth	2
<i>to+ad+to+ad</i>	to+toward+to+toward	1
<i>to+air</i>	to+before/for	2
<i>to+air+ro</i>	to+before/for+forth	1
<i>to+air+in(de)</i>	to+before/for+in(to)	2
<i>to+air+uss</i>	to+before/for+up/off	1
<i>to+aith</i>	to+re-	4
<i>to+di</i>	to+of/from	1
<i>to+di+uss</i>	to+of/from+up/off	2
<i>to+ess</i>	to+out of	5
<i>to+eter</i>	to+between	1
<i>to+fo</i>	to+under	4
<i>to+fo+com</i>	to+under+with	1
<i>to+fo+in(de)</i>	to+under+in(to)	1
<i>to+fo+uss</i>	to+under+up/off	1
<i>to+for</i>	to+over	1
<i>to+for+ess</i>	to+over-out_of	1
<i>to+for+ad</i>	to+over+toward	1
<i>to+iarm+fo</i>	to+after+under	1
<i>to+imm</i>	to+about	2
<i>to+imm+ad</i>	to+about+toward	1
<i>to+imm+di</i>	to+about+of/from	1
<i>to+in(de)</i>	to+in(to)	4
<i>to+in+ad</i>	to+in(to)	1
<i>to+in+com</i>	to+in(to)+with	1
<i>to+in(de)+uss</i>	to+in(to)+up/off	2
<i>to+uss</i>	to+up/off	3
<i>to+ro</i>	to+forth	1

Out of 116 combinations, the vast majority (72) contains two preverbs; 37 contain three preverbs, and only seven as many as four preverbs. These data back up Lewis & Pedersen’s remark (1961[1937]: 267) that “accumulation of preverbs is exceedingly common in Celtic [...] but groups of more than three preverbs are rare.” In the *Milan* and *Priscian Glosses*, for example, only one composite contains five preverbs, whereas the eDIL attests to three composites with five preverbs (cf. fn. 12 on Rossiter’s 2004 data sample). As shown in Table 44, most combinations (71 out of 115) are only instantiated in a single composite. Much fewer combinations (25 out of 115) are attested in two composites, and 12 combinations in three composites. Six combinations are contained in 4 composites, and only two combinations are instantiated in 5 and 6 composites.

Most combinations can be reduced to an actual Old Irish composite by removing preverbs in sequence (Rossiter 2004; McCone 2006: 179), as shown in (15):



However, the removal of (one of the) preverbs does not always result in an actual composite verb, but rather in a nominal formation that points to the previous existence of the corresponding composite verb (cf. also V GK II: 450-658). As suggested by Rossiter (2004: 123) and confirmed by McCone (2006: 180), one such case is Old Irish *comarc* ‘outcry, invocation’, which arguably functioned as the base for the composites in (16), and in turn relies on the lost verbal composite **con-airc-*.

- (16) Composites based on a lost **con-airc-*
- a. *imm·comairc* ‘question, ask, inquire of’
(Ml.27d4, 18a1, 18a3, 20b18, 63c9; Sg.197b10, 27a2, 197b10, 138a4)
 - b. *ad·comairc* ‘ask, question’
 - c. *do·comairc* ‘ask, request’
 - d. *fo·comairc* ‘inquire’
 - e. *for·comairc* ‘question, inquire’
 - f. *fris·comairc* ‘ask questions of’

However, there are exceptions to the principle of reducibility outlined above. In particular, the following composites cannot be reduced: (sorted by root) *con-osna* (*com-uss-√anā-* ‘cease, stop, desist, remain, end in’, *fo·fúasna* (*fo-uss-√anā-*) ‘perturb, disturb’, *ad·opair* (*ad-uss-√ber-*) ‘sacrifice, offer up’, *do·opair* (*to-uss-√ber-*) ‘take away, deprive, defraud’, *ad·cuimtig* (*ad-com-uss-√ding-*) ‘build to, build up’, *ar·utaing* (*air-uss-√ding-*) ‘build up, restore, refresh’, *con·utaing* (*com-uss-√ding-*) ‘build, construct, build up, embellish’, *con·ocaib* (*com-uss-√gabi-*) ‘lift up, raise, exalt’, *do·focaib* (*to-uss-√gabi-*) ‘rise’, *do·oggell* (*dē-uss-√gell-*) ‘purchase’, *remi·uicsed* (*rem-uss-√gus-*) ‘choose beforehand, pre-elect’, *ar·osailci* (*air-uss-√lēcī-*) ‘be opened’, *do·airndret* (*to-air-in(de)-√reth-*) ‘run about, roam over’, *do·íarmórat* (*to-íarm-fo-√reth-*) ‘follow, come after, goes after’, *du·dúrig* (*to-di-uss-√rig-*) ‘be enticed, be excited’, *ar·neät* (*air-ni-√sed-*) ‘expect, await’, *con·oscaigi* (*com-uss-√scochī-*) ‘move, change, remove, shake, upset’, *di·fíuschi* (*di-*

uss-√sech-) ‘arouse, excite, call into’, *fo-uisim* (*fo-uss-√sem-*) ‘be stored, be put away’, *do-fuissim* (*to-uss-√sem-*) ‘bring, bring forth’, and *in-otat* (*in(de)-uss-√tēg-*) ‘enter into’.

Notably, all mentioned composites belong to one of the three categories of exceptions to reducibility identified by Rossiter (2004: 89, 154–161) and McCone (2006: 181 ff.): (a) composites containing the IP *-ne-* ‘down’; (b) composites containing the IP *-uss-* ‘up, out’; (c) composites containing the EP *to-*. Cases (a)–(b) involve a Path-preverb whose meaning frequently comes to show semantic solidarity with the meaning of the verbal base onto which it attaches (e.g. *-ne-* ‘down’ overlaps with *√sed-* ‘sit’ in *ar-neät* (*air-ni-√sed-*) ‘expect, await’). As I discuss in Section 6.3, both Path-meaning and semantic solidarity are good reasons for internal placement and for the consequent reanalysis as part of the verbal base.

The case (c) is of a different sort: it involves the preverb *to-*, whose etymology and meaning motivate its non-reducibility. Etymologically, *to-* is probably the outcome of the merging of two Celtic homophonous preverbs: a preposition **to₁-* ‘back, re-’, and a clausal connector **to₂-* (Stifter 2014). The prehistory of *to-* as a clausal connector explains the fact that it strongly selects the exterior position (cf. Section 6), as well as its tendency to retain this position even after the addition of further preverbs. As shown by Rossiter (2004: 138), a further preverb occasionally appears to be infixated after rather than prefixed before *to-*: e.g. *do-aithbeir* (*to-aith-√ber-*) ‘take back’, which is possibly built after the extremely widespread *do-beir* ‘give’. In addition, as shown by Gillon (1962: 121–122), the semantic contribution brought about by *to-* is bleached in most composites in which it occurs. Consequently, the composites containing *to-* and those lacking it happened to become near synonyms: see, for example, from the *Milan* and *Priscian Glosses*, *ad-opair* (*ad-uss-√ber-*) ‘sacrifice, offer up’ and *do-adbair* (*to-ad-uss-√ber-*) ‘display, show, bring forward, offer’; *ad-cumaing* (*in(de)-com-√icc-*) ‘strike, cut, happen’ and *do-ecmaing* (*to-in(de)-com-√icc-*) ‘strike, hit a mark’; *ad-muinethar* (*aith-√mani-*) ‘remember, call to mind’ and *do-aithmenadar* (*to-aith-√mani-*) ‘call to mind, commemorate, remember’; *di-fūschi* (*di-uss-√sech-*) ‘arouse, excite, call into’ and *do-dūschi* (*to-di-uss-√sech-*) ‘awake, arouse’. This might have made the competing composites without *to-* obsolete, and thus particularly prone to disappear: e.g. the composites *do-indnaig* (*to-in(de)-√aneg-*) ‘give, bestow, grant,

hand over’, *do-aithbig* (*to-aith-√beg-*) ‘dissolve, break up’, *do-eipen* (*to-ess-√ben-*) ‘excise, cut (out of, off)’, *do-inchain* (*to-in(de)-√can-*) ‘chant, utter’, *do-aithchuiredar* (*to-aith-√cori-*) ‘return’, *do-aithchren* (*to-aith-√crina-*) ‘buy back, redeem’, *do-incai* (*to-in(de)-ad-√kwis-*) ‘look, gaze (at)’, *do-foirndea* (*to-fo-√rindā-*) ‘express, signify, denote’, *do-intai* (*to-in(de)-√sow-*) ‘translate, turn back, return’, and *do-infet* (*to-in(de)-√swizd-*) ‘blow, breathe, blow on, breathe on’ cannot be reduced to the correspondent composites lacking *to-*.¹⁶

Within the frame of an overall abundance of verbal composition in Old Irish, preverb iteration is also relatively more widespread than in the other languages under investigation. As expected, preverb iteration usually results in iterative or intensive meanings (cf. Rossiter 2004: 7):

- (17) a. *as-éirig* (*ess-ess-√rig-*) ‘rise **again**’ (Lat. *re-surgere*) (iterative)
 b. *imm-imgaib* (*imm-imm-√gabi-*) ‘go **around around**’ → ‘avoid’ (intensive)¹⁷

In other composites, however, the meaning of preverb iteration is not so easy to assess:

- (18) a. *imm-timchella* (*imm-to-imm-√cēllā-*) ‘surround’
 (Lat., among others, *circum-dare*, *amb-ire*);
 b. *do-atailci* (*to-ad-to-ad-√lēcī-*) ‘fondle, caress, pacify’.

In (18)a, the occurrence of the EP *imm-* is possibly a calque of the Latin preverbs *circum-* or *ambi-*, which are sometimes contained in the Latin verbs glossed through *imm-timchella* (cf. Table 45, which contains all Latin counterparts of Old Irish composites). The semantic contribution brought about by the double repetition of *to-ad-* is obscure in (18)b, especially

¹⁶ Needless to say, one can always find counterexamples to tendencies such as that outlined above: for example, by reducing the composite *do-forban* (*to-for-√ben-*) ‘come, arrive, happen to, reach’, one obtains *for-√ben-* that has the entirely different meaning of ‘strike, smite, cut’ (eDIL.ie/23375).

¹⁷ In (17), the usage of *imm-* ‘around’ is similar to that of its English and Italian equivalents *around* and *intorno* in collocations such as *dance around* and *girarci intorno* (lit.) ‘turn around’, both developing the non-compositional meaning of ‘avoid’.

in the light of the much more compositional meaning of *do-léici* (*to-ad-lēcī-*) ‘let go, release’. As a matter of fact, preverb repetition is occasionally described as a meaningless means to avoid the stress shift whenever the deuterotonic form is required (GOI: 351). One such case is *fo-fúasna* ‘perturb, disturb’, which alternates with *fúasna* (*fo-uss-√anā-*; cf. Table 42). As relevant examples of meaningless preverb repetition, GOI also quotes the mentioned composites *imm-ingaib* (17)b and *imm-timchella* (18)a.

All in all, preverb iteration appears to constitute a recent phenomenon in Old Irish: it emerges from calquing from Latin; it serves mere morphosyntactic purposes; it indicates concepts that arguably became common after the introduction of Christianity in Ireland, i.e. 5th century AD (cf. Rossiter 2004: 7).

2.4. *The Latin counterparts of Old Irish composites*

Table 45 displays the Latin counterparts of Old Irish multiple preverb composites. Importantly, not all Old Irish composites are mirrored by an obvious Latin equivalent (158 out of 166 do so). Both the *Milan* and *Priscian Glosses* contain annotations of different types: a number of glosses only consist of a single word and seem to be direct translations of the Latin text; other glosses however either contain longer comments or elucidations on the main text or provide background information necessary to understand the main text. In the latter cases, the one-to-one correspondence to Latin can be impossible to draw.

Table 45. The Latin counterparts of Old Irish composites

<i>Composite</i>	<i>Meaning</i>	<i>Latin counterpart</i>
<i>com-uss-√anā-</i>	cease, stop, desist, rest, remain	<i>cessare, de-sistere, con-quiescere</i>
<i>fo-uss-√anā-</i>	perturb, disturb	<i>per-turbare</i>
<i>to-in(de)-√aneg-</i>	give, bestow, grant, hand over	<i>dis-tribuere, con-tribuere</i>
<i>imm-com-√arc-</i>	question, ask, inquire of	<i>per-contari, in-terrogare</i>
<i>air-di-√bādī-</i>	submerge, drown, sink, wreck	<i>ex-tinguere</i>
<i>to-aith-√beg-</i>	dissolve, break up	<i>ab-rogare</i>
<i>air-di-√ben-</i>	be destroyed, cut off	<i>inter-ficere</i>
<i>fo-in(de)-ad-ro-uss-√ben-</i>	be relegated, be subjected	<i>sub-iacere</i>
<i>in(de)-ad-ro-uss-√ben-</i>	drive out, expel	<i>iacere, de-pellere, di-vertere, ex-cludere</i>
<i>to-for-√ben-</i>	come, arrive, happen to, reach	<i>venire, per-venire, pro-desse, pro-ficiscere</i>
<i>to-ess-√ben-</i>	excise, cut (out of, off)	<i>con-cidere</i>
<i>air-di-√ben-</i>	cut off, slay, destroy	<i>inter-imere</i>
<i>eter-di-√ben-</i>	destroy	<i>inter-imere, per-imere, ex-terminare, inter-ficere</i>

<i>imm-di-√ben- to-fo-√ben-</i>	excise, circumcise cut, cut down, cut out, destroy	<i>ab-scidere, circum-cidere pytissare, suc-cidere, in-cidere, abs-cidere, ex-cidere, truncare re-digere ob-ferre, con-secrare sub-ducere ob-dare circum-dare prae-dicere ad-hibere re-digere privare ad-fluere suc-cinere prae-cinere, pro-fiteri, vaticinari, ad-nuntiare in-cantare cingere, ac-cingere, circum-dare, amb-ire, tegere, vallare amb-ire, vallare discendere prae-tendere ex-agere, agere cambiare de-cernere dif-fidere, di-sperare, nutare re-dire, re-vertere ex-asperare, ex-acerbare, asperare re-dimere participare ad-struere re-ficere, ad-ficere ad-struere con-iungere, iungere de-viare, di-versari, de-clinare sub-icere evagari praeter-ire, oblivisci, omittere, vacuare colligere, ad-plicare, locare, occupare in-venire, ex-cipere, ac-cipere, sus-cipere ex-primere nocere, im-pedire ex-ponere, ex-plicare, ob-serere, ferre, al-ligare, ad-serere, in-ducere, re-ferre, re-plicare, con- serere, am-plicare, ex-primere, per-stringere, ad-ferre, e-licere, de-scribere, re-texere sub-ducere prae-fari o-stendere, o-stentare in-ducere, de-ducere com-parare prae-stare re-fugere iactare, sub-levare, ad-tollere, efferre, e-levare ex-cedere, ex-cidere</i>
<i>ad-to-air-√ber- ad-uss-√ber- fo-to-√ber- frith-to-√ber- imm-to-√ber- rem-ess-√ber- to-ad-uss-√ber- to-air-√ber- to-uss-√ber- to-ess-√brenn- fo-ad-√can- to-air-√can- to-in(de)-√can- imm-to-imm-√cēllā-</i>	bring back, deliver again sacrifice, offer up place under set against, oppose carry round, surround say beforehand, say previously display, show, bring forward, offer bend, bend down, incline, lower take away, deprive, defraud flow, trickle, gush sing to, accompany in song prophesize, foretell chant, utter (spell) surround	
<i>to-imm-√cēllā- to-fo-in(de)-√cid- rem-ess-√cid- com-air-√clow- com-imm-√clow- ess-ro-√coil- di-ro-√coin- to-aith-√cori- to-ad-√crád- to-aith-√crina- com-fo-√dāli- ad-com-uss-√ding- air-uss-√ding- com-uss-√ding- ad-com-√ell- di-en-√ell- fo-ad-com-√ell- fo-in(de)-√ell- sechmo-in(de)-√ell- to-in(de)-uss-√ell- air-fo-√em- ess-to-√fāscī- air-com-√fēd- ess-in(de)-√fēd-</i>	surround, encompass descends stretch forth stir up, disturb, drive away, agitate change define, determine despair of return exasperate, provoke buy back, redeem share jointly, divide, apportion build to, build up build up, restore, refresh build, build up, embellish joint, unite turn aside, deviate, bend, decline subjoin wander, rove pass by, pass, neglect gather, collect, assemble accept, receive, assume, take express hinder, prevent, injure declare, relate, tells, set forth	
<i>fo-to-di-com-√fēd- rem-ess-in(de)-√fēd- to-ad-√fēd- to-di-√fēd- com-fo-√ferā- rem-fo-√ferā- air-in(de)-√gabi- com-uss-√gabi- ess-in(de)-√gabi-</i>	subdue tell beforehand, previously, predict show, manifest, set forth, demonstrate lead down, leads, bring provide prepare, provide previously avoid, flee from lift up, raise, exalt exceed, surpass, go beyond	

