ORIGINAL PAPER

The morphosyntax of Gothic preverb compounds: incorporation and applicativisation

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Abstract

Gothic preverb compounds illustrate several interesting characteristics, including multiple preverb stacking, idiomatisation, tmesis (i.e., separation by clitics), and P-copying (i.e., multiple pronunciation of the preverb). This paper is a close examination of the morphosyntax of these compounds, highlighting novel empirical generalisations about the Gothic language with key theoretical implications for our understanding of Germanic complex verbs and the alternations they participate in. In particular, this paper proposes a structural distinction between preverb compounds which are obligatorily semantically transparent and those which are optionally idiomatic. In arguing that transparent compounds involve the mechanism of preposition incorporation and *m-merger*, paralleling recent accounts of clitic doubling, while idiomatic compounds involve a thematic high applicative projection, this paper captures nuanced differences in these compounds' case assignment and argument licensing behaviour. These structural differences will be shown to derive these two compound types' constrained interaction with the aforementioned phenomena of stacking, tmesis, and copying. In addition, this paper compares Gothic complex verbs to their cross-linguistic correlates within and beyond Germanic, whilst also providing a diachronic pathway for the development of (multiple) preverb compounds.

Keywords Gothic · Incorporation · *M-merger* · Applicativisation · Preverbs · Complex verbs · Multiple Copy Spell-Out · Syntax-morphology interface · Idiomaticity · Prefix stacking · Grammaticalisation

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1 Introduction

The extinct East Germanic language Gothic has a class of invariant prefixes which attach to verbs, known in the Indo-Europeanist tradition as preverbs. While most preverbs are adverbial or adpositional in origin and attested as independent words, some exist only as inseparable particles. A selection of Gothic preverbs is given in Table 1 (adapted from Bucsko 2011; Miller 2019), alongside their meaning, functional status when not preverbal, and the case assigned by their prepositional equivalents.

The topic of preverbs and their origins within Indo-European is well-discussed (Kuryłowicz 1964; Booij and van Kemenade 2003; Dunkel 2014; *i.a.*), focusing on their reconstruction and categorial status in the proto-language or their distribution within individual daughter languages. Recent research has turned to the phenomenon of multiple preverbation within Classical Sanskrit (Papke 2010), Homeric Greek (Imbert 2008; Zanchi 2014), and Old Irish (McCone 1997; Rossiter 2004). However, little work has been conducted on this topic within Germanic due to the dearth of preverb-stacking data in the Northern and Western branches, a gap this paper seeks to fill. In addition, previous works have been primarily situated in the realm of historical, descriptive, or cognitive linguistics (Rice 1932; West 1982); this paper presents a formal account within Distributed Morphology (Halle and Marantz 1994) aimed at not only modelling but also deriving the distribution of Gothic preverbs and their interaction with other morphosyntactic phenomena within the language.

Semantically, these preverbs often append transparently spatial meaning to the verb stem (1), but may also produce idiomatic interpretations (2). Several preverbs can attach to a single verb stem, producing multiply prefixed compounds (3). This article argues that the preverb compounds (PVCs) in (1) and (2) demonstrate different empirical characteristics and involve distinct morpho-syntactic derivations, and that multiple preverb compounds (MPCs) as in (3) are a hybrid of these two structures.[1]

(1)   Semantically-transparent Preverb Compounds
     a.   ***af**-niman* < 'from' + 'take' = 'to take away'
     b.   ***bi**-leiban* < 'by' + 'stay' = 'to remain'
     c.   ***du**-rinnan* < 'to' + 'run' = 'to run to'

(2)   Idiomatic Preverb Compounds
     a.   ***faur**-qiþan* < 'before' + 'speak' = 'to make excuses'
     b.   ***in**-widan* < 'in' + 'bind' = 'to deny, reject'
     c.   ***us**-qiman* < 'out' + 'come' = 'to destroy'

(3)   Multiple Preverb Compounds
     a.   ***miþ**-**us**-keinan* < 'with' + 'out' + 'to sprout' = 'to sprout up with'
     b.   ***inn**-**at**-tiuhan* < 'into' + 'at' + 'pull' = 'to bring in'
     c.   ***ana**-**in**-sakan* < 'onto' + 'in' + 'dispute' = 'to contribute to'

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[1] In glossed examples of idiomatic PVCs throughout this paper, both the preverb and verb stem are glossed with their transparent base semantics but translated in their idiomatic meaning.

Table 1 Abridged inventory of Gothic preverbs (adapted from Bucsko 2011, 39–40, Table 6.1; Miller 2019, 234, Table 6.1)

Preverb	Meaning	Status	Case
af	from, (out) of, away	Preposition	DAT
ana	on(to), in(to), to, upon, against	Preposition / Adverb	ACC / DAT*
and	throughout, along	Preposition	ACC
at	at, by, of	Preposition	DAT[a]
bi	by, around, at, near	Preposition	ACC / DAT*
dis-	apart, away	Inseparable Particle	–
du	to, towards, against	Preposition	DAT
faur[b]	before, in front of, forth, for, along	Preposition	ACC
faura[b]	before, in front of, for (caus./ben.)	Preposition / Adverb	DAT
fra-	away, forward, ahead, pejorative	Inseparable Particle	–
ga-	with, aspectual	Inseparable Particle	–
in[c]	in(to), among, at, on account of	Preposition	GEN / ACC / DAT*
inn[c]	into, within	Adverb	–
miþ	with, near	Preposition / Adverb	DAT
þairh	through, by	Preposition	ACC
uf	under	Preposition	ACC / DAT[d]
us	out (of), from	Preposition	DAT
ut	out, forth	Adverb	–

* These prepositions employ ACC case to describe spatial motion and DAT case to describe static location. Prepositional *in* also employs GEN with the meaning 'on account/because of'.

[a] There are 4 attestations of *at* used with ACC case for designations of time (Miller 2019, 238).

[b] Prepositions *faur* and *faura* go back to Proto-Germanic *furi and *furai respectively and remain distinct in Gothic despite displaying overlap in meaning and form throughout Germanic.

[c] Though similar, the preverbs *in* and *inn* are distinguishable even in Proto-Germanic and show different reflexes in North Germanic, where PGmc *in > ON *í* (Dan. *i*) but *inn > ON *inn* (Dan. *ind*) with allative meaning of the latter.

[d] The DAT use of *uf* is mostly figurative, indicating subjugation under or an era in time (with respect to an important person).

The remainder of Sect. 1 provides an overview of the Gothic language, its corpora, and its relationship to Greek. Sections 2, 3, and 4 elaborate on and provide evidence for the structures of semantically transparent (1), idiomatic (2), and multiple preverb compounds (3) respectively. These sections demonstrate how the distribution of phenomena such as idiomaticity, P-Copying, valency and case alternations, and tmesis are constrained with respect to PVC/MPC compounds by the mechanisms of P-Incorporation, *m-merger*, Multiple Copy Spell-Out, and applicativisation. This paper derives these complex interactions by arguing that obligatorily semantically-transparent PVCs (1) involve incorporation of a preverb which originates as a categorised preposition P, optionally idiomatic PVCs (2) involve the preverb serving as the Appl head of a high applicative projection, and MPCs (3) involve a combination of these two structures. Finally, Sect. 5 presents a possibly cyclic diachronic pathway for the development of these PVCs and MPCs while Sect. 6 concludes.

1.1 Gothic data: sources and independence

The majority of attested Gothic comes from Wulfila's 4th Century AD translation of the Bible,[2] the primary textual reference for which is Streitberg (1919) with an addendum compiled by Piergiuseppe Scardigli in the 7th edition (2000) including texts discovered post-1919. This article basis its conclusions on this biblical data and the Skeireins commentary to the exclusion of non-biblical fragments.[3]

There are two reasons for delimiting the data under discussion to the Bible. Firstly, many of the non-biblical texts (e.g., the calendar and Naples/Arezzo deeds) are too short, fragmentary, or repetitive to allow for meaningful generalisations to be drawn. Secondly, while current scholarly opinion favours the Gothic Bible as the work of several translators potentially overseen by Wulfila (Metlen 1932; Friedrichsen 1961; Ratkus 2018; Miller 2019),[4] these texts retain a degree of uniformity in genre and purpose that better facilitate analysis.

Yet the nature of the Gothic Bible as a translation from Greek means that any morphosyntactic work begs the question of independence—to what extent is the phenomenon we are observing a genuine Gothic construction as opposed to a calque from Greek? The dearth of autochthonous texts has been claimed to undermine the utility of Gothic for any serious linguistic analysis (Goetting 2007); however, this paper argues that PVCs and MPCs offer key insights into the morphosyntactic structure of compounds and their derivation.

The clearest evidence that these preverbs instantiate a true Germanic inheritance comes from their parallel attestation in both the Western (Old High German, Old English) and Northern branches (Old Norse, Old Swedish) (Hopper 1975, 40–43). Indeed, preverbs and PVCs are robustly attested throughout Indo-European, well

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[2] Although the primary manuscript source—the Codex Argenteus—is itself a 6th Century copy of the original text.

[3] The University of Antwerp's Project Wulfila corpus has been indispensable for data analysis as a digitised version of Streitberg (1919).

[4] Miller (2019, §1.6–1.8) provides an overview of the variation in localisation choices that lends support to there being multiple translators, while Marchand (1956) discusses potential dialectal variation within the Bible.

beyond Greek.[5] In addition, while it remains indeterminate which Greek text(s) Wulfila based the translation on,[6] close comparison with the Koine Greek version highlights several mismatches that disavow a mechanical one-to-one translation.[7] West (1982, 139), drawing from Rice (1932), illustrates the percentage frequencies for how often a given Gothic preverb translates a simplex verb in Greek. These rates of 'non-correspondence' range from 14.3% (*faur-*) up to 70.2% (*du-*); of the 14 preverbs studied by Rice, an average of 44.85% of Gothic PVCs translate Greek verbs with no corresponding preverb. Appendix A illustrates numerous ways in which the Gothic and Greek texts diverge, drawing from both lexical-translational and syntactico-functional differences to show that the Gothic data attests an independent system of preverbs and PVCs which this paper investigates.