<i>imm-imm-√gabi-</i>	avoid, shun, evade	<i>vitare, e-vitare, declinare, ef-fugere, de-serere</i>
<i>to-air-uss-√gabi-</i>	raise up, produce, cause	<i>pro-ferre, e-mergere, promere, de-promere</i>
<i>to-ro-√gabi-</i>	commit, transgress	ad-mittere, com-mittere
<i>ess-com-√gari-</i>	proclaim, give notice	e-dicere, in-dicere
<i>for-com-√gari-</i>	command, order	<i>im-perare, prae-cipere, mandare</i>
<i>in(de)-to-√gari-</i>	call on, invoke	in-vocare
<i>to-ad-√gari-</i>	declare, tell	pro-ferre
<i>to-air-in(de)-√gari-</i>	promise	<i>polliceri, pro-mittere, de-signare</i>
<i>imm-ad-√glādī-</i>	converse together	<i>ad-loquere</i>
<i>fo-di-√gnī-</i>	be sufficient	suf-ficere
<i>air-ne-√guid-</i>	pray	<i>orare</i>
<i>rem-uss-√gus-</i>	choose beforehand, pre-elect	prae-obtare
<i>com-ro-√icc-</i>	meet, encounter, join	<i>ac-cedere</i>
<i>com-to-ad-ro-√icc-</i>	confer	con-ferre
<i>fo-to-ad-ro-√icc(ī)-</i>	substitute, supply	sub-rogare
<i>for-com-√icc-</i>	happen, occur, be made	<i>factum esse, posse</i>
<i>imm-air-√icc-</i>	be appropriate to	con-venire, com-petere
<i>in(de)-com-√icc-</i>	strike, cut, happen	<i>pulsare, con-tingere</i>
<i>to-ad-ro-√icc(ī)-</i>	cause, effect, bring about, bring	<i>ferre, af-ferre, con-ferre, de-ferre, in-ferre, per-ferre, prae-ferre</i>
		ac-cidit
<i>to-in(de)-com-√icc-</i>	strike, hit a mark	<i>re-spicere</i>
<i>ad-di-en-√kwis-</i>	regard, look at	<i>intro-spicere, re-spicere, e-spicere, sentire</i>
<i>dē-en-√kwis-</i>	look at, behold, see	intro-spicere
<i>eter-di-en-√kwis-</i>	introspect	<i>con-siderare</i>
<i>imm-ad-√kwis-</i>	looks after, regard, examine, consider	<i>con-sulere, prae-videre</i>
<i>rem-di-en-√kwis-</i>	provide for, force	<i>per-spicere</i>
<i>to-in(de)-ad-√kwis-</i>	look, gaze (at)	ex-spectare, prae-stolari, o-perire, sperare
<i>frith-ad-√kwis-</i>	look forward to, expect, hope	<i>pandere, aperire, re-serare, patere</i>
<i>air-uss-√lēcī-</i>	open	<i>di-mittere, ad-mittere, per-mittere</i>
<i>com-air-√lēcī-</i>	permit, allow, let go	<i>fovere, con-fovere, de-lenire</i>
<i>to-ad-to-ad-√lēcī-</i>	fondle, caress, pacify	<i>solvere, re-solvere</i>
<i>to-fo-uss-√lēcī-</i>	loosen, relax	di-rumpere
<i>ess-com-di-√logī-</i>	disrupt	<i>con-sternare</i>
<i>fo-ad-√logī-</i>	lay low, prostrate, throw down	<i>ef-ficere, ex-inanire, nasci, ap-parire</i>
<i>imm-fo-√longī-</i>	cause, produce, make, affect	anti-cipare, prae-venire
<i>rem-fo-√longī-</i>	bear beforehand, anticipate	<i>pro-ficiscere</i>
<i>ess-com-√lu-</i>	depart, escape, set out, start	com-memorare
<i>com-fo-aith-√mani-</i>	be commemorated	<i>oblivisci</i>
<i>di-ro-√mani-</i>	forget	<i>memini</i>
<i>for-aith-√mani-</i>	call to mind, commemorate	<i>commonere</i>
<i>to-aith-√mani-</i>	call to mind, commemorate	<i>delinquī, peccare</i>
<i>imm-ro-√medi-</i>	sin, transgress	<i>elicet, promulgare</i>
<i>to-en-uss-√mliḡ-</i>	promulgate, proclaim, announce	<i>luere, ab-luere, lavare</i>
<i>di-fo-√nig-</i>	wash, wash away	<i>mittere</i>
<i>to-imm-ad-√no-</i>	command, enjoin	<i>contere, con-trire</i>
<i>com-to-√org-</i>	strike, pound	<i>con-fundere</i>
<i>di-ess-√org-</i>	smite, slay	ob-tondere
<i>frith-to-fo-√org-</i>	strike	<i>at-terere, de-terere, pro-terere, triturrare, pulsare</i>
<i>to-fo-√org-</i>	crush, grin, beat, pound	<i>castigare, arctare, coartare, angere</i>
<i>to-imm-√org-</i>	press, compress, chastise	<i>servare, manere</i>
<i>for-com-√ow-</i>	keep, preserve, retain	com-prehendere
<i>com-to-eter-√reth-</i>	comprise, comprehend	suf-fire
<i>fo-to-imm-di-√reth-</i>	subminister, fumigate	<i>in-lustrare, lustrare</i>
<i>for-di-√reth-</i>	pass through, go over	

<i>for-di-uss-√reth-</i>	remain, remain over	<i>super-esse</i>
<i>to-air-in(de)-√reth-</i>	run about, roam over	<i>per-errare</i>
<i>to-eter-√reth-</i>	comprehend, grasp, overtake	<i>in-cludere, com-prehendere</i>
<i>aith-ess-√rig-</i>	repeat, reiterate, change, emend	<i>emendare</i>
<i>di-ess-√rig-</i>	abandon, forsake	<i>nudare, de-serere</i>
<i>ess-ess-√rig-</i>	rise again, arise	<i>re-surgere</i>
<i>to-di-uss-√rig-</i>	be enticed, be excited	<i>e-licere</i>
<i>frith-to-fo-√rindā-</i>	mark off, trace (a limit)	<i>ob-signare</i>
<i>ad-to-fo-√rindā-*</i>	prick again	<i>re-pungere</i>
<i>to-fo-√rindā-</i>	express, signify	<i>significare, distinguere</i>
<i>com-di-√sag-</i>	ask, seek, demand	<i>quaerere</i>
<i>iarm-fo-√sag-</i>	seek after, inquire about	<i>quaerere, per-quirere, in-quirere</i>
<i>imm-to-√scarā-</i>	struggle together	<i>luctare</i>
<i>di-uss-√scart(ā)-</i>	remove, put aside	<i>ex-ponere</i>
<i>com-uss-√scochī-</i>	move, change, removes, shake	<i>per-turbare, com-movere, com-mutare</i>
<i>di-ro-uss-√scochī-</i>	stand forth, distinguish oneself	<i>ante-cedere, ante-stare, e-minere, prae-esse, prae-stare</i>
<i>rem-di-ro-uss-√scochī-</i>	be pre-distinguished	<i>ante-ferre</i>
<i>in(de)-com-√sech-</i>	signify beforehand	<i>in-dicare, in-tellegere, significare</i>
<i>to-di-uss-√sech-</i>	awake, arouse	<i>movere</i>
<i>air-ni-√sed-</i>	expect, await	<i>ex-spectare</i>
<i>fo-com-√selā-</i>	take away, remove	<i>sub-ducere, ex-agere</i>
<i>to-fo-com-√selā-*</i>	bring, drag over, draw over	<i>tractare</i>
<i>to-ad-√selbī-</i>	assign, ascribe	<i>ad-scribere, ad-signare, ad-dicere, in-dicere</i>
<i>fo-to-ess-√sem-</i>	pour down, pour out	<i>suf-fundere</i>
<i>to-ess-√sem-</i>	shed, pour out	<i>re-fundere, dis-pergere, con-cremare, fundere, ef-fundere</i>
<i>to-uss-√sem-</i>	bring, bring forth (offspring)	<i>creare, germinare, parere, con-ditari, aedere</i>
<i>to-air-√sistā-</i>	stand, stay, remain	<i>ad-stare, stare</i>
<i>frith-to-air-√sistā-</i>	make a stand against, oppose	<i>ad-stare, ob-sistere</i>
<i>ad-ro-√slī-</i>	deserve, be entitled to	<i>merere, de-merere, pro-merere, bene-merere</i>
<i>ad-com-√snī-</i>	make for, strive, seek	<i>ex-petere, petere</i>
<i>ess-ro-√snī-</i>	escape	<i>e-vadere</i>
<i>fo-com-√snī-</i>	steal, snatch away	<i>sub-ripere</i>
<i>imm-frith-√snī-</i>	contend, dispute, disagree, gainsay	<i>in-fitari</i>
<i>com-to-√sow-</i>	turn, convert, change	<i>con-vertere</i>
<i>to-in(de)-√sow-</i>	translate, turn back, return	<i>trans-ferre</i>
<i>frith-to-in(de)-√swizd-</i>	blow against	<i>ex-sufflare</i>
<i>to-in(de)-√swizd-</i>	blow, breathe, blow on, breathe on	<i>flare</i>
<i>en-com-√tā-</i>	get, obtain, procure	<i>petrare, mereri, im-petrare, con-sequi, ad-ipisci</i>
<i>to-ess-√tā-</i>	be absent, be lacking, be wanting	<i>ab-esse, de-esse</i>
<i>com-en-√tēg-</i>	go with, accompany, agree with	<i>con-stare</i>
<i>frith-to-√tēg-</i>	come against, be at variance with	<i>contra-venire, ad-versare, ob-ire, op-ponere</i>
<i>in(de)-uss-√tēg-</i>	enter into	<i>in-ruere, in-ire, of-fendere, in-currere</i>
<i>fo-in(de)-√tōsī-</i>	understand	<i>sub-audire</i>

As shown in Table 45, the EPs are often calques from Latin. By contrast, there are virtually no cases in which the interior preverb(s) is(are) copied from Latin. Rather, the reduced composite resulting from the deletion of the EP usually corresponds to a Latin simplex verb, as exemplified in (19):

- (19) OIr. *imm-tabair* (*imm-to-√ber-*) ~ Lat. *circum-dare* ‘carries **around**’ (Ml.41c2)
 cf. OIr. *do-beir* (*to-√ber-*) ~ Lat. *dare* ‘give’ (e.g. Ml.25b12; Sg.163a3, 209b26).

In Ml.41c2, the influence of the Latin *circum-dare* even overrides the tendency of *to-* to occur as EP (cf. Sections 2.3 and 6).

The most evident Latin calques, underlined in bold in Table 45, follow: OIr. *com-* ~ Lat. *con-* ‘with’; OIr. *eter-* ~ Lat. *inter-* ‘between, among’; OIr. *fo-* ~ Lat. *sub-* ‘under’; OIr. *frith-* ~ Lat. *ob-*, *contra-*, *ad-* ‘against’; OIr. *imm-* ~ Lat. *circum-*, *ambi-* ‘about’; OIr. *rem-* ~ Lat. *ante-* ‘before, pre-’. Less regular correspondences to Latin can also be identified, such as OIr. *ad-* ~ Lat. *ad-*; OIr. *di-* ~ Lat. *ex-*, *de-*, *ab-* (a single Old Irish Source-preverb corresponds to three different Latin Source-preverbs; however, cf. below for OIr. *ess-*); OIr. *for-* ~ Lat. *super-*; OIr. *ess-* ~ Lat. *ex-*, *de-*; OIr. *in(de)-* ~ Lat. *in-*; and OIr. *to-* ~ Lat. *ad-*, *per-*, *pro-* (cf. Rossiter 2004: 21–97).

Interestingly, calquing from Latin occasionally finds an explicit explanation in the glosses. In (20), the meaning of a multiple preverb composite, used to translate the Latin corresponding composite *intro-spicio*, is obscure, and elucidated by means of a reduced composite and an adverb equivalent to the EP: specifically, *etar-décai* ‘introspect’ is glossed by *do-ecai* ‘look at’ and *ind=inmedonach* ‘internally’.

- | | | | |
|------|--|----------------------|-----------------------|
| (20) | <i>.i. etir décai .</i> | <i>i. doécai</i> | <i>ind=inmedonach</i> |
| | i.e. inter-look_at.PRS.3SG | i.e. look_at.PRS.3SG | ART.DAT=internal.DAT |
| | ‘i.e. he intro-spects, i.e. he looks internally’ (Ml.61a8) | | |

Calquing from Latin is by no mean mechanistic. To begin with, there are exceptions to the general principle that only Old Irish EPs are calqued from Latin. In a number of composites, a full sequence of Old Irish preverbs corresponds to a single Latin preverb. A case in point is *do-róscai* (*di-ro-uss-scochī-*) (lit.) ‘**from-forth-up**-move’ → ‘stand forth, distinguish oneself’, whereby the combination *di-ro-uss-* altogether translates the Latin preverbs *ante-*, *e(x)-*, or *prae-* (Latin equivalents for this composites are Lat. *ante-cedere*,

ante-stare, *e-minere*, *prae-esse*, and *prae-stare*). In other glosses, an Old Irish preverb corresponds to a Latin adverb, as shown in (21). Interestingly, the correspondence between the EP *imm-* and *mutuo* is also paired by the direct equivalence of the Old Irish IP *ac-(ad-)* with Latin *ad-*:¹⁸

(21) Old Irish EP *imm-* ‘about, mutually’ ~ Latin ADV *mutuo* ‘mutually’

OIr. *immu-s-ac-aldat* (*imm-ad-√glādī-*)

P-3PL.ACC-P-converse.PRS.3PL

Lat. *mutuo* *sé* *ad-locuntur*

mutually REFL.ACC to-speak.PRS.3PL

‘They converse together.’ (Ml.131c19)

With other composites, calquing from Latin affects the verbal base, but not the usage of preverbs, which is divergent (cf. KPV: 487):

(22) OIr. *do-inmlig* (*to-en-uss-√mlig-*) (lit.) ‘**to-in(to)-up-√milk**’

Lat. *pro-mulgare* ‘**forth-milk**’

PIE **h₂melǵ-* ‘milk’ (LIV²: 279)

‘promulgate, proclaim, announce’

In (22), both Old Irish *√mlig-* and Lat. *√mulg-* go back to the same PIE verbal root and are employed to make up a non-compositional composite with the meaning of ‘promulgate, proclaim, announce’. The preverbs attached to the verbal bases however are different in Old Irish and in Latin.

Moreover, even the EPs that have been classified as evident calques from Latin do not always have an obvious Latin counterpart. For example, in the composites *con-éitet* (*com-en-√tēg-*) ‘go with, accompany, agree with’ and *imm-tascra* (*imm-to-√scarā-*)

¹⁸ The Old Irish and Latin verbs in fact show a further similarity: OIr. *ad-gládathar* ‘converse together’ is usually a deponent verb (though, in (21) above, it takes active inflection), as is its Latin equivalent *ad-loquor* ‘converse’.

‘struggle together’, the order of preverbs is not the usual one (in particular, it does not conform to McCone’s hierarchy of preverb ordering, on which see Section 6). Thus, one might suspect that the EPs *imm-* and *com-* are subsequent additions, given the fact that these Old Irish preverbs frequently correspond to Latin *circum-/ambi-* and *con-*. This is however not the case: there are no Latin counterparts for *con-éitet* ‘agree with’ in the *Priscian Glosses* (Sg.197b17, 203a22), in which this composite is employed to elucidate, and not to translate, the main Latin text. Nor does the Latin equivalent for *imm-tascra* ‘struggle together’ contain a preverb: it is *luctare* ‘wrestle, struggle’.

3. The form of composites

3.1. *The allomorphy of Old Irish preverbs*

The form of Old Irish preverbs undergoes considerable variations, depending on whether they occur before, under, or after the accent. As pointed out by Anderson (2016: 210 ff.), the phonological content of preverbs occurring in pretonic position (i.e. before the so-called ‘juncture’) generally seem to be impoverished with respect to the same preverbs occurring under the accent. As a result, a number of preverbs merge together when they occur in pretonic position. For example, the preverbs *ad-* ‘to, toward’, *aith-* ‘re-, ex-’, *in(d)-* ‘in(to)’, *ess-* ‘out of’, and *uss-* ‘up, off’ all can become *at-* in prenuclear position (GOI: 495), as shown in Table 46, Table 47, and Table 48, which collect all the attested allomorphs for the preverbs *ad-* ‘to, toward’, *aith-* ‘re-, ex-’, *in(de)-* ‘in, in(to)’, *es(s)-* ‘out of, off’, and *us(s)-* ‘up, off’.

As explained by McCone (1997: 4–5), pretonic position prevents a number of *sandhi* phenomena usually occurring at the boundaries between two preverbs, or between a preverb and a verb base. For example, in pretonic position, (a) vowels are not elided (e.g. *to-air-√can-* ‘foretell’ becomes *-taircheta:PRF.3PL* in prototonic forms, but remains *du-aircet:PRET.3SG* in deuterotonic ones); (b) consonant clusters are not assimilated or

Table 46. Allomorphy of Old Irish preverbs: *ad-* and *aith-* (from Anderson 2016: 220)

Cit.	Prenuclear	Nuclear			Gloss
		Position	Orthography	Phonology	
ad	<i>ad, at-</i>	$_ \emptyset, _ \varphi$	$\cdot ad-$	$\cdot \emptyset a \delta-$	'to, towards'
		$_ R$	$\cdot \acute{a}-$	$\cdot \emptyset a \emptyset-$	
		$_ C$	$\cdot a-$	$\cdot \emptyset a^{\circ}-$	
aith	<i>ad, at-</i>	$_ all$	$\cdot a(i)th-$	$\cdot \emptyset a \theta^{\text{L}}-$	're-, ex-'

Examples: ad- *ad-rími* (Wb14d2) *ni-áirmi* (Wb13d17)
aith- *ad-geúin* (Wb. 12c13) *ni-n-aithgeuin* (Ml.52x00)

Table 47. Allomorphy of Old Irish preverbs: *in-* and *ind-* (from Anderson 2016: 218)*

Cit.	Prenuclear	Nuclear			Gloss
		Position	Orthography	Phonology	
in	<i>in, at-</i>	$_ t, _ c$	$\cdot \acute{e}-$	$\cdot \emptyset' a \emptyset^{\text{N}}-$	'in, into'
		$_ D, _ \emptyset$	$\cdot i-$	$\cdot \emptyset' a^{\text{N}}-$	
		$_ R, _ s$	$\cdot e-$	$\cdot \emptyset' a^{\circ}-$	
ind	<i>in, at-</i>	$_ T$	$\cdot in-$	$\cdot \emptyset' a n^{\text{L}}-$	'in, into'
		$_ \varphi, _ s$	$\cdot ind-, \cdot int-$	$\cdot \emptyset' a n^{\text{L}} d^{\text{L}}-$	
		$_ \emptyset, _ R$	$\cdot ind-$	$\cdot \emptyset' a n^{\text{L}} d^{\text{L}}-$	

*According to Thurneysen (GOI: 518 ff.), *in* and *ind* belong to a single lemma (*contra* VGK: 451 ff.)

Examples: in(de)- *in-túaisi* (Wb. 13a11) *ellachtae* (Ml. 84a6)

Table 48. Allomorphy of Old Irish preverbs: *es(s)-* and *us(s)-* (Anderson 2016: 221)

Cit.	Prenuclear	Nuclear			Gloss
		Position	Orthography	Phonology	
es	<i>as, at-</i>	$_ \emptyset$	$\cdot es-$	$\cdot \emptyset' as-$	'out of, off'
		$_ R$	$\cdot \acute{e}-$	$\cdot \emptyset' a \emptyset'-$	
		$_ C$	$\cdot e-$	$\cdot \emptyset' a^{\circ}-$	
		$_ ?$	$\cdot as-$	$\cdot \emptyset as-$	
us	<i>as, at-</i>	$_ \emptyset$	$\cdot os-, \cdot us-$	$\cdot \emptyset^{\circ} a s^{\circ}-$	'off'
		$_ R$	$\cdot \acute{o}-, \acute{u}a-, \acute{u}-$	$\cdot \emptyset^{\circ} a \emptyset^{\circ}-$	
		$_ C$	$\cdot o-, \cdot u-$	$\cdot \emptyset^{\circ} a^{\circ}-$	

Examples: ess- *as-beir* (Wb. 4d23) *ni-epir* (Wb. 25d4)
us- (no relevant examples) *con-úala*

eliminated (e.g. *ad-ro-√slī-* ‘deserve, be entitled to’ becomes *-áirilli* in prototonic form, but remains *ad·roilli* in deuterotonic form). By contrast, in pretonic position, preverbs undergo a number of changes that generally characterize Old Irish proclitics (McCone 1997: 5): for example, (a) the voicing of a dental in contact with a proclitic vowel (e.g. *to-ess-√sem-* ‘shed, pour out’ gives deuterotonic *do·eissim*, but prototonic *-tessim*); (b) the tendency of retracting the articulation of proclitic vowels (e.g. *u > o*, cf. *com-di-√sag-* ‘ask, seek, demand’ gives deuterotonic *con·dieig* and prototonic *-cuindig*).

The switch to the prototonic forms also causes a number of changes that are triggered by the loss of stress undergone by the IP or by the verb base. Such changes include the following: (a) the shortening of long vowels in unstressed syllables (e.g. *in(d)-√fēd-* ‘tell, relate, make known’ gives deuterotonic *in:fét*, but prototonic *-indet*), (b) a divergent syncope due to the adding of an extra preverb and the consequent resyllabification (e.g. *com-uss-√anā-* ‘cease, stop, desist, remain, end in’ gives deuterotonic *con-os*na*, but prototonic *-cum*sana*, in which the asterisk indicates the position of the syncope). Syncope in turn triggers a number of further *sandhi* effects: for example, when it produces consonant clusters, the quality of those consonants undergoes assimilation. The *sandhi* effects, such as those described above, produce a wide range of allomorphs for Old Irish preverbs. Such allomorphs are thoroughly described in GOI (495 ff.) and investigated by Anderson (2016: 210 ff.), who provides tables similar to Table 46, Table 47, and Table 48 for the full catalogue of Old Irish preverbs.¹⁹

Importantly, these complex *sandhi* phenomena can obscure the morphological segmentation of composites, as anticipated commenting Table 42. For example, the composite *in·árban* ‘drive out, expel’ is analyzed differently by different authors, as shown in (23):

(23) The segmentation of the composite *in·árban* ‘drive out, expel’

- a. *in(de)-air-uss-√ben-*
 ‘in-before-up-cut’

¹⁹ A number of apparent changes between deuterotonic and prototonic forms are merely orthographical (McCone 1997: 8; cf. also McCone’s useful Appendix on Old Irish spelling rules: McCone 1997: 267 ff.).