1.2 Preverb compound structure(s)

A long-running debate in the Germanic literature has centred on whether so-called prefix and particle verbs share a unified structure (Booij 1990; McIntyre 2002; Ramchand and Svenonius 2002, *a.o.*) or involve distinct syntactic derivations (Wurmbrand 1998, 2000; Biskup et al. 2011, *a.o.*). Whilst earlier work has primarily focused on German, Dutch, and English, this paper proposes that Gothic PVCs—the forebears of these complex verbs—add novel evidence to this debate. Recall the interpretively-distinct semantically transparent and idiomatic PVCs as introduced in (1) and (2). This paper argues that these surface-similar non-idiomatic and idiomatic PVCs introduce their preverb to the verbal complex through different syntactic mechanisms, resulting in distinct morphosyntactic structures and empirical characteristics.

I propose that obligatorily non-idiomatic (i.e., semantically transparent) PVCs involve P-Incorporation of a categorised preposition into the verbal complex via the process of *m-merger* (Matushansky 2006; Harizanov 2014) as in (4a), while optionally idiomatic PVCs involve base-generation of an acategorial preverbal root as the head of a High Applicative projection (Pylkkänen 2008) into which the verb head-moves (4b). I will argue on the basis of locality restrictions on idiomatic licensing that the structure in (4a) precludes all non-compositional meaning, while that in (4b) allows but does not obligate idiomatic interpretation.

(4) a. Obligatorily Non-Idiomatic PVCs   b. Optionally Idiomatic PVCs


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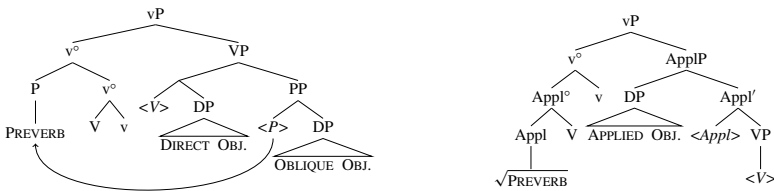
[5] Appendix C provides a comparative overview of preverbs across Indo-European and their ordering in multiple preverb compounds.

[6] See Metzger (1977, 385) for a discussion of the possibilities.

[7] All Greek sourced from the 28th critical edition of the Nestle-Aland New Testament, the foremost reference for Biblical Greek.

The structures in (4) differ primarily in i) the presence of a movement chain involving the preverbal element,[8] and ii) the categorial status of the preverbal element. I argue that these parameters capture a wide range of syntactic, semantic, and phonological differences in the behaviour of the two types of PVCs with respect to phenomena such as P-Copying, tmesis, case-assignment, valency alternations, and idiomaticity. In showing a mix of these characteristics, Multiple Preverb Compounds (MPCs) will be argued to involve a hybrid structure as in (5), where an optionally idiomatic PVC takes a PP adjunct which raises and undergoes *m-merger*, appending an additional, outermost non-idiomatic preverb to the verbal complex.

(5)   Multiple Preverb Compounds
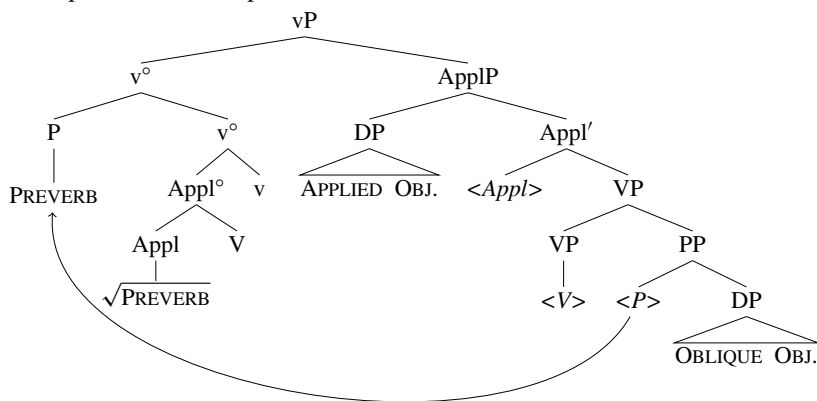
This paper focuses first on the structure of non-idiomatic PVCs and evidence in favour of an analysis involving P-Incorporation and *m-merger*.

2 The structure of obligatorily non-idiomatic PVCs

Where Harbert (1978) and Eythórsson (1995) have intuited that Gothic PVCs involve a form of P-Incorporation (Baker 1985), I argue that this is only true of strictly non-idiomatic PVCs. There have been a variety of mechanisms proposed for implementing incorporation in more contemporary frameworks building off of Baker (1985); one key parallel comes from certain formal approaches to clitic doubling cross-linguistically (Nevins 2011; Harizanov 2014; Kramer 2014), which has been argued to comprise two main steps—one of syntactic movement and one of morphological complex head formation via the operation of *m-merger*.

As proposed by Matushansky (2006), morphological merger (or *m-merger*) is a post-syntactic operation which changes structures of type (6a) into that of (6b); a head which is either first-merged or moved (via an AGREE relation) into the specifier

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[8] As expanded on in Sect. 2, the tree in (4a) shows the outcome of *m-merger* and should not be taken to represent simple head movement of P (which would violate the Head Movement Constraint). However, both structures in (4) do involve actual head movement of V-to-v and V-to-Appl-to-v respectively. Arrows representing these latter movements are omitted from the trees for ease in presentation.

of another projection can be restructured into an adjunct of the head of that latter projection, producing a complex head.

(6)   a.   XP   b.   XP

(tree diagrams)
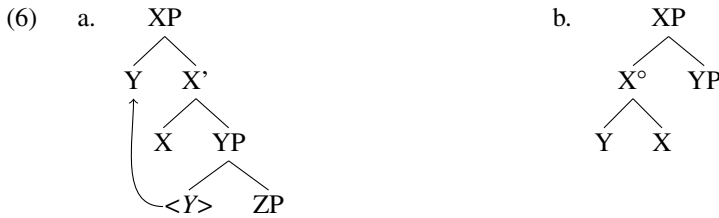
While Matushansky's (2006) original conception of *m-merger* only admits rebracketing of non-branching maximal projections (i.e., X), subsequent approaches in Harizanov (2014) and Kramer (2014) have proposed a reformulation of *m-merger* which allows it to apply to branching specifiers (i.e., XP), such that complex head formation may alternatively be fed by phrasal movement with subsequent reduction to just a head. In particular, Harizanov (2014) argues that *m-merger* adjoins only labels—adopting Bare Phrase Structure (Chomsky 1995), the XP vs. X distinction is irrelevant, such that movement of a XP would be akin to movement of a X in allowing for subsequent adjunction of just the head of the moved phrase. Alternatively, Kramer (2014) posits that the branching specifier is structurally reduced to just its head, which is then adjoined; both approaches produce the same output as in (6b). In this vein, I assume that *m-merger* may be fed by phrasal movement as well as head movement.

I propose that phrasal movement of a PP feeds the formation of obligatorily non-idiomatic PVCs in Gothic,[9] where the preverb originates as a preposition which incorporates into the verb. The proposed analysis of non-idiomatic Gothic PVCs is illustrated in (7). In (7a), the preverb begins the derivation as an adpositional P head which raises into Spec, vP as part of a PP.[10] This PP undergoes *m-merger* (7b), adjoining the head of the PP to the head of vP and producing a complex v° head (which
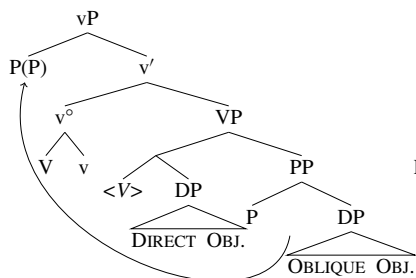
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[9] As pointed out by an anonymous reviewer, the more restrictive alternative in which *m-merger* is fed by movement of just a P head into Spec,vP would arguably involve a violation of the Head Movement Constraint (Travis 1984), as well as Matushansky's Transparence Condition. In addition, Matushansky's (2006) original implementation of *m-merger* essentially requires head movement to be motivated by c-selection. As I propose the source of the preverb in these PVCs to be a PP adjunct (rather than a complement VP), the absence of such a selectional relationship would suggest that *m-merger* must be fed by phrasal movement of a PP rather than head movement of a P in these constructions. Alternatively, one could posit that Gothic P-Incorporation invokes a form of 'long head movement' as has been proposed for Slavic (Lema and Rivero 1990; Rivero 1991, *et seq.*), Celtic (Borsley et al. 1996), and Romance languages (Roberts 2018), amongst others. While this has been typically applied for V-to-C movement, it is notable that recent work by Arregi and Pietraszko (2021) identifies a key parallel between VP fronting and long head movement of V in that they both allow for doubling/Multiple Copy Spell-Out similar to P-Copying. Considering that Arregi and Pietraszko (2021) argue that long head movement may be reduced to a subtype of phrasal movement (and is thereby distinct from short head movement), it may be possible to unify a PP vs. P movement analysis of incorporation and *m-merger*.

[10] One could argue that instances of PP V word order, well attested in Gothic, instantiate examples of phrasal raising without subsequent *m-merger* or adjunction:

(i)   [PP us gaqumþim   ] dreiband   izwis
           out synagogue.DAT.PL   drive.PRS.3PL 2PL.ACC
      '(They) will drive you out of the synagogues.'   [John 16:2]

itself has been head-raised into by V).[11] This head is Spelled-Out as the PVC, with the preverb forming a complex morphological word with the verbal base. Assuming the Copy Theory of Movement (Chomsky 1995) and canonical Chain Reduction in respect of the Linear Correspondence Axiom (Kayne 1994; Nunes 2004),[12] deletion of the lower P head produces the following surface string: PREVERB-VERB (DIRECT OBJECT) OBLIQUE OBJECT.

(7)   a. Syntactic movement   b. M-merger
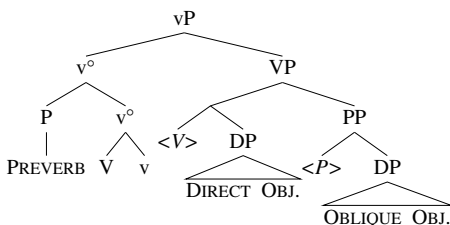
Key to this analysis is that the preverb begins the derivation as a preposition. Within the framework of Distributed Morphology (Halle and Marantz 1994), I assume that lexical roots are category-neutral and must combine with a categorising head like *v* or *n* prior to Spell-Out (Marantz 2001). In (7), the P head instantiating the preverb should be understood as a root (e.g., $\sqrt{ana} + p$), following work by Acedo Matellán (2010); Haselbach and Pitteroff (2015); and Wood and Marantz (2017). This characterisation will prove essential when we compare these non-idiomatic PVCs to their idiomatic counterparts in Sect. 3, which are argued to instead employ the bare, uncategorised root—in particular, this categorial distinction will be shown to capture differences in the case assignment properties and possible argument structure alternations for each PVC type.