(VKG II: 463; Anderson 2016)

- b. *in(de)-ad-ro-uss-√ben-*
'in-to-forth-up-cut'

(KPV: 227; *Milan* and *Priscian Glosses* databases)

3.2. *Augment and preverbs*

As in other ancient Indo-European languages, Old Irish lexical preverbs interact with other pieces of preverbal morphology. Differently from the other languages, however, in which the augment goes back to an anaphoric/deictic particle (cf. e.g. LIPP II: 179, and references therein), the Old Irish so-called 'augments' or 'temporal preverbs' (*ro-*, rarely *ad-* and *com-*, and very rarely other preverbs; cf. Section 1.2.3) used to function only as lexical preverbs at a preceding stage, and as such used to be subject to the same positional constraints as lexical preverbs (McCone 2006: 204 ff.).

The most widespread among Old Irish augments is the preverb *ro-*, which can occur either in a fixed or movable position. The so-called fixed *ro-* is usually placed directly before the verbal root (GOI: 339), as shown in (24). The augments less frequent than *ro-*, i.e. *ad-* and *com-*, also occur in this position (GOI: 344 ff.), as exemplified in (25). The augments occupy this position especially with strong verbs.

- (24) *ma-du-gneu* *inna-hui [huili]* *remi-æ-r-burt*
if-of-do.SBJV.PRS.1SG ART.ACC.PL-all.ACC.PL fore-out_of-AUG-say.PRF.1SG

'If I would do everything that I have said previously.' (Ml.23c24)

- (25) *[du]-da-im-chom-arr* *di-a-chomallad*
to-3PL.ACC-about-AUG-press.SBJV.PRS.1SG to-3SG.GEN-fulfilling.DAT

tri-fochaidi 7 *ingrainmen*
through-trial.ACC.PL and persecution.ACC.PL

'...who would constrain them to its fulfillment through tribulations and persecutions.' (Ml.77a12)

With weak verbs, instead, the augment *ro-* is movable, in that it changes its positioning within the composite so as to invariably occur after the preverb or particle in pretonic position (GOI: 440), as shown in (26). In (26)a-b, the same composite occurs, that is, *con-osna* (*com-uss-√anā-*) ‘cease, stop, desist, remain, end in’; in (26)a, *ro-* is placed after the EP *com-* ‘with’, whereas in (26)b it is positioned more externally than the EP, after the negative particle *ní*.

(26) a. The augment *ro-* after the EP *com-*

co-ro-s-an [*conrosan*]

with-AUG-up-stop.PRF.3SG

‘That is stopped.’ (ML.113c5)

b. The augment *ro-* after the negation and before the EP *com-*

ní rú-chum-s-an-us-sa

NEG AUG-P-P-stop-PRF.1SG-EM.1SG

‘I did not stop’ (ML.94b14)

The position of fixed *ro-*, which is undoubtedly the older of the two patterns (GOI: 340; Lewis & Pedersen 1961[1937]: 252), can be explained as follows. A first motivation for its placement is connected with the interaction between the preverbal origin of these augments and the process of accretion (cf. Sections 2.3, 4.3, and 6.1) that characterizes the growth of multiple preverb composites in Old Irish. In addition, McCone (2006: 207) suggests that a relevant role might have been played by “the possibility of attaching a preverb such as telic *ro-* to certain others such as *di-* ‘from’ or *ess-* ‘out’ in order to bring out the completed nature of the action implied.” McCone backs up this suggestion based on the evidence that the sequences **eks-ro-* and **di-ro-* are known both in Old Irish nominal and verbal formations. Thus, they appear to make up stable pairs of preverbs (i.e. double preverbs) that could be added at once to a simplex verb.

McCone (2006) also argues that even the original fixed *ro-* could be displaced from the position immediately preceding the verbal base under certain conditions, specifically in

shown in (28)-(30).²⁰ For example, the paradigmaticized perfective preverb *ro-* only rarely brings about lexical contributions to the verb; however, lexical contributions are far more frequently brought about by the non-paradigmaticized perfective markers *ad-* and *com-* (cf. further the spatial meanings associated to *ess-* in examples (31) and (32)).

(28) Lexical *ro-*: *do-róscai* (*di-ro-uss-√scōchī-*) ‘stand **forth**’ (Lat. *prae-stare*)

duróscai

stand_forth:PRS.3SG

‘it stands forth’ (Ml.113a9)

(29) Lexical *ad-*: *imm-accaldathar* (*imm-ad-√glādī-*) ‘address each other’

immu-s-ac-aldat (*imm-ad-√glādī-*)

P-3PL.ACC-P.converse.PRS.3PL

‘They converse together.’ (Ml.131c19 = (21))

(30) Lexical usage of *com-*: *com-en-√tēg-* ‘go with, agree with’ (Lat. *con-stare*)

dús *imbed* [*do*]=*duaid* *œitsitis* *fa*

whether be.SBJV.PST.3SG to *D*.DAT go_with.SBJV.PST.3PL or

dī=a=naimtib

to=POSS.3SG=enemy.DAT.PL

‘Whether they should favor David or his enemies.’ (Ml.87c4)

In (28), the IP *ro-* means ‘forth’ within the composite *di-ro-uss-√scōchī-* (lit.) ‘of-forth-up-move’, which develops the non-spatial meaning of standing forth, being pre-eminent. The entire combination of the Old Irish preverbs *di-ro-uss-* corresponds to Latin *prae-* ‘pre-, fore-’ (cf. Section 2.4). In (29), the IP *ad-* ‘to, toward’ introduces the Addressee of a communication verb (the root *√glādī-* is exclusively employed with *ad-* occurring as IP,

²⁰ This is not the case for *no-*, which is never used as a lexical preverb. Its origins explain its behavior. The preverb *no-* does not belong to the so-called category of Indo-European ADVS-PREVS-ADPS (in Cuzzolin et al.’s 2006 terms). It rather goes back to the PIE temporal adverb **nú* ‘now’, which shows reflexes also functioning as sentence connectors, notably MW *neu* and Hitt. *nu* (GOI: 348; Lewis & Pedersen 1961[1937]: 259).

most likely due to the semantic solidarity between the preverb and the verbal base). In (30), the EP *com-* retains its basic meaning of togetherness, whereas the whole composite develops the non-compositional meaning of ‘agreeing with’ from the basic meaning of ‘going with’.

Preverbs can modify the verb adding different types of meanings: (a) spatial; (b) abstract, or (c) actional. A number of preverbs such as *ess-* ‘out of’ and *fo-* ‘under’ both retain their spatial meanings (31) and gain new but still spatial semantics (32):

(31) Basic meanings of *ess-* ‘out of’ and *fo-* ‘under’

a. *is-áilgen* *do-neprinn*
 be.PRS.3SG-mild.NOM flow.PRS.3SG
 ‘Gently it flows’ (Sg.145a4)

b. *lase* *fu=tabair*
 when under-place.PRS.3SG
 ‘When he places under...’ (Ml.40d2)

(32) Non-basic spatial usage of *ess-* ‘out of’ and *fo-* ‘under’

a. *ní=æscmlai*
 NEG=go.away.PRS.3SG
 ‘It does not go away’ (Sg.3a6)

b. *ní=ɔfitetar* *a-rrig* *foragabsat*
 NEG=know.PRET.3PL POSS.3PL-king.ACC leave_behind.PRF.3PL
di=a=náes
 of=POSS.3PL=track.DAT
 ‘They do not know their king whom they had left behind them.’ (Ml.95a12)

In (31), the composites *do-eprainn* (*to-ess-√brenn-*) ‘flow, trickle, gush’ and *fo-tabair* (*fo-to-√ber-*) ‘place **under**’ contain the IP *ess-* and the EP *fo-* retaining their original spatial semantics. In (32), instead, the same preverbs develop the new spatial meanings of ‘away from’ and ‘behind’ in the composites *as-comlai* (*ess-com-√lu-*) ‘depart, escape, set out, start’, and *fo-acaib* (*fo-ad-√gabi-*) ‘leave **behind**’. The preverb *ess-* loses its relative

component in favor of a more generic ablative value; the preverb *fo-* comes to mean ‘behind’ based on the following frequent analogical equation: ‘ABOVE’ : ‘BENEATH’ = ‘BEFORE’ : ‘BEHIND’ (cf. Luraghi 2003: 226 on the cognate AG preposition *hupó* ‘under’; see also Chapter 4). Note further that *ess-* shows spatial semantics both as an EP and as an IP. This is a first suggestion that neither lexical nor actional meanings are associated to a specific positioning with respect to the verbal base.

Old Irish preverbs also gain various types of abstract but still lexical meanings more or less directly connected with their basic meaning. For example, both the preverbs *air-* and *aith-* can mean ‘again’, as shown by examples (33):

(33) Meaning ‘again’ expressed by *air-* ‘before, for’ and *aith-* ‘re-, ex-’

- a. *ar-utaing* (*air-uss-√ding-*) ‘build up, re-store, re-fresh’

arutaing

refresh.PRS.3SG

‘Which refreshes.’ (Ml.64c20; Lat. *re-ficere*)

- b. *ad-éirrig* (*aith-ess-√rig-*) ‘re-peat, re-iterate, change, emend’

is-airi

aderrig-som

be.PRS.3SG-for.3SG.N repeat.PRS.3SG-EM.3SG.M/N

for=sa=nimchomarc *fo=di*

on=ART.ACC.N=question.ACC under=two.ACC.DU.F

‘It is therefore that he repeats the question twice.’ (Ml.46a21; Lat. *re-petitio*)

How do these preverbs come to mean ‘again’? The basic meaning of *air-* is ‘before’: going back *before* an event can carry the implication of repeating such an event. The preverb *aith-*, instead, allegedly goes back to PIE **áto, áti* ‘behind, again, away’ (LIPP II: 94 ff.): in parallel to what has been outlined for *air-*, going *behind* an event can bear the implication of going *before* it, and thus repeating such an event. These examples show that different preverbs can express quasi-equivalent meanings: thus, the occurrence of one or another preverb in a certain composite is an idiosyncratic lexical fact.

Other preverbs with abstract meanings are exemplified in (34) and (35):

- (34) *immethascrat*
 struggle_together.PRS.3PL
 ‘who wrestle’ (Ml.118c11; Lat. *luctantium*:PTCP.PRS.GEN.PL)
- (35) *fothonsnát [fochosnat]*
 steal.PRS.3PL
 ‘which steal’ (Ml.43a8; Lat. *sub-ripiunt*:PRS.3PL)

In (34), in the composite *imm-tascra* (*imm-to-√scarā-*) ‘struggle together’, the EP *imm-* ‘with’ (Comitative) develops a reciprocal meaning: if two humans are fighting together, they are likely to be fighting against one another (cf. also example (5)). In (35), *fo-* ‘under’ means ‘secretly’ on account of the following semantic shift: UNDER > BENEATH > BEHIND > INVISIBLY > SECRETLY.

In addition, multiple preverbs of Old Irish can bring about various kinds of actional modifications: (a) ingressive, e.g. *con-osna* (*com-uss-√anā-*) ‘cease, stop, desist, remain, end in’ (36); (b) resultative, e.g. *ar-foím* (*air-fo-√em-*) ‘accept, receive, assume, take’ (37); (c) intensive, e.g. *ad-cuimben* (*aith-com-√ben-*) ‘cut, strike, wound, lacerate’ (38); (d) telic, e.g. *etar-diben* (*eter-di-√ben-*) ‘destroy’ (39).

- (36) Ingressive com-
in=ru-chumsan
 PTC.INT=AUG-cease.PRS.3SG
 ‘has it ceased?’ (Ml.32d26; Lat. *con-quiescere* ‘to become quiet’)
- (37) Resultative air-

<i>acht</i>	<i>a-frescastae</i>		<i>.i.</i>	<i>ni</i>		<i>frisaiccai</i>	<i>7</i>
but	ART.ACC.N-hoped.ACC.N		that_is	INDF.ACC.N		hope.PRS.2SG	and
<i>arafoimi</i>		<i>iarum</i>					
receive.PRS.2SG		after.3SG.DAT.N					

‘but the thing hoped, i.e. something that you hope for and that you receive afterward.’ (Ml.68a8; cf. Lat. *sus-cipere* ‘take up’)

- (38) Intensive *aith-* and *com-*
huilliu *adcumnet* *indatae* *chlaidib*
 more_greatly wound.PRS.3PL than sword.NOM.PL
 ‘(It is) more greatly that they wound than swords.’ (Ml.77a1)
- (39) Telic *eter-* and *di-*
co=etar=dam-dibitis-se
 in_order_that=P=1SG.ACC-destroy.SBJV.PST.3PL-EM.1SG
 ‘in order that they might destroy me.’ (Ml.54d14; cf. Lat. *inter-ficere*)

Neither lexical nor actional meanings are associated with a specific position with respect to the verbal base. An IP can have lexical or actional meanings: in (31), for example, the IP *ess-* has a lexical spatial meaning; in (38)–(39), the IPs *com-* and *di-* bring about actional meanings, which are then reinforced by the addition of a further preverb, in some cases such as (39), based on a calque from Latin. In parallel, the above examples also show that EPs can carry about both lexical (cf. (31)–(35)) and actional semantic contributions as well (cf. (36)–(37)).

It is very difficult to find Old Irish composites in which two or more preverbs retain clearly detectable spatial meanings. Far more frequently, two (or more) preverbs with a similar spatial semantics attach onto the same verbal base. Otherwise, the meaning of (one of the) preverb(s) show(s) semantic solidarity with that of the modified verbal stem. In other words, Old Irish composites frequently show some kind of semantic redundancy (Section 4.3). This situation is arguably due to the high degree of lexicalization shown by Old Irish preverbs and to the process of accretion underlying multiple preverb composites, whereby a further preverb is attached to an already lexicalized composite (cf. Sections 2.3 and 6).

However, a consistent group of composites containing two spatial specifications can be identified. In these formations, an interior *to-* adds a deictic specification to a motion verb, which is then specified by a further spatial preverb, added more externally than *to-* possibly as a result of a calque from Latin (cf. also (31)):

(40) *fris·taít* (*frith-to-√tēg-*) ‘come against, be at variance with, oppose’

cf. Lat. *contra-venire*, *ad-versare*, *ob-ire*, *op-ponere*

> *do·tét* ‘come’, that is, (lit.) ‘go **back**’

> *tét* ‘go’

In (40), the addition of *to-* to a verb of going results in a verb of coming. According to Stifter (2014: 238–239), this reversative meaning of *to-* is connected with its ‘back’ meaning, shown by several Old Irish composites such as *do·intai* ‘turn **back**, return’, *do·rá* ‘row **back**’, and *do·reith* ‘run **back**’.

By contrast, composites containing two actional or two lexical (but non-spatial) preverbs can be detected. As for composites containing two actional preverbs, see examples (38)–(39). Instead, a good example for a composite containing two non-spatial lexical preverbs is provided in (41):

(41) Two non-spatial lexical preverbs:

remi·epir (*rem-ess-√ber-*) ‘say beforehand, say previously’ (Lat. *prae-dicere*)

> *as·beir* (*ess-√ber-*) ‘say to, speak’

> *beirid* ‘carry, bring’

As emerges from the process of recomposition displayed in (41), the EP *rem-* is a later addition, probably modelled on Latin *prae-*, to an already non-compositional composite, that is, *as·beir* (*ess-√ber-*) ‘say to, speak’. The composite *as·beir* in turn contains the preverb *ess-* ‘out of’. This preverb arguably describes the metaphorical motion performed by words or utterances *out of* speakers’ mouth/body, which are conceptualized as containers (on the Container-metaphor, cf. Chapter 1; Chapter 2, Section 1.1).²¹

²¹ Cf. the Italian and English idioms *tirar fuori le parole di bocca* ‘get the words **out of** one’s mouth’ > ‘force one to speak’, or Engl. *get it out!* ‘tell this!’.

4.2. *Same preverbs, different meanings*

As is implied in the discussion of Section 4.1, Old Irish preverbs are polysemous elements. Some of them, specifically *ro-*, *ad-*, and *com-*, instantiate a two-fold path of development: on the one hand, they underwent grammaticalization into bounder perfectives; on the other hand, they gained new lexical meanings, occasionally making up non-compositional composites. In Section 4.1, I also touched upon a number of new meanings gained by a number of Old Irish preverbs, that is, *air-* ‘before, for’, *aith-* ‘re-, ex-’ *di-* ‘of, from’, *ess-* ‘out of’, *eter-* ‘between, among’, *fo-* ‘under’, and *imm-* ‘about, mutually’. It is impossible to discuss here all the semantic shifts summarized in Table 51: each of them in principle deserves a separate treatment. Here, I exemplify the development of Old Irish preverbs by means of *fo-* ‘under’, which is the most polysemous preverb in the *Milan* and in the *Priscian Glosses* (cf. Table 51).

In Section 4.1, we saw that *fo-* can retain its basic meaning of ‘under’ (31) and develop the new spatial meaning of ‘behind’ (32); the linkage between these two meanings was also discussed. In addition, it has been shown that the lack of visibility constitutes the clue to accounting for the shift into ‘secretly’, shown in (35). Other meanings of *fo-* are more directly connected with ‘under’. The meaning of support, exemplified in (42), is one such:

- (42) The composite *fodéinti* (*fo-di-√gnī-*) ‘be sufficient’ (Lat. *suf-ficere*)
du-n-chlaind *bed* *fodeinti*
to-ART.DAT-child.DAT be.SBJV.PST.3SG be_sufficient.GER
‘For the child which should be sufficient’ (Ml.107a10)

As remarked in eDIL (ie/22590), *fodéinti* is an artificial formation, whereby the EP *fo-* is calqued from Latin *sub-* (*suf-* in (42)) and *-déní* (i.e. the prototonic form of *do·gni*) corresponds to Latin *faciō* ‘do, make’.

or two composites (cf. Section 2.3). This suggests that multiple composition is (or used to be) a productive process, whereby preverbs, carrying their basic or non-basic meanings, successively combine with verbal bases as single units (but see Section 3.2, and McCone 2006: 2 on two possible fixed multiple preverb combinations). Second, the meaning of Old Irish MPs and IPs is frequently difficult to detect, as multiple preverb composites arguably originate in a step-by-step recomposition or accretion of an already lexicalized formation. Thus, only the semantic contribution of the EP tends to remain recognizable.

4.3. *Different degrees of compositionality*

Identifying the semantic contribution brought about by each element of Old Irish composites is by no means trivial for various reasons. To begin with, Old Irish preverbs are very advanced in their lexicalization processes. Thus, frequently, only the EP, i.e. the last preverb being added to the composite, retains a clearly detectable meaning (cf. Section 4.2, and the discussion on the range of new meanings gained by *fo-* ‘under’).