There are two main aspects of the incorporation analysis which must be substantiated: first, the existence of a movement chain involving the P(P) and feeding *m-merger*; second, that the preverb head originates as a prepositional element. These are discussed in turn.

2.1 Evidence for P-incorporation as movement: P-Copying and tmesis

We must first justify the existence of the lower P head copy prior to incorporation and deletion, especially given its non-overtness. What evidence is there that the preverb is not first-merged in a prefixal position? Strong support in favour of a movement-based approach and the existence of a covert copy comes from how this copy need

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[11] The same derivation can be assumed for PVCs with adverbial *inn* 'into' and *ut* 'forth', where the element that moves is an AdvP adjunct headed by the preverb.

[12] This axiom essentially states that two copies cannot be paradoxically linearised both before and after an intervening element, therefore requiring deletion of one of the copies (typically the lower).

not be deleted at all. The phenomenon here called 'P-Copying' involves the pleonastic repetition of a given preposition in both its preverbal position and as the head of a prepositional phrase:

(8)   a.   **af**-nimands   ina   [PP **af**   managein   ] sundro
           from-take.PRS.PPL.NOM.SG 3SG.M.ACC   from multitude.DAT   aside
           'Taking him aside from the multitude ...'   [Mark 7:33]

     b.   swaswe mik   **in**-sandides   [PP **in** manaseþ]
           as   1SG.ACC in-send.PST.2SG   in world.ACC
           'Just as you sent me into the world ...'   [John 17:18]

     c.   ni bidja   ei   **us**-nimais   ins   [PP **us** þamma
           NEG pray.PRS.1SG COMP out-take.OPT.PRS.2SG 3PL.M.ACC   out DEM.DAT.SG
           fairhvau   ]
           world.DAT
           'I do not pray you take them out of the world ...'   [John 17:15]

P-Copying is common in the Gothic Bible, with approximately 140 attestations spread across 9 preverbs (Appendix B.1).[13] Of these, *us* 'out' shows copying most frequently with 66 occurrences, followed by *af* 'from' with 30 occurrences. For instance, of the 10 attestations of *af-niman* 'take away' involving source DPs, 9 are introduced by an extra *af*.[14] P-Copying is also found elsewhere in Indo-European, as exemplified in Latin and Greek:

(9)   a.   **ad** exta   angues   **ad**-lapsi
           to entrails.ACC.PL snake.NOM.PL to-slide.PFV.PPL.NOM.PL
           'Snakes which had slid towards the entrails'   [Latin; Livy 25.16.2]
                                                                       (Lehmann 1983)

     b.   **ek**-bḗnai **ek** tḗs   neṓs
           out-go.INF out ART.GEN.SG ship.GEN.SG
           'To go out of the ship'   [Greek; Thucydides 1.137.2]
                                                         (Coleman 1990, 332)

Although Goetting (2007) argues that Gothic P-Copying arises from mechanical translation of the Greek, there are numerous examples of P-Copying in Gothic where the Greek and Latin parallels have no preverb:

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[13] Preverbs which fail to show P-Copying include those with adverbial origins like *inn* 'into' and *ut* 'forth'. This could be due to the low attestation of *inn* and *ut* in general (with only 9 tokens of *inn* and 23 of *ut* as independent adverbs). The preverbs of prepositional origin which lack any copying examples are *at* 'at', *du* 'to', and *faur* 'before' (but not *faura* 'before', which shows copying twice).

[14] The one example of *af-niman* which takes a bare dative-marked source (Mark 4:25) occurs as a parallel verse of Luke 19:26, in which the P-Copying does occur.

(10) a. **bi**-rodjandein   **bi** ina   þata
          by-mutter.PRS.PPL.ACC.SG by 3SG.M.ACC DEM.ACC.SG   [Gothic]
      b. gongúzontos   **perì** autoũ   taũta
          mutter.PRS.PPL.GEN.SG about 3SG.M.GEN DEM.ACC.PL   [Greek]
      c. murmūrantem   **dē** illō   haec
          mutter.PRS.PPL.ACC.SG about DEM.ABL.SG DEM.ACC.PL   [Latin]
          'Murmuring this about him'   [John 7:32]
                                                      (Miller 2019, 275, ex. 140)

In addition, P-Copying is attested in West Germanic languages such as Old High
German (11), suggesting that the grammatical availability of P-Copying is a Germanic
inheritance even if its actuation was influenced by translation.[15]

(11) a. só thaz her **in** skef   **in**-stígenti   saz
          so that here in ship.ACC.SG in-climb.PRS.PPL.NOM.SG sit.PST.3SG
          'So that [he] got into a boat and sat.'   [Old High German; Tatian, 70.2]
      b. faret   **in** thia burg   **in**
          go.2PL.IMP in the city.ACC.SG in
          'Go into the city!'   [Old High German; Otfried, 4.9.9]
                                                      (Reining 1916, 47–8)

I argue that P-Copying transparently reveals that non-idiomatic PVCs involve two
copies in a movement chain. Notably, P-Copying never occurs with inseparable par-
ticles like *fra-*, *ga-*, and *dis-*. This observation falls out straightforwardly from a
P-Incorporation account—as these preverbs do not exist as independent adpositions
capable of projecting PPs, they cannot undergo the necessary movement required to
produce copies.[16]

Canonical movement is such that Chain Reduction deletes of all but one of the copies
in a chain: the logical follow-up question is thus why and how this process 'fails', giving
rise to Multiple Copy Spell-Out. While there are numerous proposals attempting to
explain similar phenomena like V(P)-doubling in Chinese (Cheng 2007; Cheng and
Vicente 2013; Lee 2020) and Hebrew (Landau 2006), *wh*-copying in Germanic (Felser
2004; Nunes 2004), and pronoun-doubling in Dinka Bor (van Urk 2018), I believe that
clitic doubling most closely parallels P-Copying.[17]

Clitic doubling, in which a single nominal argument is expressed by both a pronom-
inal clitic and a full N/DP in its original base position, has been frequently argued to
involve *m-merger* (Nevins 2011; Harizanov 2014; Kramer 2014). Harizanov (2014)
proposes that clitic doubling in Bulgarian involves a nominal phrase in argument posi-
tion which first raises to Spec, vP before undergoing head adjunction, resulting in
cliticisation of the (pro)nominal D head onto v. Crucially, this restructuring renders
the head of the movement chain distinct from its tail, allowing for Multiple Copy

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[15] Note that P-Copying in Old High German allows for stranding of the preverb in clause-final position
(11b), unlike in Gothic. This suggests that PVCs structures already showed cross-linguistic variation within
Germanic even at this earlier stage.

[16] Instead, I argue in Sect. 3 that PVCs built with such inseparable particles involve the prefix as the head
of ApplP (even when semantically transparent).

[17] I thank the editor for highlighting this analytical parallel.

Spell-Out. I argue that the same analysis can be applied to P-Copying as fed by P-Incorporation, save that the raised element is a P(P) whose head adjoins to v instead of a D(P).[18] The following subsection discusses how and when this restructuring takes place.

2.1.1 Multiple Copy Spell-Out

One proposed analysis of Multiple Copy Spell-Out is via the process of Morphological Fusion (Nunes 1999, 2004; Kandybowicz 2007).

(12) **Morphological Fusion**
A highly local postsyntactic operation of the PF component that takes as input discrete terminals that are sisters under a single category node and outputs a single terminal node in which the number of morphemes (i.e., syntactic terminals) in the structure is reduced by one. Hence, Fusion [...] blurs the original structure of the participating morphemes at PF.

(Kandybowicz 2007, 138)

In their accounts of doubling in German and Nupe respectively, Nunes (2004) and Kandybowicz (2007) induce fusion with null elements (a C and Focus head). Extending this analysis to Gothic, we can posit that fusion optionally occurs between the incorporated preverb and the V-v complex it adjoins to, resulting in a terminal which is morphologically opaque at PF. The P-Copying in (8a) would thus have the following structures before and after fusion, with # indicating prosodic word boundaries:

(13) **Syntactic Tree** $\xrightarrow{\text{Fusion}}$ **Linearised/PF Tree**
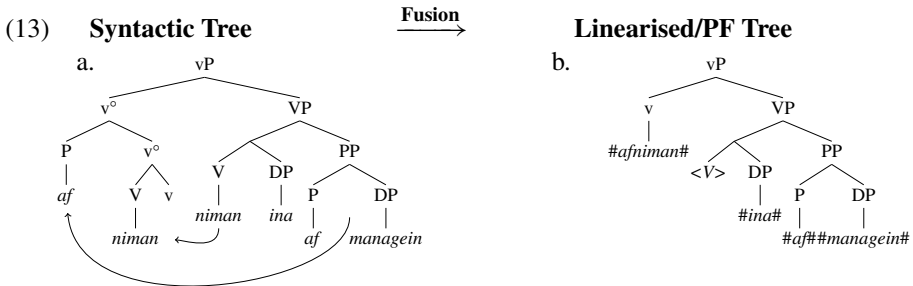
However, this account is too strong. Fusion is proposed to occur prior to Vocabulary Insertion (VI). This would require that the *afniman* inserted into the fused terminal node be listed in the Lexicon as a separate Vocabulary Item from either of its constituents *af* or *niman*, predicting that the PVC should not inherit any morphosyntactic behaviour from *niman*. This is not true: *niman* is a Class IV strong verb, with idiosyncratic vowel ablaut: infinitive *niman* ∼ 3SG past tense *nam* ∼ past participle *numans*. All PVCs

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[18] In fact, Kramer (2014, §4.7.1.) discusses data from Amharic in which what looks like a reduced version of the prepositions *bä* 'in, at, by' or *lä* 'to, for' is repeated within the verbal complex as *-bb-* and *-ll-* respectively, referencing instrument, locative, and benefactive arguments. Yabe (2007) analyses these as incorporated prepositions, while Kramer observes that the data is compatible with a clitic doubling *m-merger* account; pending further research, this may involve exactly the same mechanism of PP raising and adjunction as proposed for Gothic PVCs.

deriving from *niman* are also Class IV, and never take weak verb inflection; e.g., 3SG past *af-nam* 'took away', not **af-nimda. In fact, all PVCs track the inflectional class of and inherit irregularities from their simplex verb base. Thus, it is clear that the preverb + verb complex retains some morphosyntactic decompositionality prior to Vocabulary Insertion.

Instead of Fusion operating on the output of *m-merger*, we can simply posit that *m-merger* itself renders the complex P-v head invisible to the linearisation algorithm. In line with intuitions in Chomsky (1995, 337) and Nunes (2004, 168, fn. 33) that the Linear Correspondence Axiom does not apply 'word-internally', I follow Harizanov (2014) in assuming that the internal structure of the derived v° head is opaque to Chain Reduction and that the higher copy of P is not visible for copy deletion, resulting in Multiple Copy Spell-Out. Crucially, ordering *m-merger* before Vocabulary Insertion would not require a separate non-decomposable listing of *afniman* in the Lexicon, since *m-merger*, unlike Fusion, allows for phonological unification of the preverb + verb complex without manipulating the number of terminals available for VI in the PVC's underlying morphosyntactic structure.

To capture the optionality of P-Copying, I tentatively propose that there is variability in the relative ordering of operations which take place after raising of the PP—namely, between Chain Reduction and reduction of PP → P. As defined by Kandybowicz (2007, 141), two copies are non-distinct if they i) constitute links of a movement chain, and ii) are 'morphosyntactically isomorphic'—meaning that both copies must be consistent as to whether they are heads or phrases (cf. also Kramer 2014, 621, fn. 38). If Chain Reduction occurs after the PP has moved to Spec, vP but before it reduces to P, the head and tail of the chain remain morphosyntactically isomorphic and visible for deletion. While this should result in deletion of the entire lower PP, a recoverability condition may restrict this to only partial deletion of just the lower P head and not its complement, since reduction of the higher PP copy to just its head would result in the oblique DP failing to be pronounced at either end of the chain. An example such as (8a) would thus involve scattered deletion as in [PP af ~~managein~~] ... [PP ~~af~~ managein].[19]

In contrast, if copy deletion takes place after reduction to P has occurred, then the preverbal *af* at the head of the chain instantiates a P head while the tail remains a full PP.[20] The two copies of the preverb are thus morphosyntactically non-isomorphic and distinct, resulting in Multiple Copy Spell-Out and P-Copying.

2.1.2 Tmesis

The basic intuition to be modelled is that P-Copying is possible when the preverb and verb form a tightly-bound morphophonological constituent (i.e., constitute a single prosodic word), and impossible when the preverb and verb each retain some prosodic independence. This parallels other examples of putative adposition doubling in which

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[19] Further discussion on recoverability constraints as restricting *m-merger* can be found in Harizanov (2014, 1068, fn. 37; 1071, fn. 42).

[20] Under Harizanov's (2014) Bare Phrase Structure approach, one would need to further define the notion of 'morphosyntactic isomorphism' to differentiate between branching and non-branching projection rather than the head/phrase distinction as expressed by labels. Note that the head-moved verbal base, e.g., *niman* in (8a), does not get multiply pronounced as both head and tail of the chain are V heads.

adjacency between the doubled element and verb is essential. Consider Dourado's (2002) account [in Bošković and Nunes 2007, 59] of a similar phenomenon in Panará (Brazil: Northwestern Jê), which allows P-Copying with incorporated postpositions. In Panará, doubling of the postposition is only possible when the incorporated P and verb are linearly adjacent:

(14)   a. No P-Copying: [AGRP= **P**= AGRS= **V**]
       kamɛra   yɨ=   ra=   **hɔw**= ria=   **tẽ** ĩkyẽ́ kri   tã
       you.PL.ABS RL.TR= 1SG.ABS= with= 2PL.ABS= go I   tribe to
       'You will go with me to the tribe.'

      b. With P-Copying: [AGRP= **P-V**]
       kamɛra   yɨ=   ra=   **hɔw-tẽ** ĩkyẽ́ **hɔw** kri   tã
       you.PL.ABS RL.TR= 1SG.ABS= with-go I   with tribe to
       'You will go with me to the tribe.'   [Panará]
                                               (Dourado 2002, 228, ex. 50a–b)

P-Copying as in (14) is only licit when the incorporated postposition *hɔw* is directly adjacent to the verb *tẽ*; in (14), the intervening subject agreement marker *ria* disrupts this adjacency, blocking P-Copying. Dourado analyses the deletion of this intervening agreement marker as a prerequisite for the process of incorporation which renders the postposition invisble to the LCA; this is clearly indicative of a locality requirement on Multiple Copy Spell-Out, where two items must be adjacent to form a unified prosodic constituent. In fact, Gothic displays a similar constraint on P-Copying when we look at the application of tmesis, the process by which a compound word is broken up by intervening elements.[21] This is exemplified in PVCs when a preverb is separated from its verbal stem by clitics:[22]

(15)   at=**uh**=**þan**-gaf   sa   lewjands   im
      at=and=then-give.PST.3SG 3SG.M.NOM betray.PRS.PPL.NOM.SG 3PL.M.DAT
      bandwon
      token.ACC.SG
      'And then he, betraying [him], gave them a token ...'   [Mark 14:44]

Crucially, non-adjacency between the preverb and verb prevents P-Copying: out of 14 attestations of tmetic PVCs with preverbs of prepositional origin, none co-occur with a PP headed by the same preposition as the separated preverb.[23] Instead, all tmetic

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[21] Traditional notions of tmesis involve the prefix and verb being separated by independent words rather than clitics. In the case of PVCs, verbs which are separated from their preverb by entire words can be interpreted as verbs taking PP/AdvP adjuncts whose P/Adv heads have not incorporated into the verb. This is hence a distinct phenomenon from the phonological tmesis discussed in this section.

[22] Relevant intervening clitics include conjunction *=uh* 'and', polar question marker *=u*, temporal *=nu* 'now' or *=þan* 'then', and sentential negator *=ni* 'not'.

[23] There are 8 attestations of tmetic PVCs whose preverb is an inseparable prefix (e.g., *ga-*, *dis-*) such that P-Copying would not be expected.

PVCs either omit the expected preposition (16a) or employ a different preposition (16b):[24]

(16) a. **miþ**=ni-qam   [PP **Ø** siponjam   seinaim   ] Iesus   in
          with=NEG-come.PST.3SG   disciples.DAT.PL POSS.DAT.PL Jesus.NOM.SG in
          þata   skip
          DEM.ACC.SG ship.ACC.SG
          'Jesus went not with his disciples into the boat ...'   [John 6:22]
    b. **uz**=uh-iddja   **fram** attin
          out=and-go.PST.1SG from father.DAT.SG
          'And I came forth from the Father ...'   [John 16:28]

In contrast, non-tmetic versions of these PVCs can show P-Copying. The PVC *us-gaggan* 'to go out' (with suppletive past stem *iddj-*) attests doubling 25 times as in (17a), while the tmetic variants with enclitics =*uh* 'and' and =*þan* 'then' fail to as in (16b) and (17b).

(17) a. **us**-iddja   unhulþo **us** dauhtr   þeinai
          out-go.PST.3SG demon   out daughter.DAT.SG POSS.DAT.2SG
          'The devil has gone out of your daughter.'   [Mark 7:29]
    b. **uz**=uþ=þan-iddja   bi andhuleinai
          out=and=then-go.PST.1SG by revelation.DAT.SG
          'And then I went up by revelation ...'   [Galataians 2:2]

   This complementarity falls out straightforwardly from the proposed account. The requirement for enclitics to have phonological hosts at their left edge forces displacement of the preverb to serve as such a host. This displacement may be either prosodic (i.e., at PF only) or syntactic; here I consider the former approach and discuss the syntactic alternative in footnotes 25 and 27.[25]

   Tmesis can be analysed as a post-syntactic phenomenon, occurring as a prosodic repair at the level of PF without any manipulation to syntactic structure. Mismatches in the mapping between syntax and prosody are well-established (Clemens 2014; Tan 2021; Tyler and Kastner 2022). For example, Clemens (2014, 2019) argues that prosodic displacement derives VOS surface order from underlying VSO syntax in

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[24] Note that *uz* is the voiced variant of *us*. An anonymous reviewer raises the interesting question of where this prepositional *us* comes from if the PP it should originate in is instead headed by *fram*. I assume that PVCs which take PP adjuncts headed by distinct prepositions, of which numerous non-tmetic examples are attested (e.g., *ut-gaggando us mann* 'going forth from that man'), involve 'idiomatic' structures as discussed in Sect. 3. In these structures, the preverb is first-merged as the head of ApplP rather than incorporated from the PP. Crucially, this structure allows but does not obligate idiomatic meaning, while also permitting tmesis and additional PP adjuncts.

[25] Adopting Eythórsson's (1995) syntactic analysis of second position clitics in Gothic, one could posit that the preverbal P (already moved into Spec, vP) subsequently head-raises into a position in the left periphery (likely C or Top). This movement prevents adjunction of the P head to the verb and precludes formation of the complex v° head such that the preverb remains visible for Chain Reduction, blocking P-Copying. Indeed, any head movement *must* precede this adjunction, lest raising of P instantiate a form of excorporation. Here I assume that canonical head movement, unlike the adjunction created from *m-merger*, does not render the head of its chain invisible for Chain Reduction; otherwise, all instances of simple V-to-v or v-to-T movement should result in Multiple Copy Spell-Out.

Niuean. Recall the intuition that P-Copying involves erasure of the prosodic (word) boundary between the preverb and verb and, by extension, prosodic weakening of the preverb. Tmesis has a contradictory requirement: that the preverb be prosodically strong enough to serve as a host to clitics. If enclitics need to be adjacent to prosodic words, a preverb host must project its own prosodic word;[26] it cannot form a unified, opaque prosodic word with the verb and must remain visible for Chain Reduction, blocking P-Copying. While I leave a full analysis of the mechanisms involved to future work, the crucial generalisation is that tmesis and P-Copying are in complementary distribution; if a tmetic preverb is prosodically non-adjacent to the verb, it prevents formation of the complex prosodic word which renders it invisible for copy deletion.[27]

As a whole, this subsection argues that P-Copying provides overt evidence for the presence of a movement chain wherein a preposition is incorporated into a PVC. We now turn to covert evidence that the preverb originates as such a preposition prior to incorporation.