Moreover, multiple preverb composites can show different meanings in the two different collections of glosses (cf. Section 2.1), as well as in different contexts. These polysemous composites can also exhibit various degree of compositionality, as shown in (44) and (45) (Latin equivalents are indicated only if relevant):

- (44) Partially compositional vs. non-compositional meaning
remi-décai (*rem-di-en-√kwis-*) ‘**fore**-see’ (Lat. *prae-videre*)
 vs. ‘provide for’ (cf. Latin *consulere*)
do-róscái (*di-ro-uss-√scochī-*) ‘**stand** forth’ (Lat. *prae-stare*)
 vs. ‘distinguish oneself (Lat. *eminere*)’
con-oscaigi (*com-uss-√scochī-*) ‘**move**, remove’ vs. ‘change, shake, upset’
con-toí (*com-to-√sow-*) ‘**turn**’ vs. ‘convert, change’
do-intai (*to-in(de)-√sow-*) ‘**turn** back, return’ vs. ‘translate’
sechmo-ella (*sechmo-in(de)-√vell-*) ‘pass **by**, pass’ (Lat. *praeter-ire*)
 vs. ‘neglect’ (Lat. *omittere*)
- (45) Compositional vs. non-compositional
fris-taít (*frith-to-√tēg-*) ‘come **against**’ (Lat. *contra-venire*)
 vs. ‘is at variance with, oppose’ (Lat. *op-ponere*)

In addition, though a certain composite results in a non-compositional formation, it might be the case that the semantic contribution of its parts is still traceable (certainly by the linguist, and possibly by the speaker as well). Cases in point are the following: *ad-opair* (*ad-uss-√ber-*) ‘sacrifice, offer up’ ((lit.) ‘to-up-offer’); *fo-acain* (*fo-ad-√can-*) ‘sing to, accompany in song’ ((lit.) ‘under-to-sing’); *ar-foichlea* (*air-fo-√cēllā-*) ‘look after, take care of, attend to’ ((lit.) ‘before-under-go_around’);²² *con-imchloí* (*com-imm-√clow-*) ‘change’ ((lit.) ‘with-around-turn’); *imm-fogni* (*imm-fo-√gn̄-*) ‘be construed with (gramm.)’ ((lit.) ‘around-under-do’, ‘serve around’); *fris-accai* (*frith-ad-√kwis-*) ‘look forward to, expect, hope’ ((lit.) ‘against-to-look’); *do-romnathar* (*di-ro-√mani-*) ‘forget’ ((lit.) ‘away from-completely-think’); *con-tetarrat* (*com-to-eter-√reth-*) ‘comprise, comprehend’ ((lit.) ‘with-to-between-run’).

Lastly, the semantic contribution of certain preverbs, though still detectable, is redundant. Either the meanings of the preverbs overlap with one another (46), or the meaning of one of the preverbs, usually but not exclusively the IP (cf. (47)g), shows semantic solidarity with the verbal stem onto which it attaches (47).

- (46) Composites containing preverbs with overlapping meanings
- | | | |
|----|---|-----------------------|
| a. | <i>ad-tairbir</i> (ad-to-air-√ber-) ‘bring back, deliver again’ | (Goal+Goal) |
| b. | <i>do-adbair</i> (to-ad-uss-√ber-) ‘display, show, bring forward, offer’ | (Goal+Goal) |
| c. | <i>do-essuirg</i> (di-ess-√org-) ‘smite, slay’ | (Source+Source) |
| d. | <i>do-inchain</i> (to-in(de)-√can-) ‘chant, utter’ | (Addressee+Addressee) |
| e. | <i>in-togair</i> (in(de)-to-√gari-) ‘call on, invoke’ | (Addressee+Addressee) |
- (47) Composites containing a redundant preverb
- | | | |
|----|---|----------------------|
| a. | <i>do-eipen</i> (to-ess-√ben-) ‘excise, cut (out of, off)’ | (Source-P+cut) |
| b. | <i>ar-díben</i> (air-di-√ben-) ‘cut off, slay, destroy’ | (Source-P+cut) |
| c. | <i>etar-diben</i> (eter-di-√ben-) ‘destroy’ | (Source-P+cut) |
| d. | <i>imm-díben</i> (imm-di-√ben-) ‘excise, circumcise’ | (Source-P+cut) |
| e. | <i>do-eprainn</i> (to-ess-√brenn-) ‘flow, trickle, gush’ | (out_of+spring) |
| f. | <i>fo-teissim</i> (fo-to-ess-√sem-) ‘pour down, pour out’ | (out_of+pour) |
| g. | <i>do-fonaig</i> (di-fo-√nig-) ‘wash, wash away’ | (away_from+wash) |
| h. | <i>con-dieig</i> (com-di-√sag-) ‘ask, seek, demand’ | (Source-P+ask) |
| i. | <i>do-fosc(a)</i> (di-uss-√scart(ā)-) ‘remove, put aside’ | (Source-P+up+remove) |

²² Cf. the AG noun *amphí-polos* ‘maiden’, (lit.) ‘the one who moves around (the master)’ for a similar semantic development (DELG: 877).

- j. *do-imchella* (*to-imm-√cēllā-*) ‘surround, encompass’ (around+go_around)
k. *do-aidlea* (*to-ad-√vell-*) ‘come to, approach, visit, touch’ (Goal+go)
l. *imm-accaldathar* (*imm-ad-√glādī-*) ‘converse together’ (Addressee+talk)
m. *remi-uicsed* (*rem-uss-√gus-*) ‘choose beforehand, pre-elect’ (up+choose)
n. *do-rochoíni* (*di-ro-√coin-*) ‘despair of’ (intensive+lament)
o. *con-fodlai* (*com-fo-√dālī-*) ‘share jointly, divide, apportion’ (sub+divide)

The composite at (47)i is particularly remarkable: the meanings of both the EP and the IP can be regarded as redundant. Both *di-* ‘of, from’ (Source-P) and *uss-* ‘up, off’ (up+Source-P) are subsumed by the semantics of the root $\sqrt{scart(\bar{a})}$ - ‘remove’: the event of removing implies a TR moving upward and away from a LM.

I classify as ‘partially compositional’ all the composites outlined above, as they escape a clear-cut semantic categorization. Partially compositional composites can belong to different sub-categories: (i) composites in which only the EP retains a detectable meaning; (ii) polysemous composites; (iii) lexicalized composites still analyzable by the linguist (and possibly by the speaker); (iv) composites with redundant preverbs. Partially compositional composites, displayed in Table 49, constitute the majority of Old Irish composites (110 out of 178):

Table 49. Old Irish partially compositional composites

<i>Composite</i>	<i>Segmentation</i>	<i>Meaning</i>
<i>do-futhraccair</i>	<i>di-fo-tre-√acc-</i>	desire, wish
<i>imm-comairc</i>	<i>imm-com-√arc-</i>	question, ask, inquire of
<i>ar-díbdai</i>	<i>air-di-√bādī-</i>	submerge, drown, sink, wreck
<i>do-aithbig</i>	<i>to-aith-√beg-</i>	dissolve, break up
<i>airdbidi</i>	<i>air-di-√ben-</i>	be destroyed, be cut off
<i>do-eipen</i>	<i>to-ess-√ben-</i>	excise, cut (out of, off)
<i>ad-cuimben</i>	<i>aith-com-√ben-</i>	cut, strike, wound, lacerate
<i>ar-díben</i>	<i>air-di-√ben-</i>	cut off, slay, destroy
<i>etar-díben</i>	<i>eter-di-√ben-</i>	destroy
<i>imm-díben</i>	<i>imm-di-√ben-</i>	excise, circumcise
<i>do-fuíben</i>	<i>to-fo-√ben-</i>	cut, cut down, cut out, destroy
<i>do-immdíben</i>	<i>to-imm-di-√ben-</i>	cut away, shorten
<i>ad-tairbir</i>	<i>ad-to-air-√ber-</i>	bring back, deliver again
<i>ad-opair</i>	<i>ad-uss-√ber-</i>	sacrifice, offer up
<i>remi-epir</i>	<i>rem-ess-√ber-</i>	say beforehand, say previously
<i>do-adbair</i>	<i>to-ad-uss-√ber-</i>	display, show, bring forward, offer
<i>do-eprainn</i>	<i>to-ess-√brenn-</i>	flow, trickle, gush
<i>do-airchain</i>	<i>to-air-√can-</i>	prophesy, foretell
<i>do-inchain</i>	<i>to-in(de)-√can-</i>	chant, utter
<i>fo-acain</i>	<i>fo-ad-√can-</i>	sing to, accompany in song

imm-timchella
do-imchella
do-fuinchid
remi-escaid
as-rochoíli
do-rochoíni
do-accradi
do-aithchren
ar-condla
con-fodlai
do-aidlea
ad-comla
do-ella
fo-accomla
fo-indlea
sechmo-ella
ar-foím
as-toasci
as-indet
fo-tuidchet
remi-aisndet
do-adbat
do-diat
con-foíra
remi-foírea
con-ocaib
do-furgaib
do-focaib
imm-freccair
in-togair
imm-accaldathar
do-eclairn
fo-tairci
ad-déici
do-écai
etar-décai
fris-accai
imm-accai
remi-décai
do-incai
do-farcaí
con-airléici
do-fúasailci
fo-álgi
imm-folngai
remi-folngi
as-comlai
comforaithmiti
do-romnathar
for-aithminedar
do-aithmenadar
do-fonaig
con-túairc
do-essuirg

imm-to-imm-√cēllā-
to-imm-√cēllā-
to-fo-in(de)-√cid-
rem-ess-√cid-
ess-ro-√coil-
di-ro-√coin-
to-ad-√crād-
to-aith-√crina-
air-com-√dālī-
com-fo-√dālī-
to-ad-√ell-
ad-com-√ell-
di-en-√ell-
fo-ad-com-√ell-
fo-in(de)-√ell-
sechmo-in(de)-√ell-
air-fo-√em-
ess-to-√fāscī-
ess-in(de)-√fēd-
fo-to-di-com-√fēd-
rem-ess-in(de)-√fēd-
to-ad-√fēd-
to-di-√fēd-
com-fo-√ferā-
rem-fo-√ferā-
com-uss-√gabi-
to-air-uss-√gabi-
to-uss-√gabi-
imm-frith-√gari-
in(de)-to-√gari-
imm-ad-√glādī-
to-ess-√glenn-
fo-to-ad-ro-√icc-
ad-di-en-√kwis-
dē-en-√kwis-
eter-di-en-√kwis-
frith-ad-√kwis-
imm-ad-√kwis-
rem-di-en-√kwis-
to-in(de)-ad-√kwis-
to-for-ad-√kwis-
com-air-√lēcī-
to-fo-uss-√lēcī-
fo-ad-√logī-
imm-fo-√longī-
rem-fo-√longī-
ess-com-√lu-
com-for-aith-√mani-
di-ro-√mani-
for-aith-√mani-
to-aith-√mani-
di-fo-√nig-
com-to-√org-
di-ess-√org-

surround
surround, encompass
descend
stretch forth
define, determine
despair of
exasperate, provoke
buy back, redeem
share
share jointly, divide, apportion
come to, approach, visit, touch
joint, unite
turn aside, deviate, bend, decline
subjoin
wander, rove
pass by, pass, neglect
accept, receive, assume, take
express
declare, relate, tell, set forth
subdue
tell beforehand, predict
show, manifest, set forth
lead down, lead, bring
provide
provide previously
lift up, raise, exalt
raise up, produce, cause
rise
correspond, answer, encounter
call on, invoke
converse together
pick out, select
substitute, supply
regard, look at
look at, behold, see
introspect
look forward to, expect, hope
look after, regard, examine, consider
provide for, force
look, gaze (at)
look down on, guard, fence around
permit, allow, let go
loosen, relax
lay low, prostrate, throw down
cause, produce, make, affect
bear beforehand, anticipate
depart, escape, set out, start
be commemorated
forget
call to mind, commemorate, remember
call to mind, commemorate, remember
wash, wash away
strike, pound
smite, slay

The composites that I regarded as non-compositional are displayed in Table 50: these constitute the second largest group of Old Irish composites (64 out of 178). Together, partially and non-compositional composites almost cover the totality of data (174 out of 178 composites): this *per se* reveals that the lexicalization process undergone by preverbs is very advanced in Old Irish.

Table 50. Old Irish non-compositional composites

<i>Composite</i>	<i>Segmentation</i>	<i>Meaning</i>
<i>con-osna</i>	com-uss-√anā-	cease, stop, desist, remain, end in
<i>fo-fúasna</i>	fo-uss-√anā-	perturb, disturb
<i>do-indnaig</i>	to-in(de)-√aneg-	give, bestow, grant, hand over
<i>foindarbaide</i>	fo-in(de)-ad-ro-uss-√ben-	be relegated, be subjected
<i>in-árban</i>	in(de)-ad-ro-uss-√ben-	drive out, expel
<i>do-forban</i>	to-for-√ben-	come, arrive, happen to, reach
<i>do-airbir</i>	to-air-√ber-	bend, bend down, incline, lower
<i>do-opair</i>	to-uss-√ber-	take away, deprive, defraud
<i>ar-foichlea</i>	air-fo-√cēllā-	look after, take care of, attend to
<i>con-érchloí</i>	com-air-√clow-	stir up, disturb, drive away, agitate
<i>con-immchloí</i>	com-imm-√clow-	change
<i>do-aithchuireadar</i>	to-aith-√cori-	return
<i>ad-cuimtig</i>	ad-com-uss-√ding-	build to, build up
<i>ar-utaing</i>	air-uss-√ding-	build up, restore, refresh
<i>con-utaing</i>	com-uss-√ding-	build, construct, build up, embellish
<i>do-inóla</i>	to-in(de)-uss-√ell-	gather, collect, assemble
<i>ar-coat</i>	air-com-√fēd-	prevent, injure
<i>ar-ingaib</i>	air-in(de)-√gabi-	avoid, flee from
<i>as-ingaib</i>	ess-ind(e)-√gabi-	exceed, surpass, go beyond
<i>fo-acaib</i>	fo-ad-√gabi-	leave
<i>imm-imgaib</i>	imm-imm-√gabi-	avoid, shun, evade
<i>do-rogaib</i>	to-ro-√gabi-	commit, transgress
<i>do-fúarascaib</i>	to-for-ess-√gabi-	express, characterize
<i>as-congair</i>	ess-com-√gari-	proclaim, give notice
<i>for-congair</i>	for-com-√gari-	command, order
<i>for-díngair</i>	for-di-en-√gari-	signify, express
<i>do-accair</i>	to-ad-√gari-	declare, tell
<i>do-airngir</i>	to-air-in(de)-√gari-	promise
<i>do-oggell</i>	dē-uss-√gell-	purchase
<i>fodéinti</i>	fo-di-√gnī-	be sufficient
<i>imm-fogni</i>	imm-fo-√gnī-	be construed with (grammar)
<i>ar-neget</i>	air-ne-√guid-	pray
<i>remi-uicsed</i>	rem-uss-√gus-	choose beforehand, pre-elect
<i>con-táirci</i>	com-to-ad-ro-√icc-	confer
<i>for-cumaing</i>	for-com-√icc-	happen, occur, be made, be brought about
<i>imm-airicc</i>	imm-air-√icc-	be appropriate to
<i>ad-cumaing</i>	in(de)-com-√icc-	strike, cut, happen
<i>do-áirci</i>	to-ad-ro-√icc-	cause, effect, induce, bring about

<i>do-ecmaing</i>	to-in(de)-com-√icc-	strike, hit a mark
<i>ar-osailci</i>	air-uss-√lēcī-	be opened
<i>do-atailci</i>	to-ad-to-ad-√lēcī-	fondle, caress, pacify
<i>as-cuindligi</i>	ess-com-di-√logī-	disrupt
<i>imm-ruimdethar</i>	imm-ro-√medi-	sin, transgress
<i>do-inmliġ</i>	to-en-uss-√mliġ-	promulgate, proclaim, announce
<i>do-immna</i>	to-imm-ad-√no-	command, enjoin
<i>con-erairġ</i>	com-air-√org-	go astray
<i>for-comai</i>	for-com-√ow-	keep, preserve, retain
<i>con-tetarrat</i>	com-to-eter-√reth-	comprise, comprehend
<i>fo-timmthirid</i>	fo-to-imm-di-√reth-	subminister, fumigate
<i>for-dúirat</i>	for-di-uss-√reth-	remain, remain over
<i>do-etarrat</i>	to-eter-√reth-	comprehend, grasp, overtake
<i>du-dúrig</i>	to-di-uss-√rig-	be enticed, excited
<i>ad-tóirndea</i>	ad-to-fo-√rindā-	prick again
<i>fris-tóirndea</i>	frith-to-fo-√rindā-	mark off, trace (a limit)
<i>do-foirndea</i>	to-fo-√rindā-	express, signify, denote
<i>in-coisig</i>	in(de)-com-√sech-	signify beforehand
<i>fo-uisim</i>	fo-uss-√sem-	be stored, be put away
<i>do-fuissim</i>	to-uss-√sem-	bring, bring forth
<i>con-tairissedar</i>	com-to-air-√sistā-	remain constant, consist
<i>ad-roilli</i>	ad-ro-√slī-	deserve, be entitled to
<i>ad-cosnai</i>	ad-com-√snī-	make for, strive, seek
<i>imm-fresnai</i>	imm-frith-√snī-	contend, dispute, disagree, gainsay
<i>ad-cota</i>	en-com-√tā-	get, obtain, procure
<i>fo-éitsi</i>	fo-in(de)-√tōsī-	understand

Only four composites out of 178 can be regarded as fully compositional:

- (a) *fo-tabair* (*fo-to-√ber-*) ‘place **under**’;
- (b) *fris-tabair* (*frith-to-√ber-*) ‘set **against**, oppose’;
- (c) *imm-tabair* (*imm-to-√ber-*) ‘carry **round**, surround’;
- (d) *con-ricc* (*com-ro-√icc-*) ‘meet, encounter, join’.

Under example (40), I already discussed composites (a)–(c): they contain *to-* ‘to, toward’ as an IP, which provides a deictic orientation to the verb base, and a further spatial specification as an EP. As regards composite (d), the root *√icc-* belongs to a motion verb, the IP *ro-* emphasizes the Path of motion, and the EP *com-* expresses togetherness.

4.4. Summarizing the meanings of preverbs in multiple preverb combinations

Table 51 summarizes the different meanings of Old Irish multiple preverbs. Each meaning is exemplified at least by one composite; if the same meaning is expressed by preverbs

occurring both in exterior and interior position, a relevant example for each position is provided. A number of semantic shifts displayed in Table 51 are discussed in Sections 4.1, 4.2, and 4.3.