2.2 Evidence for P-incorporation of a preposition: case and valency alternations

Preverbs do not simply add spatial/temporal semantics to the underlying verb; they also allow for additional indirect objects, like goals or sources. This affects the apparent argument structure of the base verb in several ways. For one, originally intransitive verbs can become (mono)transitive when combined with a preverb. The common intransitive verb *gaggan* 'to go' occurs either sans object (18a) or with an oblique PP (18b) across its approximately 220 attestations. The derived PVC *þairh-gaggan* 'to go

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[26] An anonymous reviewer questions the likelihood of functional elements such as prepositions being able to project independent prosodic words. Although we obviously lack recordings attesting to the phonological/prosodic properties of Gothic, note that independent prepositions are attested in clause-initial position hosting clitics, as with *in=uh* 'and in', *miþ=þan*, 'then with', *uz=uh* 'and from', and *uz=u* 'or from', suggesting that they too had prosodically strong variants. In fact, there is an infamous example of the derivational/aspectual prefix *ga-* appearing to have been inserted for the sole purpose of hosting enclitics:

(i)   **ga**=uh=þan-miþ-sandidedum   imma   broþar
      GA=and=then=with-send.PST.1PL 3SG.M.DAT brother.ACC.SG
      'And then [we] sent the brother with him.'   [2 Corinthians 8:18]

This suggests that Gothic sometimes allowed for canonically weak functional elements like prepositions and derivational prefixes to exceptionally project their own independent prosodic words precisely in order to serve as phonological hosts.

[27] Similarly, if a tmetic preverb is syntactically non-adjacent to the verb, it prevents formation of the complex head which renders it invisible for copy deletion. Note, however, that there are a number of reasons why we may prefer the prosodic approach. On a syntactic account, one might predict changes in the scopal interpretation of PREVERB > ¬ configurations in particular (with negative clitic =*ni*). However, these interpretive effects do not seem to obtain, suggesting that any displacement is purely prosodic. This, of course, makes the not uncontroversial assumption that head movement can have interpretive effects (Lechner 2006). In addition, Goldstein (2010) shows that while the distribution of similar 2nd position clitics in Classical Greek may be sensitive to the syntactic domain in which they take up their 2nd position (clause, phrase, or word), their exact positioning is almost entirely determined by prosodic factors rather than semantic or syntactic ones. Good evidence for this in Greek includes the fact that a clitic and its host can be preceded by non-constituents, showing that the displacement involved does not adhere to constraints on syntactic movement. Comparative data hence also suggests a non-syntactic account. Thus, a prosodic approach is slightly preferable to one based on syntactic movement.

through' has 12 attestations; of these, 5 show the complex verb taking an accusative-marked location as in (18c):[28]

(18) a. aþþan jabai **gagga**,   sandja   ina   du izwis
          but   if   go.PRS.1SG send.PRS.1SG 3SG.M.ACC to 2PL.DAT
          'But if I go, I will send him to you.'   [John 16:7]

      b. unte   ik   [PP du attin   ] **gagga**
          because 1SG.NOM   to father.DAT.SG   go.PRS.1SG
          'Because I go unto my father.'   [John 14:12]

      c. **Makidonja**   auk þairh-**gagga**
          Macedonia.ACC.SG for through-go.PRS.1SG
          'For I do pass through Macedonia.'   [1 Corinthians 16:5]

Similarly, the verb *standan* 'to stand' is intransitive across its 48 attestations, as in (19a). Out of 11 attestations as prefixed *af-standan* 'to depart from, to stand apart from', 4 show an apparent valency increase in taking a dative-marked source as in (19b).[29]

(19) a. aiþei   þeina   jah broþrjus   þeinai   **standand**
          mother.NOM.SG POSS.NOM.2SG and brother.NOM.PL POSS.NOM.2SG stand.PRS.3PL
          uta
          away
          'Thy mother and thy brethren stand without ...'   [Luke 8:20]

      b. in spedistaim dagam   **af-standand**   sumai   **galaubeinai**
          in latest.DAT.PL day.DAT.PL from-stand.PRS.3PL some.NOM.PL faith.DAT.SG
          'In the latter times some will depart from the faith ...'   [1 Timothy 4:1]

In addition, originally (mono)transitive verbal bases can become optionally ditransitive when combined with a preverb. In (20a), the verb *tauhun* 'pulled' takes an accusative direct object *Iesu* 'Jesus.' All 14 attestations of un-prefixed *tiuhan* 'to pull' are either intransitive or monotransitive. In contrast, the prefixed verb *at-tiuhan* 'to pull to, bring to' in (20b) and (20c) is ditransitive and takes both an accusative direct object and a dative indirect object.

(20) a. iþ eis   **tauhun**   Iesu   fram Kajafin
          and 3PL.M.NOM pull.PST.3PL Jesus.ACC.SG from Caiaphas
          'And they led Jesus from Caiaphas ...'   [John 18:28]

      b. jah **at-tauhun**   þana   fulan   **Iesua**
          and at-pull.PST.3PL DEM.ACC.SG colt.ACC.SG Jesus.DAT.SG
          'And [they] brought the colt to Jesus ...'   [Luke 19:35]

      c. **at-tiuha**   **izwis** ina   ut
          at-pull.PRS.1SG 2PL.DAT 3SG.M.ACC forth
          'I bring him forth to you ...'   [John 19:4]

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[28] Of the other 7 attestations, 2 involve P-Copying with *þairh*: Mark 2:23 and Luke 17:11.

[29] 4 of the 7 remaining attestations show P-Copying of *af* (2 Corinthians 4:2 (x2), 1 Timothy 6:5, and 2 Timothy 2:19).

There is good evidence that the incorporated preverb originates as a preposition which introduces the additional arguments in these constructions. This is because the case marking on the additional argument always tracks that which is assigned by the preposition prior to its incorporation. The locative DP is accusative in (18c) because independent *þairh* always assigns accusative case (21a); the source DP is dative in (19b) because independent *af* always assigns dative case (21b).[30]

(21) a. saihvam nu **þairh skuggwan**
          see.PRS.1PL now through mirror.ACC.SG
          'For now we look through a mirror ...'   [1 Corinthians 13:12]
      b. us-stagg   ita   jah wairp   **af þus**
          out-pluck.IMP.2SG 3SG.N.ACC and throw.IMP.2SG from 2SG.DAT
          'Pluck it out, and cast it from thee.'   [Matthew 5:29]

As in German, some Gothic prepositions like *ana* 'onto, on' show semantically-determined case variability (Miller 2019, §6.5), taking accusative case when describing motion (22a), but dative case with static location (22b).

(22) a. jah ains ize   ni gadriusiþ **ana airþa**
          and one 3PL.M.GEN NEG fall.PRS.3SG onto earth.ACC.SG
          'And one of them shall not fall onto the ground ...'   [Matthew 10:29]
      b. swe in himina   jah **ana airþai**.
          as   in heaven.DAT.SG and on   earth.DAT.SG
          'As in heaven and on earth'   [Matthew 6:10]

Crucially, these prepositions retain this semantic alternation when incorporated into PVCs. When *ana* describes motion in (23a), it assigns accusative case, but when evoking a static action in (23b), the case is dative:

(23) a. iþ aggilus   fraujins **ana**-qam   **ins**
          and angel.NOM.SG lord.GEN.SG onto-come.PST.3SG 3PL.M.ACC
          'And the angel of the Lord came upon them ...'   [Luke 2:9]
      b. unselein þize   **ana**-haitandane   **im**
          wickedness DEM.M.GEN.PL on-call.PRS.PPL.GEN.PL 3PL.M.DAT
          'The wickedness of those reprimanding them ...'   [Skeireins 8:4]

In fact, the example of *ana-haitan* 'on(to)' + 'call' is particularly notable as this verb assigns accusative case to its direct objects when its semantics are 'to invoke, call upon', but dative when its semantics are 'to scold, reprimand, rebuke' (Miller 2019, 155–6). The fact that PVCs inherit the case-assigning properties of the pre-incorporation preposition is strong evidence that the preverb starts off as the head of a PP. The case-marking on these oblique DPs is simply the result of the P head assigning case to its complement prior to incorporation.

Here I lay out some brief assumptions about case assignment in Gothic. I assume that different prepositions are specified to assign a specific case to their complements,

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[30] The source of case in (20b) and (20c) is more ambiguous; while *at* always assigns dative case to locative DPs, dative case would also be expected on the indirect object of an inherently ditransitive verb.

whether that is dative (as with *af* 'from, away'), accusative (as with *þairh* 'through'), or a semantically-determined combination of the two (as with *ana* 'onto' in (22)). Although a full account of the relationship between particular prepositions and the case they assign in Gothic (as well as 'two-way' locative/directional alternations) is beyond the scope of this paper, there are a number of ways to cash this out. One could simply stipulate that different $p + \sqrt{\text{root}}$ combinations assign different cases as a type of inherent or 'lexically-governed' case as per Marantz (1991); cf. also Woolford (2006) on lexical case. Alternatively, based on approaches to adpositional case in Dutch and German (van Riemsdijk 2007; Den Dikken 2010; Caha 2010), PP-internal case assignment may be structural. On this approach, differences across prepositions can be captured by further decomposing PP into P_{Loc} (or 'PlaceP') and P_{Dir} (or 'PathP') optionally built atop of it, following the tradition of van Riemsdijk (1978); Jackendoff (1983); Koopman (1999). Taking the account in Den Dikken (2010, §5.5) for concreteness, he proposes that P_{Loc} and P_{Dir} may each be dominated by the functional heads Asp_{Loc} and Asp_{Dir} respectively (amongst others), where the former assigns dative case and the latter accusative case. Individual prepositions then differ as to the amount of functional material in the extended projection of $P_{Loc/Dir}$, resulting in the structurally-determined assignment of accusative or dative case to their complements. For the purposes of this paper, what is crucial is that any such case assignment occurs within the domain of the PP (which may be phasal, cf. Abels 2003, 2012), rendering oblique DP complements inaccessible for subsequent case assignment and/or A-movement operations. I thus propose that all additional oblique DPs in non-idiomatic PVCs receive case PP-internally from specific functional heads (i.e., P or $Asp_{loc/dir}$) prior to incorporation, as evidenced by the case-tracking facts and semantic alternations discussed above.

In the larger clausal domain, I assume that there exists a variant of v, namely v_{dat}, which is in a selectional relationship with particular verbs and which looks down into its c-command domain to assign dative case to the highest visible DP via AGREE—a configuration independently required for monotransitive verbs such as *bairgan* 'to protect' and *balwjan* 'to torture' which take dative complements. This head contrasts with vP which assigns accusative case to the highest visible DP in its c-command domain and v_{pass}P which assigns no case at all and instead facilitates the promotion of arguments into Spec, TP for nominative case assignment with unaccusative verbs and in passive constructions (cf. Sigurðsson 2012 for discussion of such ternary systems).[31]

Additional evidence for an incorporation-based account is the lack of valency alternations with two preverbs in particular: *inn* 'into' and *ut* 'out' (Vázquez-González and Barðdal 2019). There are no verbs which change their argument structure upon being prefixed with either of these two elements, precisely because they are the only two preverbs that have purely adverbial function when independent. This means that they lack the ability to introduce their own arguments prior to incorporation. The absence of valency increases with these two preverbs directly falls out from an analysis in which they originate as adverbs, incapable of taking DP complements (unlike prepositions)

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[31] Nothing in this analysis hinges on positing these as variants of vP instead of separating the functions of external argument introduction and accusative case assignment/causative semantics into VoiceP and vP respectively, as proposed by Legate (2014).

or introducing arguments in their specifier (unlike the Appl heads argued in Sect. 3.3 below for idiomatic PVCs).[32]

The question remains of how exactly the apparent valency increase described above occurs. There are two possible analyses: firstly, incorporation of the P head could strand its original DP complement at the extraction site, giving the 'illusion' of valency increase. Alternatively, the oblique DP could instantiate a proper argument of the verb in some thematically-licensed position related to VP. Based on evidence discussed in the next section, I will argue that the former stranding analysis is more appropriate for non-idiomatic PVCs, and that the latter argumental analysis is more suitable for idiomatic PVCs.

Given both overt evidence from P-Copying and covert evidence from case and valency alternations, I propose that preverbs in non-idiomatic PVCs originate as prepositional heads prior to incorporation. Mechanically, this means they comprise a root in combination with a p categorising head, e.g., $\sqrt{\text{af}} + p$ (Acedo Matellán 2010; Haselbach and Pitteroff 2015; Wood and Marantz 2017). This will now be shown to contrast with preverbs in idiomatic PVCs, where I argue they remain bare acategorial roots, e.g., $\sqrt{\text{af}}$.

3 The structure of optionally idiomatic PVCs

Examples of idiomatic compounds as presented in (2) above are repeated here for convenience:

(24) a. ***faur**-qiþan* < 'before' + 'speak' = 'to make excuses'
      b. ***in**-widan* < 'in' + 'bind' = 'to deny, reject'
      c. ***us**-qiman* < 'out' + 'come' = 'to destroy'

Let us first define what it means for something to be 'idiomatic.' Bucsko (2011, §4.3) suggests a tripartite cline of semantic transparency for any given compound: it may be fully idiomatic, metaphorical, or fully non-idiomatic. Fully **idiomatic** compounds are those in which the original meaning of the preverb and/or verb is no longer recoverable; they are completely non-literal. In contrast, **metaphorical** compounds are those where the meaning of either preverb or verb has been 'extended' in discernible ways. Finally, in **non-idiomatic** compounds both the preverb and verb retain their original semantics. This paper relies on a binary distinction between fully idiomatic compounds on the one hand and metaphorical/non-idiomatic compounds on the other.[33]

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[32] Section 3's analysis of idiomatic PVCs predicts that valency alternations should be possible with *inn* and *ut* first-merged in Appl as in (25)/(33). However, as no PVC in *inn-* or *ut-* is ever idiomatic, we can assume they all involve the derived incorporation structure in (7).

[33] The reason for grouping metaphorical PVCs together with non-idiomatic ones is that both the preverb and verb retain their core semantics in each type. The only difference is that metaphorical PVCs involve a reconstructible 'extension' in meaning: for example, metaphorical *bi-standan* 'to surround' is built off of *bi* 'by, at, around' + *standan* 'to stand', where the extension of meaning from 'to stand by/around s.o.' → 'to surround s.o.' is clear. I assume that extensions like these are pragmatic rather than semantico-structural (contra truly idiomatic PVCs).

This paper's analysis of Gothic PVCs builds on the long-held intuition that differences in idiomaticity have structural correlates, where the licensing of 'special meaning' is configurationally and locally constrained (O'Grady 1998; Bhatt 2002; Bruening 2010; Anagnostopoulou and Samioti 2013; Marantz 2013; Bruening et al. 2018, *a.o.*). For example, Wurmbrand (2000) argues that surface-similar particle verbs in West Germanic have separate structures when semantically transparent as opposed to (semi-)idiomatic, an analysis expanded upon later in this section. This paper expands on this distinction to propose that optionally idiomatic PVCs have the structure in (25).

(25)
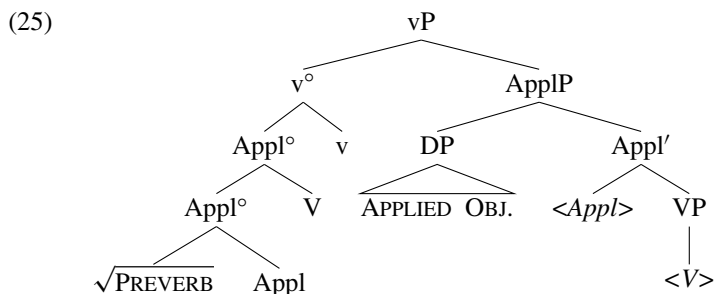
In contrast to obligatorily non-idiomatic compounds which involve incorporation and *m-merger* of the preverb, I argue that the preverb in optionally idiomatic compounds is first-merged as the acategorial head of a high applicative projection ApplP (Pylkkänen 2008), the specifier of which applied objects can be first-merged into. This difference in the derivational origin of the preverb determines the availability of idiomatic interpretation.[34] This section will first discuss the locality of idiomatic licensing, before presenting evidence against the existence of a movement chain akin to that found in non-idiomatic PVCs and in favour of an ApplP projection instead.

3.1 Idiomatic licensing

I adopt Wurmbrand's (2000) proposal that idiomatic particles must be licensed in particular configurations:

(26)   IDIOMATIC PARTICLE LICENSING
        Idiomatic interpretations are licensed in a local relation at LF
        Local relations (cf. Bobaljik 1995):

            Head-complement configuration (cf. Zeller 1999)
            Specifier-head configuration   (Wurmbrand 2000, 16, ex. 24)

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[34] The structure in (25) allows idiomatic meaning but does not require it; semantically transparent compounds may have this structure in particular contexts, i.e., in MPCs, with inseparable prefixes, when a PVC takes a PP adjunct headed by a preposition distinct from that of the preverb, or when a PVC shows valency increase without P-Copying or tmesis. Section 5 will argue that this latter configuration is the bridging context for diachronic reanalysis of these compounds. It is possible that when semantically-transparent PVCs are built with Appl, any transitive object is introduced as the complement of VP rather than in Appl, thereby receiving its expected thematic role from V.

I assume that the head-complement relation between the base-generated preverb in Appl and verb in VP as illustrated in (25) qualifies as just such a local relation, enabling (but not obligating) idiomatic interpretations. In contrast, strictly non-idiomatic compounds lack such a local relationship between the preverb in P and verb. One could argue that either the movement of P(P) into Spec, vP or its subsequent *m-merger* adjunction to v results in a sufficiently local relation in (7). However, it is clear from cross-linguistic parallels that we should not expect these derived configurations to suffice for idiomatic licensing. Consider for instance Modern German, where idiomatic interpretations are uncontroversially licensed in V2 constructions, even after the verb has fronted to C and stranded its complement or particle:

(27)   a.   Peter **sitzt** in der Tinte ~~sitzt~~
          Peter sits   in the ink   sits
          'Peter is in hot soup.'   (Zeller 2001, 163, ex. 24)
     b.   Hans **warf** seinen Mitarbeiter **hinaus** ~~warf~~
          John threw his   employee   out   threw
          'John fired his employee.'   (Wurmbrand 2000, 16, ex. 25a)

In fact, it is widely accepted that idioms are not sensitive to surface structure/PF but something deeper such as LF, 'the point of MERGE', or traditional D-structure (Bhatt 2002).[35] Proposals like O'Grady's (1998) Dependency Theory and Bruening's (2010) Selection Theory rely on the conditions of external MERGE:

(28)   "For two elements X and Y to form (part of) an idiom, X and Y have to enter into a very tight local relationship, namely, some sort of selection-like dependency that is limited to sisterhood (or possibly [...] Y has to merge with a projection of X, or vice versa)."

                                    (Bruening et al. 2018, 14–15)

The availability of idiomatic readings in (27) is thus easily accounted for if the verb has either reconstructed, left a privileged copy, or not moved at all at LF such that head-movement of V does not affect idiomatic licensing (Wurmbrand 2000). The flipside of this suggests that if the proper idiomatic licensing configuration does not obtain at first-merge or LF, one cannot derive it—in the same way thematic relations are established at first merge, so too are idiomatic relations. This precludes idiomatic licensing from happening in semantically-transparent Gothic compounds like (7): because the preverb starts out as head of a PP it is non-local for (26) and/or (28).[36] Thus, (non-)idiomaticity can be said to fall out from the proposed presence of incorporation in transparent but

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[35] While not all idioms can be passivised or topicalised, many can (Kayne 1975; Riehemann 2001; Folli and Harley 2007). However, this may reflect a difference in the size of the stored idiom structure rather than a fact about how A- and A′-movement interacts with idiomaticity.

[36] Following recent work on the distinction between idiomaticity and contextual allosemy (Anagnostopoulou and Samioti 2013; Marantz 2013), it is possible to conceive of 'idiomatic' PVCs in Gothic as the latter type, i.e., allosemous, rather than phrasal idioms. This allows for an alternative analysis of the locality of idiomatic licensing in which idiomaticity is bounded by the domain of a phasal categorising head. On this account, the already-categorised P preverb and V verb in non-idiomatic compounds cannot be interpreted allosemously. However, given the acategoriality of the preverb root in idiomatic compounds (Sect. 3.4), the preverb and verb roots could be taken to share a verbalising category head in (25), allowing for allosemy.

not idiomatic PVCs; I will now proceed to demonstrate this absence in idiomatic PVCs and illustrate how the structure in (25) successfully derives other asymmetries in the distribution of the two types of Gothic compounds in the form of case and argument structure alternations.