Table 51. The meanings of Old Irish multiple preverbs

<i>Preverb</i>	<i>Meaning</i>	<i>Example</i>
<i>ad-</i>	to (Goal)	<i>to-ad-√ell-</i> ‘come to’
	to (Recipient)	<i>ad-uss-√ber-</i> ‘offer up, sacrifice’
	to (Addressee)	<i>imm-ad-√glādī-</i> ‘address each other’
	to (Stimulus)	<i>frith-ad-√kwis-</i> ‘look forward to’
<i>air-</i>	before (Goal)	<i>to-air-in(de)-√reth-</i> ‘run about (back & forth)’
	before (Time)	<i>to-air-fo-√can-</i> ‘foretell’
	again	<i>air-uss-√ding-</i> ‘build up, restore, refresh’
	back, away	<i>air-in(de)-√gabi-</i> ‘avoid’
	for (Beneficiary)	<i>air-fo-√cēllā-</i> ‘take care of’
	for (Purpose)	<i>air-ne-√guid-</i> ‘pray’
	resultative intensive	<i>air-fo-√em-</i> ‘accept, receive’ <i>air-di-√ben-</i> ‘cut off, destroy’
<i>aith-</i>	again	<i>aith-ess-√rig-</i> ‘repeat, reiterate’
	back	<i>to-aith-√cori-</i> ‘return’
	intensive	<i>aith-com-√ben-</i> ‘wound’
<i>com-</i>	with (Comitative)	<i>com-en-√tēg-</i> ‘go with’
	togetherness	<i>com-to-air-√sistā-</i> ‘remain constant’
	inchoative, ingressive	<i>com-uss-√anā-</i> ‘cease, stop’
	completion	<i>com-to-√sow-</i> ‘convert, change’
<i>di-</i>	away from (Source)	<i>dī-fo-√nig-</i> ‘wash away’
	aside (Goal)	<i>dī-en-√ell-</i> ‘turn aside’
	out of (a group)	<i>dī-ro-uss-√schochī-</i> ‘stand forth, distinguish oneself’
	from (Origin)	<i>dī-uss-√gell-</i> ‘purchase’
	because of	<i>dī-ro-√coin-</i> ‘despair of’
	completely	<i>eter-dī-√ben-</i> ‘destroy’
<i>ess-</i>	out of (Source)	<i>to-ess-√brenn-</i> ‘spring out of, gush’
	away from (Source)	<i>ess-com-√lu-</i> ‘depart, escape’
	off	<i>to-ess-√ben-</i> ‘cut off’
	beyond (cf. Lat. <i>ex-</i>)	<i>ess-in(de)-√gabi-</i> ‘exceed, surpass’
	metaph. ‘out of’ (an EVENT; cf. Lat. <i>di-</i>)	<i>ess-com-dī-√logī-</i> ‘interrupt’
	metaph. ‘out of’ (BODY = CONTAINER)	<i>rem-ess-√ber-</i> ‘tell before’
	out of (a group) away from (absent)	<i>to-ess-√glenn-</i> ‘pick out’ <i>to-ess-√tā-</i> ‘be absent’
<i>eter-</i>	between, inside (cf. Lat. <i>intro-</i>)	<i>eter-dī-en-√kwis-</i> ‘introspect’
	among, completely	<i>to-eter-√reth-</i> ‘encompass, comprehend’
	completely (cf. Lat. <i>inter-</i>)	<i>eter-dī-√ben-</i> ‘destroy’
<i>fo-</i>	under (Goal)	<i>fo-to-√ber-</i> ‘bring under’
	under (as a support)	<i>fo-dī-√gnī-</i> ‘be sufficient’
	under- (cf. Engl. <i>under-stand</i>)	<i>fo-in(de)-√tōsī-</i> ‘understand’
	under (at a lower level)	<i>fo-ad-√can-</i> ‘accompany in song’
	sub- (cf. Engl. <i>sub-divide</i>)	<i>com-fo-√dāli-</i> ‘subdivide and share jointly’
	behind	<i>fo-ad-√gabi-</i> ‘leave behind’
	secretly	<i>fo-com-√snī-</i> ‘steal’

	in the place of	<i>fo-to-ad-ro-√icc-</i> ‘sub-stitute’
	lacking control	<i>fo-in(de)-ad-ro-uss-√ben-</i> ‘be relegated, be sub -jected’
	impact, collision, attack	<i>fo-uss-√anā-</i> ‘perturb, disturb’
	completion	<i>to-fo-√ben-</i> ‘cut down’
<i>for-</i>	over (Location; cf. Lat. <i>super-</i>)	<i>for-di-uss-√reth-</i> ‘remain over’
	over, beyond (Goal)	<i>for-di-√reth-</i> ‘go over’
	over (protection)	<i>to-for-ad-√kwis-</i> ‘look down on, guard’
	over (Area)	<i>com-for-aith-√mani-</i> ‘commemorate’
	having control	<i>for-com-√gari-</i> ‘order, command’
	for (Purpose)	<i>for-com-√ow-</i> ‘keep, retain for’
<i>frith-</i>	against	<i>frith-to-√ber-</i> ‘set against’
	expectation, hope	<i>frith-ad-√kwis-</i> ‘hope’
<i>íarm-</i>	after	<i>to-íarm-fo-√reth-</i> ‘follow’
<i>imm-</i>	around (Goal)	<i>imm-to-√ber-</i> ‘carry around’
	metaph. ‘around’	<i>imm-fo-√gnī-</i> ‘be construed with’ (grammar)
	all around (cf. Lat. <i>circum-</i>)	<i>imm-di-√ben-</i> ‘cut off around’
	around-thoroughly	<i>imm-ad-√kwis-</i> ‘examine’
	reciprocal	<i>imm-to-√scarā-</i> ‘struggle one another’
<i>in(de)-</i>	in(to) (Goal)	<i>in(de)-uss-√tēg-</i> ‘enter into’
	in(to) (Addressee)	<i>to-in(de)-√can-</i> ‘chant to’
<i>-ne-</i>	down	<i>aith-ni-√sed-</i> ‘await’
<i>rem-</i>	forth	<i>rem-ess-√cid-</i> ‘stretch forth’
	before (Time)	<i>rem-ess-√ber-</i> ‘say beforehand’
<i>ro-</i>	forward (Path)	<i>com-ro-√icc-</i> ‘meet’
	forth	<i>di-ro-uss-√schochī-</i> ‘stand forth, distinguish oneself’
	intensive (‘loudly’)	<i>di-ro-√coin-</i> ‘despairs of’
<i>sechmo-</i>	beyond (also metaph.)	<i>sechmo-in(de)-√ell-</i> ‘bypass, neglect’
<i>to-</i>	to, toward (Goal)	<i>to-di-√fēd-</i> ‘lead, bring’
	to (Addressee)	<i>to-in(de)-√can-</i> ‘chant to’
	to-reversative (Recipient)	<i>to-ad-√selbī-</i> ‘assign’
	reversative	<i>frith-to-√tēg-</i> ‘come against’
	completion	<i>to-ess-√ben-</i> ‘cut off’
<i>-uss-</i>	upward	<i>to-uss-√gabi-</i> ‘raise to’
	up (removing an obstacle)	<i>aith-uss-√lēcī-</i> ‘open’
	up, out of (a group)	<i>rem-uss-√tēg-</i> ‘pre-elect’
	upon (as in <i>come upon</i>)	<i>in(de)-uss-√tēg-</i> ‘come upon’
	up (excitement)	<i>to-di-uss-√rig-</i> ‘excite’

5. The syntax of multiple preverb composites

As discussed in Sections 1.2 and 4, Old Irish preverbs are much more advanced in their lexicalization process than their Vedic and Homeric Greek counterparts. In addition, a number of Old Irish preverbs, specifically *ro-*, *ad-*, *com-* (and more marginally others), also show a parallel development: specifically, they underwent full grammaticalization into aspectual markers, alongside with functioning as lexical modifiers in word-formation.

Because of their advanced lexicalization and grammaticalization, the meanings and behavior of preverbs considerably diverge from those of the etymologically related prepositions (cf. Dickey 2012, who addresses Slavic preverbs that behave this way as ‘orphan prefixes’; cf. Chapter 5, Section 1.1). In turn, Old Irish prepositions are also quite grammaticalized, and Old Irish prepositionless cases retain but a very limited ability of expressing semantic roles (cf. Section 1.2.2). These issues are addressed in this Section, relating to preverbs occurring in multiple preverb composites.

5.1. *No alternative constructions to multiple preverb composites*

By rearranging the elements that constitute a multiple preverb composite in a different order, one obtains in a construction that is still grammatical, but carries a different meaning. Put another way, the construction with multiple preverbs cannot freely alternate with a construction displaying a single preverb composite and a PP. This is shown in (49)–(50) with *fris-tabair* (*frith-to-√ber-*) ‘set against’, as opposed to *do-beir* ‘give’ taking the PP *fri*+ACC (example (49) is also stylistically marked, as it contains a so-called *figura etymologica*: *fritabar* ‘opposition’ is the verbal noun associated with *fris-tabair*).

- (49) *do-nd* *fritobairt* *maill* *fri-ta-taibret*
 from-ART.DAT.F opposition(F).DAT slow.DAT.F **against**-.3PL.ACC-set.PRS.3PL
na-dorche *do=n-soilsi*
 ART.NOM.PL.N-dark.NOM.PL to=ART.DAT.F-light(F).DAT
 ‘From the slow opposition with which the darknesses oppose themselves to the light...’ (Sg.183b3)
- (50) *con-ducthar* *nomen* *fri-s*.
 until-give. SBJV.PRS.SG.PASS name.NOM against-ACC.3SG.M/N
 ‘(The possession is indefinite...) until a name is put beside it.’ (Sg.200b13 = (11))

For another composite containing the sequence of preverbs *frith-to-*, alternative constructions as those presented above are grammatical, but express two different

meanings: the multiple preverb composite *fri·taít* (*frith-to-√tēg-*) retains the more compositional meaning of ‘come against, oppose’ (51), whereas the reduced composite *do·tét* ‘come’ in combination with *fri*+ACC develops the lexicalized meaning of ‘go with, apply to, be construed with (grammar)’ ((52); cf. also Ml.53a8, Sg.158a3, 158a4, 159a3, 213a10).

- (51) *.i. co-nna bí ní frestai*
 i.e. so_that-CONJ.NEG EX.PRS.3SG INDF.NOM oppose.SBJV.3SG
á mes ón
 3SG.GEN.M/N evaluation.ACC DEM.N

‘I.e. so that there is nothing which opposes its evaluation.’ (Ml.31d6)

- (52) *.i. ní=taet chomsuidigud fri-u*
 i.e. NEG=come.PRS.3SG composition.NOM against-3PL.ACC
in nominativo nisi in paucis
 in nominative.ABL if_not in few.ABL.PL

‘I.e. except in a few instances, there is no composition with them in the nominative.’ (Sg.197a4)

Another interesting case is the composite *do·intai* (*to-in(de)-√sow-*), which can retain a partially compositional meaning ‘turn back, return’ (Ml.54d3), as well as develop a non-compositional one ‘translate’ (example (53) below, Ml.3a13, 37a10, 89d6, 3a7, Sg.26b4, 20b10; cf. (44)). If one rearranges the elements of the composite into a different construction such as that in (54) with *soïd* and the PP *in*+DAT (with the IP employed as a preposition), one also obtains the new meaning of ‘transform x into y’.²³ Note that the comparison between the multiple preverb composite *do·intai* and the simplex verb *soïd* is allowed by the fact that the reduced composite **in(de)-√sow-* is not attested: as discussed in Section 2.3, this is connected with the fact that composites containing *to-* and lacking it are frequently near-equivalents.

²³ On the etymological and semantic linkage between the preposition *do* ‘to’ and the preverb *to-* ‘to, toward’, see Section 2.3, Stifter (2014), and references therein.

- (53) *cia=[a]s-id-ru-bart-sa* *nad=*
 although=P-3SG.N-AUG-say.PRF.1SG-EM.1SG CONJ.NEG=
tintae-siu *a=llatin* *do=gregaib·*
 translate.SBJV.PRS.2SG-EM.2SG from=L.DAT to=G.DAT.PL
 ‘Although I have said you should not translate out of Latin for Greeks.’ (Ml.3a15)
- (54) *r-a-soisit-si* *ón* *i-ngoi* *7* *an-fír*
 AUG-3SG.N-turn.PRF.2PL-EM.2PL DEM.N in-falsehood.ACC and un-true.ACC.N
 ‘(After I had chosen you in passing righteous judgment upon all,) you have turned it into falsehood and untruth.’ (Ml.103c15)

Thus, the lexicalization undergone by preverbs leads them to follow divergent paths from those covered by the corresponding prepositions. For example, *as-ingaib* ‘go beyond, surpass’ is a non-compositional composite, made up by *ess* ‘out of’ + *ind(e)* ‘into’ + \sqrt{gabi} ‘grasp’ (cf. *in-gaib* (*ind(e)-\sqrt{gabi}*-) ‘reproach, reprove’; *gaibid* ‘grasp, reach, go’). The EP *ess-*, if used as a preposition (*a*), takes the dative case and indicates Source. The PP that means ‘beyond, across, over’ is instead *sech(mo)/tar*+ACC (eDIL.ie/36742; eDIL.ie/40049; Vendryes 1923: 147).

5.2. Preverb repetition

Apart from the prepositionless accusative, which regularly expresses Goal with a number of very frequent motion verbs including *téit* ‘go’, prepositionless cases are only residually used to express semantic roles in Old Irish (cf. Section 1.2.2). In parallel, Old Irish prepositions function as heads of the phrases in which they occur (on the notion of head within PPs, cf. Chapter 2, Section 1.3). Case alternation is meaningful only with the prepositions *air* ‘before, for’, *fo* ‘under’, *for* ‘on, over’, *in(de)* ‘in(to)’ and distinguishes Goal from Location.

Given the situation just outlined, it is not surprising that preverbs are frequently repeated outside the preverbal context as prepositions, as in (55)–(56) below.

- (55) *doroscither* *dano diib*
stand_forth.PRS.3SG.PASS also of.DAT.3PL
‘He is also distinguished from them.’ (Ml.107b5; Lat. *prae-ponere*)
- (56) *fris-tait* *fris-[s]om*
against-come.PRS.3SG against.3SG.ACC-EM.3SG
‘who opposes him’ (Ml.23c11; Lat. *ad-versarii*:GEN)

In (55), the EP of *do-róscai* (*di-ro-uss-√scōchī-*) ‘stand forth, distinguish oneself from’ also occurs as a conjugated preposition, i.e. *diib* (cf. further Ml.119d3; the same composite can also take *sech(mo)+ACC*, as in Ml.84b1). Example (56) contains the composite *fris-tait* (*frith-to-√tēg*) ‘come against’; its EP *frith-* is also repeated as a conjugated preposition in *fris* (cf. also Ml.17c5, 140b6).²⁴

As clearly shown by (56), the EP can be repeated outside the preverbal context, even though its meaning is not bleached. Given the advanced grammaticalization of prepositions, preverbs are arguably not repeated only to avoid semantic ambiguity, as for example in Homeric Greek (Chapter 4; Zanchi 2017); rather, prepositional phrases are virtually the exclusive means that Old Irish employs to express semantic roles.

5.3. *Preverbs as modifiers of verb argument structure*

As pointed out by Vendryes (1923: 241), Old Irish preverbs mainly carry out the function of modifying lexically the meaning of the verbal bases onto which they attach: so, for example, *ad-cí* (*ad-√cī/kwis-*) means ‘see’ (the root *√cī/kwis-* is only attested in composition; cf. Table 43), whereas *fris-accai* (*frith-ad-√kwis-*) ‘look forward to, expect, hope’, after the addition of *frith-* ‘against’. Both the single preverb and the multiple preverb composites are transitive. Similarly, *scuchaid*, *scuichid* ‘go, move’ is a motion/caused motion verb that takes the accusative of the moved TR, and various PPs indicating the Goal of motion (LM). The derived composite *con-oscaigi* (*com-uss-√scochī-*) develops a

²⁴ The composite *fris-tait* can also be employed as a lexicalized transitive verb with the direct object (cf. example (51)). However, the prepositionless accusative is possibly an innovation rather than a residual usage.

different meaning ‘move, change, remove, shake, upset’ (cf. example (44)), but is constructed in a similar way, in that it is accompanied by the direct object in the accusative, and different PPs expressing Goal (including *i*+DAT, *imm*+ACC, and *tre*+ACC).

However, it is not infrequent that Old Irish preverbs bring about semantic changes that have the side-effect of transitivity peripheral arguments. In other words, Old Irish preverbs can function as applicatives (on applicatives from a typological perspective, cf. Austin 1997; Shibatani 2000; and Peterson 2007). A first couple of relevant examples contains the intransitive motion verb $\sqrt{c\acute{e}ll\acute{a}-}$ ‘go around’. When this root is compounded with preverbs, it results in transitive composites such as *imm-timchella* (*imm-to-imm- $\sqrt{c\acute{e}ll\acute{a}-}$*) ‘surround’ and *do-imchella* (*to-imm- $\sqrt{c\acute{e}ll\acute{a}-}$*) ‘surround, encompass’.²⁵

The root $\sqrt{r\acute{e}th-}$ is also intransitive and indicates a manner of motion verb: *rethid* ‘run’ takes various PPs expressing the Goal of motion such as *sech(mo)*+ACC (MI.120b2 = (57)) and *in(de)*+ACC (MI.138d6). If modified by various preverbs, it turns into the transitive composite *do-íarmórat* (*to-íarm-fo- $\sqrt{r\acute{e}th-}$*) ‘follow, come/go after’ (58).

- (57) *air-ní-derb* *lin-nai* *etarcnae*
 for-NEG-certain.NOM.N beside.1PL.ACC-EM.1PL knowledge.NOM
inna-lloc *sech* *a* *retham*
 ART.GEN.PL-place.GEN.PL beyond REL.PTC run.PRS.1PL
 ‘For the knowledge of places past which we run is not certain to us.’ (MI.120b2)

- (58) *co-ndermanammar-ni* *inna-inned-sin*
 so_that-forget.SBJV.PRS.1PL-EM.1PL ART.ACC.PL-tribulation.ACC.PL-DEM
im-biam *i-sind-laithiu* *tri-chumsanad* *inna*
 in-EX.PRS.1PL in-ART.DAT-day.DAT through-resting.ACC ART.GEN
aidche *do-d=iarm-o-rat*
 night.GEN P-3SG.ACC.N=P-P-follow.PRS.3SG
 ‘So that we may forget those troubles in which we are in the day through the repose of the night that follows it.’ (MI.21c3)

²⁵ The composite *imm-cella* (*imm- $\sqrt{c\acute{e}ll\acute{a}-}$*) ‘surround’ is also attested in the *Milan Glosses* (MI.67d12), but is infrequent, and used without an overt second argument.

In (57), the simplex verb *retham* takes the PP *sech(a)* expressing the Goal of motion, whereas the composite *do-d-iarmorat* contains the third person singular infixed pronoun *-d-* functioning as a direct object.

The posture verb $\sqrt{\text{sed-}}$ ‘sit’ behaves the same: the simplex verb *saidid* ‘sit’ is intransitive, and takes different PPs indicating Location such as *for*+DAT (59). After the addition of the preverbs *air-ne-*, the meaning of the verb is changed from sitting to waiting for (*ar-neät* (*aith-ni- $\sqrt{\text{sed-}}$*) ‘before-down-sit’ → ‘expect, await’), and accordingly the composite becomes transitive (60).

(59) *is do saidi-siu for=hirubinaib*
 be.PRS.3SG to.3SG.N DAT. sit.PRS.2SG-EM.2SG over=C.DAT.PL
 ‘It is for this that you sit on the Cherubim.’ (Ml.101c6-7)

(60) *ar-ro-t=ne-ithius sa-du-m-fortacht a-dáe*
 before-AUG-2SG=down-sit.PST.1SG EM.1SG-to-1SG.GEN-helping.DAT PTC-God.VOC
 ‘I awaited you to help me, o God.’ (Ml.46b20)

In (59), the PP *for=hirubinaib* plays the role of Location in combination with the simplex verb form *saidi*, whereas in (60) the composite *arro-t=neithius*, the infixed pronoun *-t=* expresses the direct object (on the relative position of the agument *-ro-* and the lexical preverbs in the perfect of *ar-neät*, see the discussion under example (27)).

6. Preverb ordering

A number of Old Irish preverbs only rarely occur in multiple preverb composites. In particular, preverbs that are instantiated in less than 10 combinations are the following: *aith-* ‘re-, ex-’, *eter-* ‘between, among’, *for-* ‘on, over’, *frith-* ‘against’, *íarm-* ‘after’, *ne-* ‘down’, *rem-* ‘before, pre-’, *sechmo-* ‘past, beyond’, and *tre-* ‘through’. For this reason, it is difficult to provide conclusive quantitative data on preverb ordering. These data are nevertheless displayed in Table 52, which must be looked up with this caveat in mind.