3.2 Evidence against P-incorporation: no P-copying or case tracking

It is notable that idiomatic PVCs can show a valency increase over their non-prefixed versions. Consider the unaccusative verb *qiman* 'to come', which becomes transitive when prefixed with *us* 'out' and acquires the non-compositional meaning 'to kill', taking a dative object:

(29) þai-ei   jah fraujin   **us-qemun**   Iesua
      DEM.NOM.PL-REL and lord.DAT.SG out-come.PST.3PL Jesus.DAT.SG
      'And they who killed the Lord Jesus ...'   [Thessalonians 1 2:15]

On the surface, this could involve the same structure as proposed for non-idiomatic PVCs in Sect. 2 wherein *us* introduces the oblique argument *Iesua* as its complement prior to its incorporation. However, I argue that these compounds instead employ applicative projections headed by the preverb, where the applied object is first-merged in Spec, ApplP. The first piece of evidence for this is that idiomatic PVCs never show P-Copying. One could imagine a construction like (29) with doubling of *us* before the applied object *Iesua* 'Jesus' for emphatic purposes or as a remnant of the underlying spatio-temporal meaning ('out of Jesus'), the result of Multiple Copy Spell-Out as discussed in Sect. 2.1.1 above.

   However, across approx. 455 tokens of idiomatic PVCs in the Bible built with preverbs of prepositional origin (spread across 38 types, given in Appendix B.2), P-Copying is almost exceptionlessly absent.[37] This is predicted by our analysis of idiomaticity: if the preverb starts out bearing its original locative meaning in a PP, there is no way for it to later produce idiomatic meaning upon incorporation, since all links in a movement chain must bear the same 'status' regarding semantic transparency. Hence, the absence of 'idiomatic' P-Copying falls out from how there is no movement chain of which multiple links can be pronounced when an idiomatic preverb is first-merged as an Appl head.

   The corollary of this is that idiomatic preverbs cannot introduce their own complement. The second piece of evidence that preverbs do not originate in PPs then comes from patterns of case-assignment to applied objects. Recall how Sect. 2.2 showed

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[37] There are 4 potentially ambiguous counterexamples; 2 of these involve *bi-rodjan* 'to murmur' < *bi* 'by' + *rodjan* 'to speak' occurring before a PP headed by *bi* indicating who the murmuring is about (John 6:41; John 7:32). This PVC may not be truly fully idiomatic, as the action of murmuring clearly preserves the semantics of speaking from the base verb, while the preverb introduces a form of proximity in topic (cf. 'to speak on something'). Contra Bucsko (2011, 86), I hence assume that *bi-rodjan* is metaphorical rather than fully idiomatic. The other 2 counterexamples involve transitive *in-weitan* 'to worship, salute' < *in* 'in' + -*weitan* 'to see, know' (unattested as an unprefixed verb). In one case, *in* heads a PP describing the temple where the worship is to take place (John 12:20). In the other, *in* is part of a set phrase *in andwairþja* ... meaning 'in the presence of ...' (Luke 4:7). In neither case does the repeated *in* introduce or emphasise the direct object argument of the verb, undermining their status as genuine counterexamples.

that the added objects of non-idiomatic compounds track the case assigned by the independent preposition prior to incorporation, including any semantic alternations. This was taken as evidence that these preverbs started out as prepositions, assigning case to their complement before movement. No such tracking obtains with idiomatic PVCs: applied objects can be assigned dative case even when the original preposition only ever assigns accusative case (and vice versa). For example, the independent preposition *and* 'throughout, along' only ever introduces accusative complements, but co-occurs with dative applied objects in *and-tilon* 'to hold to, to be devoted to' (< **-tilon* from PGmc. **tilōną* 'to strive, reach'; cf. Got. *ga-tilon* 'to achieve, obtain') and *and-hafjan* 'to answer' (< *hafjan* 'to raise, lift'):

(30) a. aiþþau **ainamma** and-tiloþ
          or.else one.DAT.SG throughout-strive.PRS.3SG
          'Or else he will hold to the one ...'   [Luke 16:13]

      b. þan=uh   and-hafjiþ   **im**   qiþands
          then=and throughout-raise.PRS.3SG 3PL.M.DAT say.PRS.PPL.NOM.SG
          'And then he answers them, saying ...'   [Matthew 25:45]

Similarly, the dative-assigning preposition *us* 'out of' co-occurs with an accusative applied argument when prefixed to intransitive *waltjan* 'to roll (of waves)', producing the transitive verb *us-waltjan* 'to subvert, overthrow':

(31) þai-ei   **gardins   allans**   us-waltjand
      3PL.M.NOM-REL house.ACC.PL all.ACC.PL out-roll.PRS.3PL
      'Those who subvert whole houses ...'   [1 Titus 1:11]

The independent verb *hafjan* takes an accusative direct object, while the verb *waltjan* is intransitive. It is clear that the case-assigning ability of these idiomatic PVCs is not compositionally inherited from either of its component parts, but is instead a property of the complex PVC in its entirety (just as the stored idiomatic interpretation is a property of the preverbal Appl head + verb together). This parallels how inseparable prefixes like *fra-* 'away, forward, pejorative' can increase valency while co-occurring with dative-marked objects:

(32) a. so-ei   in lekjans   **fra-qam   allamma aigina**
          3SG.F.NOM-REL in doctor.ACC.PL away-come.PST.3SG all.DAT.SG property.DAT.SG
          seinamma
          POSS.DAT.3SG
          'She who had spent all her property on doctors ...'   [Luke 8:43]

      b. jah sitlans   þize   **fra-bugjandane   ahakim**
          and seat.ACC.PL 3PL.M.GEN away-buy.PRS.PPL.GEN.PL dove.DAT.PL
          us-waltida
          out-roll.PST.3SG
          'And [he] overthrew the seats of those who sold doves.'   [Mark 11:15]

Again, the ability to assign dative case cannot come from the verbal base, which is intransitive *qiman* 'to come' in (32a) and which takes accusative direct objects as

bugjan 'to buy' in (32b). Similarly, it cannot come from the preverb, since *fra-* does not exist as an independent preposition.[38] Thus, I posit that all PVCs headed by inseparable prefixes like *fra-*, *dis-*, or *twis-* involve the ApplP structure of an optionally idiomatic compound even when semantically transparent, given that there is no PP they could originate as the head of and subsequently incorporate from.

If case does not track the prepositional variant of the preverb (contra non-idiomatic PVCs), what determines whether a given idiomatic PVC's complement is accusative or dative? Here I propose that dative-assigning idiomatic PVCs are those whose Appl-V complex is in a selectional relationship with a v_{dat}P, such that the highest visible DP first-merged in Spec, ApplP receives dative case under AGREE with v_{dat}. Thus, a dative complement PVC like *and-hafjan* 'to answer' will have a similar syntactic structure to that of a simplex dative complement verb like *bairgan* 'to protect', except that v_{dat}P combines with ApplP rather than VP directly and the highest visible DP is in the specifier of ApplP rather than the complement of VP. Idiomatic PVCs which take accusative complements like *us-waltjan* 'to overthrow' simply combine with vP, such that v assigns accusative case to the DP in Spec, ApplP as with conventional accusative complement verbs like *maitan* 'to cut'.[39]

In sum, the exact phenomena of P-Copying and case tracking which support the presence of P-Incorporation in non-idiomatic compounds confirm the absence of this incorporation in idiomatic compounds. The next section will present further evidence that additional objects introduced by ApplP in idiomatic PVCs are real arguments of the extended verbal projection and not stranded within a PP adjunct, contra non-idiomatic PVCs.

3.3 Evidence for ApplP: valency alternations and passivisation

As proposed by Pylkkänen (2002, 2008) and widely adopted thereafter, I assume that some valency-increasing constructions employ an applicative projection ApplP. The high variant of ApplP, merged between v/VoiceP and VP, introduces and thematically licenses arguments like beneficiaries, maleficiaries, and locations in its specifier and relates them to the event described by the complement VP.

We have seen that preverbs in idiomatic PVCs show different empirical behaviour in comparison to those found in non-idiomatic PVCs. In particular, they do not participate in P-Copying and show no correlation between the case their prepositional variants assign and the case assigned to direct objects of the idiomatic PVC. I argue that this is

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[38] Although it is possible that *fra-* 'away, forward, pejorative' is historically the prefixal variant of preposition *fram* 'from, due to', the two have such different semantic contributions that it is no longer clear they are synchronically related. Furthermore, even in semantically transparent compounds, *fra-* is never doubled by a PP complement headed by *fram*. In addition, the the prefixes *dis-* 'apart, away' and *twis-* 'apart' also produce valency increase in *dis-sitan* 'to seize' (with accusative object, from intransitive *sitan* 'to sit') and *twis-standan* 'to take leave of' (with dative object, from intransitive *standan* 'to stand'), where neither of these prefixes have corresponding prepositional forms.

[39] I thank an anonymous reviewer for pushing for clarity on how case assignment in idiomatic PVCs can be cashed out. As for whether a given idiomatic PVC takes accusative or dative complements, pending further research, it may be that a PVC's selection of a v_{dat} head is semi-predictable based on certain semantic properties of the verb and the type of theta role it assigns, as per Woolford's (2006) distinction between lexical and inherent case.

because the preverb in idiomatic PVCs instantiates the head of such an aforementioned high ApplP. The proposed structure is illustrated in (33) and closely resembles that proposed by Wurmbrand (1998, 270: ex. 4b) for prefix verbs in Modern German as illustrated in (34).[40]

(33)   Gothic idiomatic PVC   (34)   German prefix verb
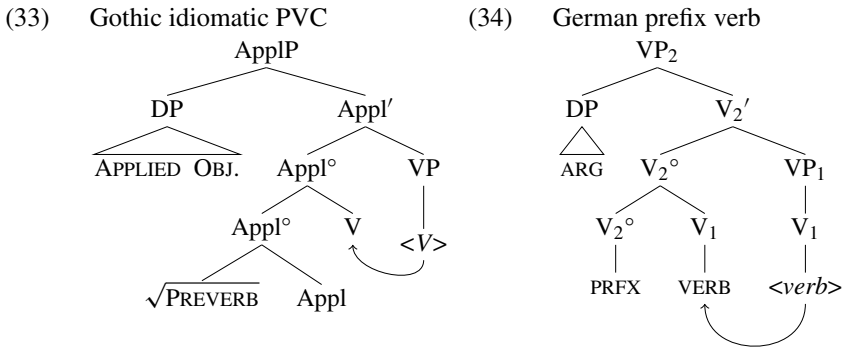
In both, the preverb/prefixal element instantiates the head of a functional projection which combines with a VP complement; the main differences between (33) and (34) are the label of this functional projection[41] and the category (or lack thereof) of the preverb/prefix itself (addressed in Sect. 3.4). Crucially, in these constructions the DP introduced by this additional functional projection behaves as a proper argument of the verb for the purposes of argument structure alternations (Stiebels and Wunderlich 1994). We can illustrate this fact through the contrast between prefix and particle verbs in Modern German. The former are valency-increasing (35a) while the latter are not and instead require prepositions to introduce additional arguments (35b).