Table 52 reports the positioning of Old Irish preverbs, and their frequencies. The sum of frequencies of all positions (exterior, medial, and interior) gives the total number of preverb combinations containing a certain preverb. Medial position is regarded so as to include McCone's (1997, 2006) second, third, and fourth positions (cf. Table 53 and Table 54), that is, all positions other than the exterior and the interior ones in combinations that contain more than two preverbs. Second, third, and fourth positions can be treated together, as not many composites include more than three preverbs: thus having more than one MP is relatively infrequent (cf. Section 2.3). In Table 52, only the reconstructed form of preverbs is reported (cf. Section 3.1 on the changes undergone by preverbs occurring in different positions). This choice is based on McCone's (1997, 2006): reporting the same form for preverbs as McCone facilitates the comparison between his hierarchy (Table 53) and the data of this study (Table 54).

Table 52. The positioning of Old Irish preverbs and their frequencies

<i>Preverb</i>	<i>Interior</i>	<i>Medial</i>	<i>Exterior</i>
<i>ad</i>	8 (35%)	8 (35%)	7 (30%)
<i>air</i>	6 (40%)	3 (20%)	6 (40%)
<i>aith</i>	3 (60%)	0	2 (40%)
<i>com</i>	12 (46%)	2 (8%)	12 (46%)
<i>di</i>	9 (38%)	8 (33%)	7 (29%)
<i>ess</i>	7 (50%)	1 (7%)	6 (43%)
<i>eter</i>	2 (67%)	0	1 (33%)
<i>fo</i>	10 (40%)	2 (8%)	13 (52%)
<i>for</i>	1 (13%)	2 (26%)	5 (61%)
<i>frith</i>	1 (17%)	0	5 (83%)
<i>íarm</i>	0	1 (50%)	1 (50%)
<i>imm</i>	4 (23%)	3 (18%)	10 (59%)
<i>in(de)</i>	15 (66%)	4 (17%)	4 (17%)
<i>ne</i>	1 (100%)	0	0
<i>remi</i>	0	0	6 (100%)
<i>ro</i>	10 (71%)	4 (29%)	0
<i>sechmo</i>	0	0	1 (100%)
<i>to</i>	6 (12%)	14 (29%)	29 (59%)
<i>tre</i>	1 (100%)	0	0
<i>uss</i>	19 (100%)	0	0

As Table 52 shows, not all preverbs can occur in all positions: *íarm*- 'after', *remi*- 'before, pre-', and *sechmo*- 'past, beyond' are never interior, whereas *ne*- 'down', *ro*- (etym.) 'forth', *tre*- 'through', and *uss*- 'up, off' are never exterior. Other preverbs have

clear, though not absolute, positional properties: *imm-* ‘about, mutually’, *eter-* ‘between, among’, *for-* ‘on, over’, *frith-* ‘against’, and *to-* ‘to, toward’ tend to occur in the exterior position, whereas *in(de)-* ‘in(to)’ preferably selects the interior position. The positional properties of a number of preverbs are instead unclear: *ad-* ‘to, toward’, *air-* ‘before, for’, *aith-* ‘re-, ex-’, *com-* ‘with’, *di-* ‘of, from’, *ess-* ‘out of’, and *fo-* ‘under’.

6.1. McCone’s hierarchy of preverb ordering

In his monography on the early Irish verb, McCone (1997) tried to draw generalizations on Old Irish preverb ordering in primary composition, resulting in Table 53. The hierarchy of Table 53 represents the relative positional properties of preverbs to one another and not the position of preverbs with respect to the verbal base. Specifically, McCone assigns each preverb a positional slot from 1 to 5, whereby 1 represents the outermost and 5 the innermost position relative to the verbal base. Importantly, preverbs grouped within the same slot are not necessarily equivalent as regards their positioning: simply, their relative ranking cannot be determined due to contradictory or insufficient evidence (McCone 1997: 94).

Table 53. Relative ordering of Old Irish preverbs in primary composition

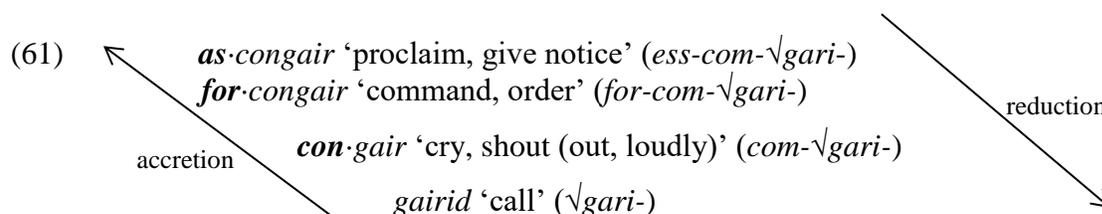
1	2	3	4	5	6
<i>to</i> ‘to, toward’	<i>for</i> ‘on, over’ <i>frith</i> ‘against’ <i>eter</i> ‘between, among’ <i>imm</i> ‘about, mutually’	<i>ad</i> ‘to, toward’ <i>aith</i> ‘re-, ex-’ <i>air</i> ‘before, for’ <i>di</i> ‘of, from’ <i>ess</i> ‘out of’ <i>fo</i> ‘under’ <i>in(de)</i> ‘in(to)’	<i>com</i> ‘with’ <i>ro</i> (etym.) ‘forth’	<i>uss</i> ‘up, off’ <i>ne</i> ‘down’	verbal base

According to this ranking, there are preverbs that tend to select the exterior position (1–2), specifically, *to-* ‘to, toward’, *for-* ‘on, over’, *frith-* ‘against’, *eter-* ‘between, among’, and *imm-* ‘about, mutually’; by contrast, the interior position (4–5) is the favorite one for *com-* ‘with’, *ro-* (etym.) ‘forth’, *uss-* ‘up, off’, and *ne-* ‘down’. Medial position (3) is selected by *ad-* ‘to, toward’, *aith-* ‘re-, ex-’, *air-* ‘before, for’, *di-* ‘of, from’, *ess-* ‘out of’, *fo-* ‘under’,

and *in(de)-* ‘in(to)’. These data are roughly consistent with mine, except for the positioning of *com-*, which is preferably interior according to McCone, whereas it does not seem to favor either placement in the composites from the *Milan* and *Priscian Glosses*.

In order to explain the numerous exceptions to the hierarchy just outlined, McCone takes into account deviations due to calques from Latin (McCone 1997: 94, 2006: 178–179; Sections 2.4 and 6.3). In addition, he distinguishes two layers of composition, which he calls ‘primary’ and ‘secondary composition’. According to McCone (1997: 95), “primary composition presumably reflects an older stage at which the hierarchy in [Table 53] was still operative and [simultaneous] compounding with up to three or four preverbs was still an active process, whereas secondary composition belongs to a later stage in which one of a restricted range of preverbs could be prefixed where appropriate to inherited compounds now perceived as relatively inflexible units.” More explicitly, McCone (1997: 94) writes that “the term secondary composition refers here to the prefixing of a preverb to a pre-existent compound treated as a single unit without regard to the above sequence.”

However, the assumption of a clear-cut differentiation between two layers of composition has been challenged by Rossiter (2004) to the point that even McCone (2006: 180 ff., 187 f.) changed his mind. Rossiter (2004) shows that the majority of Old Irish composites can be reduced by successively removing the outermost preverb. The possibility of reduction mirrors the fact that multiple composition was probably an incremental process throughout the prehistory of Old Irish, which McCone accordingly names ‘recomposition’ or ‘accretion’, as represented below (cf. further Section 1.1, 2.3, and examples therein):



6.2. *Preverb ordering in the Milan and Priscian Glosses:
against McCone's generalizations*

Table 54 shows preverb combinations attested in composites occurring in the *Milan* and *Priscian Glosses* arranged as in McCone's hierarchy (cf. Table 53). The rightmost column of Table 54 shows whether a given combination is consistent with the mentioned hierarchy or not: the sign + stands for a positive response, the sign - for a negative one, whereas *nd* means that the given combination contains a preverb that McCone does not take into consideration.

As shown in Table 54, out of 115 combinations, 27 are not consistent with McCone's hierarchy. This means that 69 out of 178 composites do not conform to McCone's preverb ordering outlined in Table 53 (McCone 1997, 2006). The combinations/composites can be inconsistent in the following respects: (a) the preverb *to-* 'to, toward' is medial/interior and not exterior (e.g. *ad-to-fo-*; *com-to-eter-*; *fo-to-ad-ro-*; *frith-to-fo-*; *imm-to-*); (b) the preverb *com-* 'with' is exterior rather than interior (e.g. *com-fo-*); (c) the preverb *di-* is more interior than *com-* in the combination *ess-com-di-* (cf. also Section 2.3 on preverb combinations).

Deviations (a) and (b) can frequently, though not exclusively, be explained as calques from Latin, as shown in (62).

(62) a. Type (a) deviations

OIr. <i>fo-to-√ber-</i>	place under	Lat. <i>sub-ducere</i>
OIr. <i>imm-to-√ber-</i>	carry round, surround	Lat. <i>circum-dare</i>
OIr. <i>com-to-eter-√reth-</i>	comprise, comprehend	Lat. <i>com-prehendere</i> ²⁶
OIr. <i>frith-to-fo-√rindā-</i>	mark off, trace (a limit)	Lat. <i>ob-signare</i> ²⁷

b. Type (b) deviations

OIr. <i>com-fo-√ferā-</i>	provide	Lat. <i>com-parare</i>
---------------------------	---------	------------------------

²⁶ Note that the reduced composite lacking *com-* is nearly equivalent, as shown by the fact that it also translates Latin *com-prehendere* (*to-eter-√reth-* 'comprehend, grasp, overtake', Lat. *in-cludere*, *com-prehendere*; cf. Table 45).

²⁷ Cf. the reduced composite lacking the EP: *to-fo-√rindā-* 'express, signify', Lat. 'significare, distinguere'.

Type (a) and (b) deviations that cannot be explained by means of Latin influence can be accounted for in different ways. For example, *ad-to-* instantiates type (a) deviation, with *to-* interior rather than exterior. The combination of two near-synonymic preverbs such as *ad-* ‘to, toward’ and *to-* ‘to, toward’ (two Goal-preverbs) results in an iterative meaning. Accordingly, this combination consistently translates Latin *re-*: e.g. ***ad-to-air-√ber-*** ‘bring back, delivers again’, Lat. *re-digere*; ***ad-to-fo-√rindā-*** ‘prick again’, Lat. *re-pungere*.²⁸

The composite ***con-dieig (com-di-√sag-)*** ‘ask, seek, demand’ instead contains a type (b) deviation. In this formation, the exterior *com-* can be considered a later addition to a preexisting **di-saigid*, which can be assumed on the basis of the Old Irish attested forms *i ndegaid* ‘(in quest of,) after’, and the verbal noun *saigid* ‘seeking, aiming at’ and its compounds (McCone 1995: 157, 2006: 180). In addition, as shown in Section 4.3, discussing example (47), the Source meaning of the IP *di-* is consistent with the semantics of the verbal base *√sag-* ‘ask’: this semantic solidarity also contributes to explaining the interior position of *di-*, the early reanalysis of **di-saigid* as a single lexical unit, and the subsequent addition of a further preverb, i.e. *com-* ‘with’. The composite ***con-immchloí (com-imm-√clow-)*** ‘change’ can be similarly accounted for. Specifically, the EP *com-* appears to be a later addition to an existing *imm-cloí* ‘change’, which came early to be perceived as a single lexical unit by virtue of the semantic solidarity between its two components: *imm-* ‘around, about’ and *√clow-* ‘turn’. In general, it seems that *com-* has long remained available for composition and recomposition, possibly also because it was particularly prone to be equated to Latin *con-*, given their formal and semantic similarity (McCone 2006: 178–179).

Type (c) deviations, that is, the interior positioning of *di-* in the combination *ess-com-di-*, instantiated by the composite ***as-cuindligi (ess-com-di-√logī-)*** ‘disrupt’ can also be explained by virtue of the frequent recomposition with *com-*. In ***ess-com-di-√logī-***, the EP *ess-* ‘out of’ (Source-preverb) is possibly a calque from Latin *di-rumpere*, in which *di-* is also a Source-preverb. Once *ess-* is removed, the MP *com-* can be then equated to Latin *con-* expressing completion: ***di-√logī-*** (lit.) ‘put away’ → ‘forgive’ acquires a telic nuance after the addition of *com-* (‘completion+put away’ → ‘disrupt’).

²⁸ Cf. fn. 27.

6.3. *An integrated account of preverb ordering*

Preverb ordering in Old Irish is thus motivated by different factors. As discussed in Sections 2.4 and 6.2, the Latin source text is one such factor. A number of EPs, especially but not exclusively those that do not conform to McCone’s hierarchy (1997), can be accounted for as calques from Latin: as the Latin preverb is attached to a simplex verb, Old Irish EPs appear to be later additions to an already lexicalized composite, i.e. to a morphological formation perceived as a single (i.e. simplex) lexical unit. A particularly clear example for that is the series of composites built on *do·beir* ‘give, place’ shown in (63) (cf. further McCone 2006: 178):

(63) Multiple preverb composites built on *do·beir* ‘give, place’

<i>*b^her-</i>	<i>beirid</i> → <i>do·beir</i>	→	<div style="display: inline-block; vertical-align: middle;"> <div style="font-size: 2em; vertical-align: middle;">{</div> <div style="display: inline-block; vertical-align: middle; padding-left: 5px;"> <p><i>fo·tabair</i> ‘under-give’; cf. Lat. <i>sub-dare</i></p> <p><i>fris·tabair</i> ‘against-give’; cf. Lat. <i>ob-dare</i></p> <p><i>imm·tabair</i> ‘around-give’; Lat. <i>circum-dare</i></p> </div> </div>
‘carry, bring’	‘bring’	‘to-bring’	

Further motivations behind preverb ordering are specific paths of development undergone by specific Old Irish preverbs. For example, apart from the exceptions described in Section 6.2, the preverb *to-* ‘to, toward’ is especially notorious for being exterior: in the *Milan* and *Priscian Glosses*, 30 out of a total of 116 combinations include *to-* as EP. This positional behavior is arguably related to the etymology of *to-*: as shown by Stifter (2014), *to-* is probably the result of the coalescence of two distinct Old Irish forms, specifically the preposition **to₁-* ‘back, re-’ (cf. ?Lyd. *ta-* < PIE **tó₁* ‘to’; LIPP II: 772, Stifter 2014: 237, and references therein) and the clausal connector **to₂-* (cf. Hitt. *ta-* ‘then’ < PIE **tó₂*; LIPP II: 775, and references therein). The former explains part of the meanings expressed by *to-* (Section 4.1), whereas the latter accounts for its tendency to occur as EP and to retain this status (cf. Section 2.3). As Old Irish is a VSO language (cf. Section 1); thus, if a preverb functions as EP, this basically implies occurring in clause initial position, which is also the typical placement for clausal connectors.

Similarly, the exclusively EPs *íarm-* ‘after’, *rem-* ‘before, pre-’, and *sech(mo)-* ‘beyond’ are secondary formations, made up by an originary spatial adverb or a pronominal stem and a suffix *-mi*, *-mo*, *-mu*, *-ma*. A development of PIE **epi* possibly lies behind Old Irish *iar-* (cf. GOI: 516; LIPP II: 294); the preverb *rem-* is probably connected with Latin *prior*, *prius* ‘former’, and thus with PIE **pr-ō̄* (allative), **pr-í* (locative), and **pr-* ‘forward, forth’ (LIPP II: 633 ff.). If so, the *-m-* of *rem-* might go back to the superlative form **prisamo-* (cf. Lat. *prīmus* ‘first’). The preverb *sech(mo)-* is related to Latin *secus* ‘beside, otherwise’. According to LIPP II (758), the Latin and Old Irish formations both go back to the reflexive pronominal stem **sue-*. Whatever their etymologies are, the later formation of these preverbs arguably contributes to explaining their exterior positioning, and their low degree of semantic bleaching.

To sum up, calquing from Latin and the specific developments of some preverbs shed some light on the motivations for their exterior placement. Instead, what are the reasons behind the interior placement of certain other preverbs? Arguably, preverb ordering is ruled by the following principle: the higher the semantic solidarity between a preverb and the verb, the closer that preverb occurs with respect to the verb. This sets out what I call ‘redundancy principle’; such a tendency ruling preverb ordering recalls Bybee’s (1985) ‘order’ and ‘relevance principle’, as is previously discussed (cf. Chapters 3, 4, and 5). However, in the case of preverbs, the meaning of IPs is so close that it may come to overlap with that of the verbal bases: semantic closeness implies redundancy rather than relevance for preverbs. Therefore, the composite is prone to be reanalyzed as a single lexical unit, due to the semantic overlap among its parts.

Clear examples for this redundancy principle are offered by the non-reducible preverbs *-ne-* ‘down’ and *-uss-* ‘up, off’, as shown in (64).

- (64) a. *do·foscart(a)* (*di-uss-√scart(ā)-*) ‘remove, put aside’ (up+remove)
 b. *remi-uicsed* (*rem-uss-√gus-*) ‘choose beforehand, pre-elect’ (up+choose)
 c. *ar·neät* (*aith-ni-√sed-*) ‘expect, await’ (down+sit)

In addition, both *-ne-* ‘down’ and *-uss-* ‘up, off’ are etymologically Path preverbs: as Path is not a particularly relevant component for the encoding of spatial relations, it is infrequent that Path-preverbs are further specified by additional PPs. This arguably constitutes another reason for their internal placement, and consequent reanalysis as part of the verbal base (the so-called ‘lower salience’ principle). Interestingly, Path is also the semantic role expressed by *ro-* (etym.) ‘forward, forth’ in its spatial and etymological meaning. Accordingly, *ro-* is strictly interior, and its Path meaning frequently overlaps with the meaning of the motion verbs onto which it attaches, as in examples (65):

- (65) a. *con·táirci* (*com-to-ad-ro-√icc-*) ‘confer’ (Path-P+reach)
 b. *fo·tairci* (*fo-to-ad-ro-√icc-*) ‘substitute, supply’ (Path-P+reach)
 c. *as·roinni* (*ess-ro-√snī-*) ‘escape’ (Path-P+turn)

The fact that, in Old Irish, preverbs are advanced in their lexicalization process complicates this analysis, as their precise semantic contributions are not always trivial to detect (cf. Section 4). However, when Old Irish composites at least partially retain their semantic compositionality, this tendency seems to be backed up. For example, a confirmation is found in the behavior of the preverbs that do not clearly select either the exterior or the interior position, such as *fo-* ‘under’:

- (66) a. Exterior *fo-*
fo·acain (*fo-ad-√can-*) ‘accompany in song’ [under+[sing to]]
fo·álgí (*fo-ad-√logī-*) ‘lay low, prostrate, throw down’ [under+[put to]]
 b. Interior *fo-*
con·fodlai (*com-fo-√dālī-*) ‘share jointly, divide, apportion’ [together[**sub**+divide]]
do·fuiben (*to-fo-√ben-*) ‘cut, cut down, cut out, destroy’ [completion[**sub**+cut]]

In (66)a, the EP *fo-* modifies the remaining composite as a whole: in both composites, the semantics of *ad-* ‘to, toward’, which indicates both Addressee and Goal, is closer to that of the verbal base than the semantics of *fo-*. By contrast, in (66)b, the IP *fo-* has a meaning

close to the verbal bases onto which it attaches, that is, $\sqrt{dālī}$ - ‘divide’ and \sqrt{ben} - ‘cut’. The EPs then modify the remaining composite as a whole: *com-* adds a meaning of togetherness, while *to-* expresses completion.

7 Comparison and concluding remarks

1. Multiple preverbs: differences among Vedic, Homeric Greek, Old Church Slavic, and Old Irish

1.1. Multiple preverbs in numbers: a comparison

Table 55 summarizes the quantitative data that I outlined in Chapters 3–6, Sections 2.

Table 55. Multiple preverbs in numbers: a general overview

LANGUAGE	COMPOSITES	HAPAXES	OCCURRENCES	VERBAL ROOTS	PREVERB COMBINATIONS
Vedic	116	88 (76%)	186	56	52
Homeric Greek	64	41 (64%)	138	43	31
Old Church Slavic	23	5 (21%)	363	10	15
Old Irish	178	61 (34%)	1240	43	116

In Vedic, most composites (88 out of 116) are hapaxes; conversely, only one composite, *ā ní √sad-* ‘sit down on, cause to sit down, establish’, occurs in more than 10 Ṛg-Vedic passages, and thus seems to make up a conventionalized unit. A deeper look at the data, however, reveals that only the IP-verb combination *ní √sad-* is kept in in the later language (on the semantic solidarity between *ní* ‘down’ and *√sad-* ‘sit’, cf. further Section 2.3 below). These data indicate a fluid system, whereby the internal dependencies between the elements making up the composite are still loose. This alleged lack of conventionalization is backed up by the fact that only 45 out of 118 composites are still attested in post-Ṛg-Vedic texts. In addition, most preverb combinations only modify one verb, with the notable exception of *abhí prá*, which is instantiated in no less than 14 composites.

The Homeric Greek situation is somewhat similar to that of Vedic. Once again, most composites (41 out of 64) occur only once in the poems. However, three of them, i.e. *eis-ana-bainō* ‘go upward to’, *eis-aph-iknéomai* ‘arrive at, come to’, and *hup-ek-pheúgō*

‘flee away secretly’, reach or surpass the threshold of 10 occurrences, which significantly contributes to increasing the number of the Homeric passages with multiple preverbs. In post-Homeric prose, only 21 out of 64 composites are still used; notably, one among the most frequent ones, specifically *eis-ana-bainō* ‘go upward to’, does not belong with this group, which suggest that frequent attestation does not necessarily correspond to high conventionalization. In Homeric Greek, two preverb combinations are notably frequent: *ex-apo-*, containing two Source-preverbs, which as such are particularly prone to undergo grammaticalization (cf. Zanchi 2017), and *para-ex-*, which make up a highly conventionalized double adverb and preposition in Homeric and post-Homeric Greek.

Old Church Slavic quantitative data suggest an opposite picture to what outlined above for Vedic and Homeric Greek. Old Church Slavic shows a relatively narrow set of multiple preverb composites, which are however instantiated in a far higher number of occurrences. Old Church Slavic data only include five hapaxes, which either (a) at least partially retain their compositional meaning (*iz-ob-rětati* ‘find out’, *prědъ-po-lagati* ‘distribute to’, *sъ-po-žiti* ‘live for a while with’, *sъ-prě-byvati* ‘remain together with’), or (b) contain the imperfectivizing suffix *-ova-*, which has no clearly distinct meaning from the far more frequent competing suffix *-aj-* (Chapter 6, Section 3.3); thus, such pairs as *pro-po-vědovati* ‘announce, proclaim’ and *pro-po-vědati* were rival composites, and only one variant later on survived. Notably, in hapaxes of the (a)-type, the EP has a direct Greek counterpart: *ex-*, *para-*, and *sun-*, respectively. All in all, Old Church Slavic later on conventionalized, or already shows an array of conventionalized, multiple preverb composites, which are partly still used with similar or less compositional meanings in nowadays Bulgarian (13 out of 23).

As discussed in Section 2 (Chapter 6), Old Irish displays a far more populated set of multiple preverb composites and occurrences than the other Indo-European languages of the sample. A relatively low number of verbal roots are contained in multiple preverbs composites, whereas the number of preverb combinations is high. This abundance of combinations is possibly due to the process of accretion or recomposition that lies behind these multiple preverb formations: many preverb combinations are identical to each other except for the EP. In addition, given the high number of occurrences with respect to

lemmas, given that more than 30 composites are attested in more than 10 passages, and given the relatively low number of hapaxes (61 out of 178 composites), the Old Irish system of multiple composition can be said to be quite conventionalized. Once again, these data confirm the Old Irish exceptional preference for this construction, already pointed out by Lewis & Pedersen (1961[1937]: 267) among others.

1.2. *Different degrees of univerbation, lexicalization, and grammaticalization*

Table 56 provides an overview of the semantic analyses outlined in Chapters 3–6, Sections 4.

Table 56. Semantic parameters: a general overview

LANGUAGE	MOTION/LOCATION ROOTS	FULLY COMPOSITIONAL	PARTIALLY COMPOSITIONAL	NON- COMPOSITIONAL
Vedic	26 (46%)	37 (32 %)	51 (44%)	26 (24%)
Homeric Greek	26 (60%)	23 (36%)	34 (53%)	5 (11%)
Old Church Slavic	3 (30%)	3 (12%)	10 (44%)	10 (44%)
Old Irish	19 (43%)	4 (2%)	110 (62%)	64 (36%)

With the exception of Old Church Slavic, most composites in each language are classified as partially compositional. Arguably, this results from two different factors. On the one hand, from preverbs' behavior itself: preverbs are polysemous elements (cf. Sections 4.4, Chapters 3–6), and as such they can simultaneously retain their basic and develop lexicalized meanings. On the other hand, partially compositional composites constitute the most heterogeneous group, including: (a) polysemous composites; (b) composites with redundant elements (semantic redundancy can hold between the two or more preverbs or between a preverb, most frequently the IP, and the verbal stem); (c) composites made up by elements whose semantically contributions are still traceable, certainly by the linguist and possibly by the speaker (cf. Sections 4.3 in Chapters 3–6).

As for the rest of composites, in the early attested varieties, i.e. Vedic and Homeric Greek, the number of compositional composites is higher than that of non-compositional ones. By contrast, for the later varieties, Old Church Slavic and Old Irish, the opposite is

valid. Notably, in Old Irish, the variety that extended the system of multiple preverbs far beyond the others (cf. Section 1.1 above and Chapter 6), the number of fully compositional composites is exceptionally low (only 4 out of 178).

The occurrence of a motion or location verb proper does not necessarily show *per se* the (low) degree of lexicalization for a number of reasons. First, the majority of non-motion and non-location roots can be assimilated to them, in that, in a non-spatial event, different types of metaphorical TRs can be located or directed toward many types of metaphorical LMs (cf. the discussions in Sections 2.2, Chapters 3–6). Second, the composites containing a motion or location verb proper can develop non-compositional meanings. In this respect, Old Irish is particularly instructive: see for example *ar-foichlea* (*air-fo-√cēllā-*) ‘look after, take care of, attend to’ (simplex *√cēllā-* ‘go around’), *sechmo-ella* (*sechmo-in(de)-√ell-*) ‘neglect’ (simplex *√ell-* ‘go, put in motion’), and *do-róscái* (*di-ro-uss-√scochī-*) ‘stand forth, distinguish oneself’ (simplex *√scochī-* ‘move, start’).

The scenario depicted by the quantitative data and the semantic analyses outlined above is backed up by the syntactic behavior of multiple preverbs and by the argument structure that multiple preverb composites display in each language. These parameters are summarized in Table 57 (cf. Sections 5 in Chapters 3–6) and briefly discussed below, one by one.

Table 57. Syntactic parameters: a general overview

LANGUAGE	(a) TMESIS	(b) ALTERNATIVE CONSTRUCTIONS	(c) OPTIONALITY	(d) REPETITION	(e) TRANSITIVIZING ABILITY
Vedic	+	+	+	-	-
Homeric Greek	+	+	+	-	+/-
Old Church Slavic	-	+	-	+	+
Old Irish	+/-	-	-	+	+

(a)Tmesis. Both lexical and non-lexical tmeses (in Bertrand’s 2014 terms) are allowed both in Vedic and in Homeric Greek (cf. Sections 1, Chapters 3–4). Both the EP and the IP – but most frequently the EP – can be displaced from the immediate preverbal position. Instead, apart from the allegedly archaic tmesis and Bergin’s Rule patterns, only the non-lexical

tnesis of the EP is possible in Old Irish (cf. Section 1.2.1.3 in Chapter 6). Given that Old Irish is a VSO language and given that the linguistic material that intervenes in between the EP and the remaining composite is constituted by 2nd position clitic particles or pronouns, it appears that Wackernagel's Law somewhat hinders the tendency toward univerbation (cf. Section 1.2, Chapter 2 for further data and discussion). Thus, in Old Irish, the EP retains a proclitic status, whereas the MPs and IP develop into fully-fledged affixes. The few exceptions to this rule can be motivated as calques from the Latin main text (cf. Section 1.2.1.2, Chapter 6). By contrast, the earliest written records of Slavic do not attest tmesis at all.

(b) Alternative constructions (or preverbs' movability). Construction alternation involving multiple preverb composites and single preverb composites + PP is widespread in Vedic and Homeric Greek (cf. Sections 5.1 in Chapters 3–4). By contrast, it is only residual in Slavic. Notably, it is allowed with two fully compositional composites, specifically *prědb-po-lagati* 'distribute to' and *vbs-pri-imati/vbs-pri-jęti* 'receive in return' (cf. Section 5.1, Chapter 5). No semantically equivalent constructions are available in Old Irish (cf. Section 5.1, Chapter 6). Notably, when alternation is possible, the difference between the construction with multiple preverbs and the construction with a single preverb and a PP lies in the explicit mention of one among the events participants. In particular, the construction with multiple preverbs is more likely to omit a participant. Crucially, preverbs' capacity of referring back to and recovering discourse active participants is arguably one of the reasons behind their univerbation, grammaticalization, and lexicalization (cf. Section 2.3).

(c)–(d) Optionality and repetition. These two parameters show opposite outcomes in Vedic and Homeric Greek, on the one hand, and in Old Church Slavic and Old Irish, on the other hand. These outcomes, displayed in Table 57, are not surprising: parameter (c), optionality, occurs in the varieties in which preverbs retain much of their adverbial status and thus are clearly adjuncts (i.e. modifiers) to what can be regarded as a basic sentence (cf. Boley 2004: 52; Section 1.3 in Chapter 2). Accordingly, in Vedic and Homeric Greek, morphological cases at least partially preserve their original concrete meanings and functions. By contrast, in Old Church Slavic and Old Irish, preverbs are usually repeated outside the preverbal context: these repetitions show that prepositions are the preferred –

though by no means exclusive – way of expressing semantic roles in these languages. Accordingly, preverbs are well differentiated from their cognate prepositions, and clearly show verbal rather than nominal orientation (cf. the discussion of the opposite Vedic situation in Section 1.2.4, Chapter 3)

(e) Transitivizing ability. The results relating to this parameter also meet the expectations: the more advanced preverbs are in their grammaticalization and lexicalization paths, the more able they are to affect the argument structure of the verbal bases onto which they attach. On the one side, transitivizing potential is connected with preverbs' grammaticalization into actional markers. As is discussed in Chapter 1, one among the factors that characterize prototypical transitivity is telicity, an actional trait that is frequently brought about by the addition of a preverb. On the other side, transitivization can result as a side-effect of the semantic changes brought about by preverbs' lexicalization (cf. Sections 5.3, 5.4, 5.3 and 5.3 in Chapters 3–6).

The formal aspects of composites, discussed in Sections 3 (Chapters 3–4, 6), also fit the picture above: in Vedic and Homeric Greek, the *sandhi* effects occurring between the elements of the composite are not typically word-internal (Sections 3 of Chapters 3–4). In Old Irish, by contrast, massive variation affects the form of preverbs, based on their occurrence before, under, or after the accent (Section 3, Chapter 6); this suggests a high degree of integration of the so-called nuclear (i.e. tonic and post-tonic) preverbs. For the Homeric Greek data, this analysis also finds a confirmation in the metrical structure of the hexameter: in slightly less than the half of the occurrences, a metrical pause can be assumed, restoring original word boundaries splitting multiple preverbs from verbal stems (Section 3.1, Chapter 4).

In addition, as shown for Vedic and Homeric Greek, other pieces of preverbal morphology (the augment in particular) usually occur in between the preverbs and the verbal stem. The few exceptions to this rule can be motivated by philological factors (cf. in particular Section 3.3 in Chapter 4). In Old Irish, the grammaticalized preverb *ro-* occurs in the same position as the augments of Vedic and Homeric Greek with strong verbs, specifically in between the IP and the verbal stem (so-called 'fixed *ro-*') (Section 3.2, Chapter 6). This most likely represents the most ancient pattern. With weak verbs, instead,

ro- always occurs after the pretonic position, thus either between the EP and the remaining composite (in deuterotonic forms) or between the proclitic particle and the whole composite (in prototonic forms) (so-called ‘moveable *ro-*’). The positions of Vedic and Homeric Greek augments, as well as that of fixed *ro-*, suggest a low level of internal dependency between preverbs and the verbal stems that they modify. In Old Irish, the development of the ‘movable *ro-*’ pattern can be regarded as a piece of evidence in favor of the increasing integration of medial and IPs with the verbal stem.

2. Multiple preverbs: similarities among Vedic, Homeric Greek, Old Church Slavic, and Old Irish

2.1. *Preverb ordering: the common reasons behind it*

Here is the place to address the issue as to whether certain sequences of preverbs or preverb ordering in the daughter languages represent the conventionalization of practices already known in Proto-Indo-European. However, reconstructing Proto-Indo-European preverb combinations is not an easy task for different reasons.

To begin with, a number of preverbs across Indo-European languages are actually cognates. However, though several preverbs stem from the same Proto-Indo-European root, they are not always straightforwardly comparable. For example, the following set of preverbs goes back to the same Proto-Indo-European adverb **pr̥-* ‘forward, forth’: only as regards the preverbs of this sample languages, see Vedic *prá* ‘forward, forth’, *pári* ‘around’, Homeric Greek *pro-* ‘forward, forth’, *peri-* ‘around’, *para-* ‘beside’, Old Church Slavic *pro-* ‘forward’, *pri-* ‘beside’, *prě-(dv)*- ‘beside, in front of’, and Old Irish *ro-* (etym.) ‘forward’, (?)*rem-* ‘pre-’ (IEW: 810–814; LIPP II: 633–655). Though these preverbs are probably cognates, they actually reflect different Proto-Indo-European forms, with different case endings, different ablaut grades, or different derivational suffixes: specifically, **pr-ō̄:ALL*, **pr-i:LOC*, **per-i:LOC*, **per-ǎ:INS*, **pri-ām:ADV* (cf. also the examples below in (1)). Thus, for example, is Old Irish *rem-*, which goes back to **pri-ām*,

directly comparable with the other preverbs, which go back either to **pr-ó* or to **pr-i*? If so, should we relate it with Vedic *prá*, whose most direct reflex is however Old Irish *ro*-?

In addition, no preverb combination is attested in all languages of the present sample, possibly due to the relatively low number of multiple preverb composites and combinations in Old Church Slavic. However, cognate combinations in two or even three languages are not infrequent, as is shown in (1)a-d:

(1) Examples of cognate preverb combinations

a.	Ved.	<i>abhí prá</i>	PIE	<i>*ánb^hi + *pr-ó</i>
	OIr.	<i>imm- ro-</i>		<i>*ánb^hi + *pr-ó</i>
b.	Hom.Gr.	<i>ex- apo-</i>	PIE	<i>*ég^hs + *áp-ō</i>
	OCS	<i>iz- po-</i>		<i>*ég^h + *po-</i>
c.	Hom.Gr.	<i>para- ex-</i>	PIE	<i>*per-ā + *ég^hs</i>
	OCS	<i>pri- iz-</i>		<i>*pr-i + *ég^h</i>
	OIr.	<i>rem- ess-</i>		<i>*pri-ām + *ég^hs</i>
d.	Hom.Gr.	<i>ek- pro-</i>	PIE	<i>*ég^hs + *pr-ó</i>
	OCS	<i>iz- pro-</i>		<i>*ég^h + *pr-ó</i>
	OIr.	<i>ess- ro-</i>		<i>*ég^hs + *pr-ó</i>

(cf. IEW: 53, 292–293, 810–814; LIPP II: 71–74, 204–205, 633–655)

However, even though common preverbs combinations do occur in the sample, this does not necessarily imply that they contain preverbs that attached onto verbal stems at an early stage. Therefore, such combinations are also not always comparable. For example (1)c, the Homeric Greek combinations *para-ex-* is cognate with the Old Church Slavic and Old Irish combinations *pri-iz-* and *rem-ess-*. However, on the one hand, the Greek combination *para-ex-* also makes up a lexicalized double adverb and a lexicalized preposition and thus its occurrence as a preverb combination can be also due to this. On the other hand, in Old Church Slavic and Old Irish, the additions of the EPs *pri-* and *rem-* are highly suspected to be later calques from the corresponding Greek *para-* and Latin *ante-*. Therefore, in this case, common ordering cannot be considered a matter of inheritance.

As for the allegedly inherited relative ordering detected by Papke (2010: 145) and reported in example (2), similar considerations can be put forward.

(2) Vedic, Homeric Greek, and Old Irish relative ordering

(adapted from Papke 2010: 145)

Ved.	<i>abhí</i>	<i>pári</i>	<i>prá</i>
Hom.Gr.	<i>amphi-</i>	<i>peri-</i>	<i>pro-</i>
OIr.	<i>imm-</i>	<i>air-</i>	<i>ro-</i>
PIE	<i>*ánb^hi, án/ŋb^hi</i>	<i>*péri</i>	<i>*pr-ō</i>
	(LIPP II: 35 f.)	(LIPP II: 618 f.)	(LIPP II: 636)

First and foremost, the Old Irish EP *imm-* cannot be directly compared with the other two EPs. As a matter of fact, the Old Irish addition of *imm-* as an EP is frequently a calque from Latin. Furthermore, as regards to the relative ordering between Homeric Greek *amphi-* and *peri-*, Papke does not take into account the fact that these two preverbs occur elsewhere in the Homeric poems as a lexicalized double adverb. To sum up, the generalization of an abstract pattern can overlook crucial pieces of information contained in the concrete data.

The elaboration of the above remark suggests another issue as to Papke's approach. Specifically, Papke (2010) crucially detected a common *relative* ordering of preverbs, rather than common preverb combinations or common multiple preverb composites. This is problematic for the reconstruction itself: by definition, reconstruction is based on concrete linguistic items, which can be grouped in cognate sets. By comparing the said cognate sets of concrete items, one infers a reconstructed form, which is an abstraction. However, Papke includes abstract, rather than, items in her cognate set: in fact, the relative ordering of Vedic, Homeric Greek, and Old Irish in (2) represents an abstract pattern itself, detected based on an array of concrete composites. Therefore, it cannot be employed for linguistic reconstruction. In addition, Papke (2010: 154) addresses lexicalization as a pivotal factor for the linear transmission of preverb ordering. However, once again, a relative ordering such as that in (2) is an abstract pattern itself, and as such cannot undergo lexicalization and consequently be inherited. Therefore, to my understanding, the common relative ordering, which does occur in the sample (cf. Sections 6, Chapters 3–6), calls for explanations different from genealogical inheritance.

At a general level, one such explanation is what is called 'redundancy principle' in this work: the more the semantics of a preverb shows semantic solidarity with that of the

verb onto which it attaches the stronger its tendency to occur in its immediate vicinity. This principle somewhat resembles Bybee's (1985) notorious *order and relevance principle* of affix ordering, except for the fact that, in the case of preverbs, semantic solidarity with a verb makes a certain preverb redundant, rather than relevant. Notably, semantic redundancy is arguably also one of the factors triggering preverbs' reanalysis and consequent developments (cf. Section 2.3 below).

A further motivation behind preverb ordering is the tendency typical of certain preverbs, but not of others, to receive further semantic specifications in the form of verbal dependents. Specifically, preverbs that tend not to get a further specification preferably select the interior position, and thus are prone to be interpreted as verb-oriented; by contrast, preverbs that are frequently specified by further verbal dependents preferably occur in the exterior position. As is well-known from linguistic typology (cf. Ikegami 1987; Ungerer & Schidt 1996; Verspoor, Dirven & Radden 1999; various papers in Luraghi et al. 2017), the overt expression of the Goal-participant is far more frequent than the overt expression of the Source- and of the Path-participants. Consequently, Source- and Path-preverbs, which do not frequently receive a further specification, tend to occupy the interior position. This principle for preverb ordering may be called 'lower salience' principle, in that Source and Path do not usually constitute salient pieces of information for the event conceptualization.

At a more specific level, specific paths of developments of specific preverbs can also ground their positional preferences. For example, the etymology of the Old Irish *to*-fully accounts for its usual exterior position (cf. Section 6.3, Chapter 6). In Ancient Greek, the occurrence of certain preverb combinations outside the immediate preverbal contexts as double adverbs or prepositions clearly explains their relative order (cf. Section 2.3, Chapter 4). Moreover, as mentioned above, for the cases of Old Church Slavic and Old Irish composites, the interplay with the Greek or Latin source- or main texts must always be kept in mind (cf. Sections 2.4 in Chapters 5–6).

Importantly, after that the reanalysis of preverbs as actional markers had taken place (cf. Section 2.3), new orders arguably became possible. Thus, for example, once the telic meanings frequently associated to Greek Source preverbs (Zanchi 2017) are established,

such telic preverbs, most notably *ex-*, often occur in exterior position, as they modify the temporal structure of the whole (lexicalized) composite onto which they attach (cf. e.g. the post-Homeric composites *ex-epi-stamai* ‘know **thoroughly**’, *ex-epi-sphragízomai* ‘be stamped **deep** on’, *ex-uper-optáō* ‘bake or dry **extremely**’) (cf. also the Homeric composites mentioned in Chapter 4, Section 6.3).

A similar process might constitute the basis for the development of the modern Slavic system of multiple preverbs (usually called ‘prefixes’), whereby the exterior (usually called ‘external’) preverb always has predictable, quantizing, and actional meanings. Such meanings apply to the rest of the composite, which is modified as a single unit. In Old Church Slavic, we observed an incipient bulk of data that provides evidence for this development (cf. Section 3, Chapter 5). In particular, see *vbz-ne-na-viděti* ‘come to hate’ and *vbs-po-męnōti* ‘start remembering, remind’, as opposed to *ne-na-viděti* ‘hate’ and *po-męnōti* ‘remember’. Further cases in point are *iz-ob-rěsti/iz-ob-rětati* ‘find **out**’ and *pri-ob-rěsti* ‘acquire’, containing telic *iz-* and resultative *pri-*. Needless to say, this scenario was still at its onsets in Old Church Slavic, as it can be easily assessed, for example, from the fact that *po-*, which is almost exclusively exterior in modern Slavic, only occurs internally in Old Church Slavic.

2.2. Common process of formation of multiple preverb composites

Apart from cases with double advs-prevs-preps (cf. Chapter 4, Section 2.3 and 4.2; Chapter 6, Section 2.3), what lies behind the formation of multiple preverb composites is a process of ‘accretion’ or ‘recomposition’ (in Rossiter’s 2004 and McCone’s 2006 terms), which is exemplified in (3) from Old Church Slavic and (4) from Old Irish:

$$(3) \quad \begin{array}{l} \textit{věděti} \rightarrow \textit{po-věděti} \\ \text{‘know’} \quad \quad \text{‘tell’} \end{array} \rightarrow \left\{ \begin{array}{l} \textit{iz-po-věděti} \text{ ‘confess, explain’} \\ \textit{pro-po-věděti} \text{ ‘proclaim, predict’} \\ \textit{za-po-věděti} \text{ ‘order’} \end{array} \right.$$

$$(4) \quad \begin{array}{l} \textit{beirid} \rightarrow \\ \text{'bring'} \end{array} \rightarrow \begin{array}{l} \textit{do-beir} \\ \text{'to-bring'} \end{array} \rightarrow \left\{ \begin{array}{l} \textit{fo-tabair} \text{'under-give'} \\ \textit{fris-tabair} \text{'against-give'} \\ \textit{imm-tabair} \text{'around-give'} \end{array} \right.$$

Recomposition can be better observed for the latest varieties of the sample, i.e. Old Church Slavic and Old Irish (cf. the many old Irish examples mentioned throughout Chapter 6). Arguably, the reason for that is two-fold: (a) the more advanced lexicalization of composites already made them available for **further** composition, i.e. **re-**composition (cf. Papke 2010: 155); (b) Old Church Slavic and Old Irish composites can be compared with their Greek and Latin counterparts. From this comparison, it turned out that most frequently the exterior preverb only seems to be a later addition and frequently a calque. Instead, the reduced composite frequently corresponds to a simplex lexical unit in the source- or main language (cf. Sections 2.4 in Chapters 5–6). This suggests that the innermost part of the Old Church Slavic and Old Irish verbs was actually a composite, but a lexicalized one, i.e. a composite perceived as a single lexical unit.

Such process of recomposition is much harder to assess for Vedic and Homeric Greek, most likely due to the early system that they attest to, whereby it was still far from clear that multiple preverb composites represented actual compound units. Nonetheless, relevant examples can be found, as is reported in (5) for Vedic (on which, cf. also examples in (74)b) and in (6) for Homeric Greek (cf., on Vedic, Papke 2010: 155, who also argues in favor of a process of formation that I would call recomposition or accretion):

$$(5) \quad \begin{array}{l} \sqrt{\textit{vrt}}- \\ \text{'turn'} \end{array} \rightarrow \begin{array}{l} \acute{\textit{a}} \sqrt{\textit{vrt}}- \\ \text{'turn near, toward'} \end{array} \rightarrow \left\{ \begin{array}{l} \textit{abhí} \acute{\textit{a}} \sqrt{\textit{vrt}}- \text{'roll toward'} \\ \textit{pári} \acute{\textit{a}} \sqrt{\textit{vrt}}- \text{'turn round'} \\ \textit{práti} \acute{\textit{a}} \sqrt{\textit{vrt}}- \text{'turn against'} \end{array} \right.$$

$$(6) \quad \begin{array}{l} \textit{bainō} \\ \text{'walk, go'} \end{array} \rightarrow \begin{array}{l} \textit{ana-bainō} \\ \text{'go upward'} \end{array} \left\{ \begin{array}{l} \rightarrow \textit{eis-ana-bainō} \text{'go upward to'} \\ \rightarrow \textit{ex-ana-bainō} \text{'go upward out of'} \end{array} \right.$$

2.3. *Grammaticalization and lexicalization: the common reason behind two distinct developments*

While it is generally acknowledged that preverbs originally functioned as free standing adverbs with spatial semantics in Proto-Indo-European and that in later languages they underwent grammaticalization into actional (and eventually aspectual) markers or lexicalization into fully-fledged compounds, the exact reasons for these developments are far from being clear. To my understanding, preverbs' developments can be regarded as reanalyses, triggered by the semantic solidarity that holds between preverbs and the verbal stem onto which they attach.

Such a semantic solidarity can initiate two divergent developments: on the one hand, the preverb can be reanalyzed as part of the verbal stem, which leads to its lexicalization (cf. the discussed and revealing examples of Ved. *ā ní √sad-* 'sit down', Section 3.1, Chapter 4; Hom.Gr. *pro-kath-ízō* 'perch forth' in fn. 28, Section 4.3, Chapter 4; and of OIr. *ar-neät (aith-ni-√sed-)* 'expect, await', Sections 3.2 and 6.3, Chapter 6). On the other hand, the preverb can start being perceived as redundant. Consequently, speakers reanalyze its meaning and start interpreting it as a marker of actionality (so-called Vey-Schoonevel effect, cf. Chapter 5). In this way, preverbs are reassigned a salient piece of information, regarding the internal temporal structure of events. Later on, from functioning as actional markers, preverbs can further develop into aspectual markers.

A separate issue is the question as to why these small uninflected morphemes with original locative semantics specifically develop into actional markers. A first answer to this comes from semantic broadening: preverbs, while bringing about spatial meanings, are able to add inherent endpoints to spatial events. This ability was later on extended to non-spatial events as well (cf. among others Shull 2003; Wiemer and Seržant forthc.).

As already pointed out (cf. e.g. Section 1.2.3 in Chapter 6), however, this explanation works only for preverbs that etymologically express the Goal of motion. For preverbs with other original semantics, conceptual analogy comes into play, specifically in the form of the following cognitive metaphor: EVENTS ARE LOCATIONS. Thus, for the widespread development of Source-preverbs into telic markers, the explanation now

becomes straightforward: departing from an EVENT (i.e. a LOCATION) can imply that the said event is completed. The developments of preverbs with different original semantics can require different conceptual analogies to be accounted for. For example, preverbs with Comitative semantics develop into telic markers, as COMPLETION CAN BE THOUGHT OF AS TOGETHERNESS (cf. Lat. *con-*, Chapter 2; Ved. *sám*, Chapter 3; OIr. *com-*, Chapter 6). Path-preverbs, such as Old Church Slavic *po-*, can come to be used as distributive markers, as covering a Path can subsume covering all intermediate steps that make up the Path itself (cf. Figure 4, Chapter 5). My third and final example is the Old Church Slavic preverb *vbz-*, which originally means ‘upward’ and later on acquires ingressive meanings. This semantic shift involves a cluster of metaphors, specifically: (a) MORE IS UP, LESS IS DOWN; (b) EVENTS CAN BE THOUGHT OF AS PILES; (c) GOING UPWARD ALONG A PILE IS GOING TOWARD THE CULMINATION OF AN EVENT (cf. Figure 5, Chapter 5).

A further factor possibly contributed to strengthening the motivations for preverbs’ grammaticalization: specifically, preverbs’ ability to refer back to discourse active (i.e. topical) participants (cf. Section 1.1, Chapter 2; Section 5.4, Chapter 3; Section 5.5, Chapter 5). The link that connects topicality with telicity was correctly pointed out by Viti (2008a, 2008b): topical participants are conceptualized as entire in space and as complete in time. In this specific sense, thus, the development of preverbs can be regarded as a discourse-oriented grammaticalization (for a possible typological parallels, cf. the ‘relative preverbs’ of Severn Ojibwe, Section 3.2, Chapter 3).

2.4. *Common semantic developments*

As the semantic analyses outlined in Sections 4 of Chapters 3–6 contribute to showing, cognate preverbs can instantiate similar semantic shifts. In addition, preverbs that are not etymologically related, but have close original semantics, can develop similar meanings, due to the cognitive basis of metaphor. Given that describing the common semantic shifts of the whole array of Indo-European preverbs would be enough material for a separated work, I exemplify the principle outlined above by means of a preverb only, specifically Proto-Indo-European **sup* ‘down’, **sup-ó* ‘downward’ (LIPP II: 746) and semantically

similar preverbs. This preverb has reflexes in Vedic *úpa* ‘toward’, Homeric Greek *hupo-* ‘under’, and Old Irish *fo-* ‘under’.

As a touchstone, I adopt Old Irish *fo-*, as it displays the widest range of semantic shifts. These shifts are summarized in (7) below and fully discussed in Sections 4.1 and 4.2 of Chapter 6:

(7) Meanings of Old Irish *fo-* (etym.) ‘under’

<u>MEANING</u>	<u>EXAMPLE</u>
a. ‘under’ (Goal)	<i>fo-to-√ber-</i> ‘bring under’
b. ‘under’ (as a support)	<i>fo-de-√gnī-</i> ‘be sufficient’
c. ‘under-’ (cf. Engl. under -stand)	<i>fo-in-√tōsī-</i> ‘understand’
d. ‘under’ (at a lower level)	<i>fo-ad-√can-</i> ‘accompany in song’
e. ‘sub-’ (cf. Engl. sub -division)	<i>com-fo-√dāli-</i> ‘divide and share jointly’
f. ‘behind’	<i>fo-ad-√gabi-</i> ‘leave behind’
g. ‘secretly’	<i>fo-con-√snī-</i> ‘steal’
h. ‘in the place of’	<i>fo-to-ad-ro-√icc-</i> ‘ sub -stitute’
i. ‘lacking control’	<i>fo-inde-ad-ro-uss-√ben-</i> ‘be sub -jected’
j. ‘impact, collision, attack’	<i>fo-uss-√anā-</i> ‘perturb, disturb’
k. ‘completion’	<i>to-fo-√bina-</i> ‘cut down’

A number of developments in (7) are also attested in the other ancient Indo-European languages of the sample, even in the relatively small corpus of multiple preverb composites. To being with, (7)c the reflex of **sup* also occurs as an EP in the Vedic composite that means ‘understand’, *úpa prá √vid-*. The widespread semantic shift from ‘down, under, below’ to ‘behind’ (7)f is also shared by Homeric Greek *hup-ek-pro-théō* ‘run forth from behind, outstrip’. The metaphor UNDER IS SECRETLY (7)g is instantiated in both Homeric Greek *hup-ek-pro-pheúgō* ‘flee away secretly from’ and Old Irish *fo-con-√snī-* ‘steal’. The Vedic composite *ápa ní √lī-* ‘hide oneself, disappear completely’ is also a related case, though it contains as an IP the preverb *ní* (etym.) ‘down’, which is not etymologically related, but rather semantically similar, to Greek *hupo-* and Old Irish *fo-* (< PIE **ní* ‘below’, cf. OIr. *-ne-*; LIPP II: 559; cf. Section 4.2, Chapter 3). The connection between UNDER and LACK OF CONTROL (7)i finds pieces of evidence in all three languages: specifically, in Vedic *úpa á √car-* ‘be of service’, Homeric Greek *hup-ek-sóizō* ‘save (by

drawing) away from the control of’, and *fo-inde-ad-ro-uss-√ben-* ‘be subjected’. The Vedic composite *ní ā √kṛ-* ‘hold back’ shows that the preverb *ní* (etym.) ‘down’ (cf. above) also instantiates this semantic shift. Lastly, (7)j the meaning of ‘impact, collision, attack’ connects Old Irish *fo-* with Old Church Slavic *za-* (OCS *za-po-věděti* ‘forbid, order’, OIr. *fo-uss-√anā-* ‘perturb, disturb’). Although, the etymological locative meaning of *za-* is ‘behind’ and not ‘below, under’ (< PIE **ǵʰóh₁* ‘behind’, cf. LIPP II: 277). However, this connection is not surprising: as mentioned above, the meanings ‘below’ and ‘behind’ are frequently paired to each other (cf. also Luraghi 2003: 226).

By contrast, no preverb combination can be said to show common semantic shifts, most likely as the meanings that preverbs bring about to multiple preverb composites do not seem to emerge from their interplay, but from their one-by-one addition during the recomposition or accretion process. An exception to this principle is represented by the iterative and intensive meanings that result from preverb iteration (cf. Hom.Gr. *pro-pro-kulíndomai* ‘keep rolling in front of’; OIr. *ess-ess-√rig-* ‘rise again’, *imm-imm-√gabi-* ‘go around around’ → ‘avoid’). However, both the iterative and the intensive meanings are simply iconic developments of reduplication, and as such are crosslinguistically common within world’s languages (cf. e.g. Moravcsik 1978: 317 “the most outstanding single concept that reduplicative constructions recurrently express in various languages is the concept of increased quantity”, which is in turn related to both iteration and intensification; Kajitani 2005; Fischer 2001a).

3. Brief concluding remarks

This work described and analyzed multiple preverb composites in a sample of ancient Indo-European languages, including Vedic (*R̥g-Veda*), Homeric Greek (*Iliad*, *Odyssey*), Old Church Slavic (*Codices Marianus*, *Zographensis*, *Suprasliensis*), and Old Irish (*Milan* and *Priscian Glosses*). After an introduction describing the aims of this work and the sample texts, the present thesis opens with a theoretical chapter devoted to the theoretical tools necessary to study preverbs (Chapter 1), and with a general and typological overview of

preverbs (Chapter 2). The thesis provided thereafter quantitative data as for the number of multiple preverb composites, multiple preverb combinations, and verbal roots modified by multiple preverbs (cf. Sections 2 in Chapters 3–6). Moreover, it thoroughly carried out philological, formal, semantic, and syntactic analyses on multiple preverb composites. The results summarized above (Section 1.2) delivered to us two similar scenarios for Vedic (Chapter 3) and Homeric Greek (Chapter 4), whereby multiple preverbs still retain much of their original functions and syntactic behavior. By contrast, the grammaticalization and lexicalization paths are far more advanced in Old Church Slavic (Chapter 5) and in Old Irish (Chapter 6).

This thesis also pointed out a number of similarities among the developments undergone by Vedic, Homeric, Old Church Slavic, and Old Irish multiple preverbs (cf. Section 2 above). In particular, a process of ‘recomposition’ or ‘accretion’ most likely lies behind the formation of multiple preverb composites in all languages; in addition, preverb ordering can be similarly explained, based on an account integrating different kinds of factors: specifically, (a) semantic solidarity holding between preverbs and verbs; (b) preverbs’ tendency to be specified by further event participants; (c) specific etymologies of specific preverbs; (d) calques from other languages. It was also pointed out that cognate or semantically similar preverbs are likely to undergo similar semantic shifts.

Crucially, by analyzing a relatively small array of multiple preverb composites and by integrating the findings achieved by previous works on different languages, this work also contributed to shedding light on the common reasons behind the well-known preverbs’ grammaticalization and lexicalization. These developments were understood as two distinct re-analyses, both triggered by the same pivotal factor, specifically, the mentioned semantic solidarity that came to make preverbs’ semantic contributions be felt as redundant. Preverbs were thus re-assigned salient pieces of information as markers of actionality (grammaticalization), or were re-interpreted as part of the verbal stem (lexicalization).

Web Resources

A dictionary of the Old-Irish glosses in the Milan Codex Ambrosianus C 301.

http://www.univie.ac.at/indogermanistik/milan_glosses

Electronic Dictionary of the Irish Language (eDIL) <http://www.dil.ie/>

Monier Williams Sanskrit-English Dictionary

<http://www.sanskrit-lexicon.uni-koeln.de/monier/>

Perseus Digital Library <http://www.perseus.tufts.edu/hopper/>

RigVeda: a Metrically Restored Text <https://liberalarts.utexas.edu/lrc/rigveda/index.php>

The Codex Suprasliensis Project <http://csup.ilit.bas.bg/node/1>

The online database of the Old Irish Priscian glosses.

<http://www.univie.ac.at/indogermanistik/priscian/>

The Online Liddell-Scott-Jones Greek-English Lexicon (LSJ)

<http://stephanus.tlg.uci.edu/ljs/#eid=1&context=ljs>

The Thesaurus Linguae Graecae (TLG) <http://stephanus.tlg.uci.edu/>

The Tromsø Old Russian and OCS Treebank (TOROT) <https://nestor.uit.no/>

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