(35)   a.   Er   hat   den   Wald   be-treten
            3SG.M.NOM has.3SG DET.ACC.M.SG forest.ACC.SG PRFX-step.PST.PPL
            'He entered the forest.'   (S. Wurmbrand, *p.c.*)
       b.   Er   ist   *(in)   den   Wald   ein-getreten
            *3SG.M.NOM is.3SG *(into) DET.ACC.M.SG forest.ACC.SG PART-step.PST.PPL*
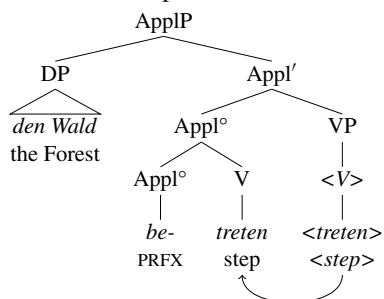   'He entered into the forest.'   (S. Wurmbrand, *p.c.*)

Wurmbrand (1998) analyses this difference as arising from how the two complex verbs in (35), *be-treten* and *ein-treten*, have different underlying structures. Bearing the structure in (34), here updated with the label ApplP (36a), the prefix verb *betreten*

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[40] I assume that when a verb in the structure (33) is interpreted idiomatically, it loses its ability to introduce and assign a thematic role to a semantically-transparent direct object DP complement. The reason for this is semantic: a verb cannot be simultaneously interpreted both idiomatically and non-idiomatically, such that requiring a non-idiomatic [V NP] but an idiomatic [Appl VP] leads to contradictory interpretive requirements and ungrammaticality.

[41] As ApplP can be thought of as a head in the extended verbal projection of VP (as with vP, VoiceP, etc.), I set aside this labelling difference as trivial for the purposes of this paper.

introduces the locative object in Spec, ApplP. In contrast, the particle verb *eintreten* introduces the locative object within a PP adjunct as in (36b).[42]

(36)   a.   German prefix verb: b.   German particle verb
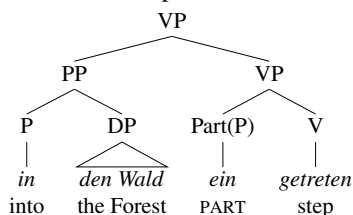
As the locative DP is an argument of the (extended) prefix verb in (36a) but in an adjunct of the particle verb in (36b), only the former may be passivised:

(37)   a.   Der   Wald   wurde **be**-treten
             DET.NOM.M.SG *forest*.NOM.SG *was*.3SG *PRFX-step*.PST.PPL
             'The forest was entered.'   (S. Wurmbrand, *p.c.*)

        b. *Der   Wald   wurde **ein**-getreten
             DET.NOM.M.SG *forest*.NOM.SG *was*.3SG *PART-step*.PST.PPL
             Intended: 'The forest was entered into[43].'   (S. Wurmbrand, *p.c.*)

We can recreate this contrast in Gothic. The proposal is that idiomatic PVCs introduce additional objects as arguments in Spec, ApplP, while non-idiomatic PVCs show 'valency increase' when the incorporated preposition strands its complement DP within the PP it originates from. As such, idiomatic PVCs should allow applied objects to be passivised and promoted to subject position. For instance, the unergative verb *laikan* 'to leap for joy, play' (38a) forms an idiomatic PVC with *bi-* 'by, at' such that *bi-laikan* is a transitive verb meaning 'to mock' (38b).[44] Crucially, the newly introduced applied object can then be passivised in (38c):

(38)   a.   lailaik   barn   in qiþau   izos
             leap.PST.3SG *child*.NOM.SG *in womb*.DAT.SG 3SG.F.GEN
             'The baby leapt [for joy] in her womb ...'   [Luke 1:41]

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[42] This PP is here illustrated as a VP adjunct; however, an anonymous reviewer proposes that it is more likely for the PP to adjoin to PartP, internal to the VP. Evidence for this would come from testing whether *in den Wald* can be stranded when the particle verb is replaced by a verbal proform, amongst other tests for constituency; I thank the reviewer for this suggestion. However, nothing in the proposed analysis of Gothic hinges on this difference; what is important is that *den Wald* in (35b) is contained within a PP adjunct (regardless of where exactly that adjunct attaches) in contrast to its introduction as an argument of Appl in (35a).

[43] This sentence is grammatical under the irrelevant interpretation 'The forest was kicked in.'

[44] An additional diagnostic of High vs. Low Applicatives is that unergative verbs can only combine with the former (Pylkkänen 2008). This, along with the non-possessive semantics of PVCs, suggests that ApplP is above VP rather than below it.

    b. jah bi-laikand   **ina**
        and by-leap.PRS.3PL 3SG.M.ACC
        'And they mock him ...'   [Mark 10:34]

    c. **Guþ**   ni **bi-laikada**
        God.NOM.SG NEG by-leap.PASS.3SG
        'God is not mocked.'   [Galatians 6:7]

Similarly, the intransitive verb *qiman* 'to come' combines with inseparable particle *fra-* 'away, forward, pejorative' to produce idiomatic *fra-qiman* 'to expend, use up' whose object can be passivised:

(39) **ik**   laþaleiko fra-qima   jah **fra-qimada**   faur saiwalos
     1SG.NOM gladly   away-come.PRS.1SG and away-come.PASS.1SG for soul.ACC.PL
     izwaros
     POSS.ACC.2PL
     'I will gladly spend and be spent for your souls ...'   [Corithinians II 12:15]

The availability of passivisation shows that Gothic idiomatic PVCs behave like German **prefix** verbs in merging the applied object as an argument of the extended verbal complex in Spec, ApplP, instantiating a real valency increase. Here I assume that passivisation involves a $v_{pass}P$ taking ApplP as its complement. Since v_{pass} does not assign any case (unlike v with accusative and v_{dat} with dative), we find syntactic promotion of the highest visible DP as it raises into subject position in Spec, TP to receive nominative case from T. Crucially, even idiomatic PVCs which admit dative objects can be passivised (cf. *fra-qimada* '(3SG) is spent, used up' in (39)). I assume that this is because these objects receive dative case from v_{dat}; as v_{dat} is in complementary distribution with v_{pass}, the DP argument remains unmarked for case and thus visible for promotion.[45]

in contrast, the complements of prepositions in Gothic cannot be promoted under passivisation, just as in Modern German. One reason for this may be that they receive PP-internal case from the preposition that introduces them, rendering them invisible to subsequent A-movement operations; another reason is that they originate within an adjunct and cannot be extracted. As such, passivised non-idiomatic PVCs should not allow the promotion of nominals introduced by the (prepositional) preverb. We can test this in three main ways.

Firstly, intransitive verbs which become 'derived transitives' upon preverbation (with the added object clearly associated with the prepositional preverb) should not allow for passivisation or promotion of this object. Indeed, out of approximately 195 attested tokens of (synthetic) passives (Skladny 1873, 3–7),[46] none involve a transitive PVC built off of an intransitive verbal base (e.g., *ana-qiman* 'to come upon X' but no

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[45] This also accounts for how simplex verbs which take dative DP complements like *gaumjan* 'to see, notice X' can also be passivised (e.g., *gaumjaindau* OPT.PASS.3PL '(3PL) may be noticed' in Matthew 6:5), allowing for promotion of the dative object into a nominative subject.

[46] A preliminary survey of the analytic/periphrastic passive constructions built with *wisan* 'to be' and *wairþan* 'to become' + the past (passive) participle shows the same absence (Skladny 1873, 8–11).

**ana-qimada '(3SG) is come upon'; *bi-standan* 'to stand around, surround X' but no **bi-standada '(3SG) is surrounded').[47]

However, transitive verbs which form transitive PVCs with no alteration of their argument structure can be freely passivised with promotion of the verb's direct object argument. For example, a monotransitive PVC *us-siggwan* 'to read out, recite X' built off of a monotransitive verb *siggwan* 'to sing, read X' allows promotion of the direct object under passivisation since the THEME is originally introduced by the verbal base as in (40).

(40)   jah þan **us-siggwaidau**   at izwis **so**   **aipistaule**
        and then out-read.OPT.PASS.3SG at 2PL.DAT DEM.F.NOM.SG epistle.NOM.SG
        'And when this epistle is read (out) among you ...'   [Colossians 4:16]

Crucially, when a transitive verb becomes a 'derived ditransitive', only the direct object thematically introduced by the original verb can be promoted under passivisation—never the additional oblique nominal associated with the preverb. Thus, PVC *af-niman* 'to take X from Y' built off of monotransitive *niman* 'to take X' can be passivised (41a), but only with promotion of the original THEME argument *þat* 'that (which he has)' and not the SOURCE *imma* 'him' introduced by *af*. The reason for this can be seen transparently in cases of P-Copying, where the oblique nominal overtly remains in a PP and is therefore unavailable for promotion (41b).[48]

(41)   a. jah **þat=ei**   habaiþ **af-nimada**   imma
            and DEM.NOM/ACC.SG=REL have.PRS.3SG from-take.PASS.3SG 3SG.M.DAT
            'And that which he has is taken from him.'   [Matthew 4:25]
        b. þan **af-nimada**   af im   **sa**   **bruþfaþs**
            then from-take.PASS.3SG from 3PL.M.DAT DEM.M.NOM.SG bridegroom.NOM.SG
            'Then the bridegroom will be taken from them ...'   [Matthew 9:15]

Indeed, all 'derived ditransitive' non-idiomatic PVCs show this promotion asymmetry under passivisation, permitting only the promotion of direct objects first introduced by the verbal base. This pattern of alternation is exemplified non-exhaustively in Table 2. What these alternations show is that additional arguments introduced by the preverb in non-idiomatic PVCs cannot be promoted under passivisation, suggesting that they behave more like German **particle** verbs in introducing the locative/oblique object within a PP.

This section has provided evidence from argument structure alternations for the presence of a valency-increasing applicative projection in idiomatic PVCs, contra non-idiomatic PVCs; the structures for each have been shown to parallel Modern German prefix and particle verbs respectively. Crucially, idiomatic PVCs introduce applied objects as arguments in Spec, ApplP, which receive case on the basis of AGREE with a

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[47] The sole possible exception is *bi-speiwada* '(3SG) is spit on' [Luke 18:32], built off of unergative *speiwan* 'to spit'. This verb is attested as part of a long string of passive verbs which all share an unexpressed but implied subject; it is not clear that this involves true syntactic promotion of *bi*'s complement, or if Across-the-Board movement/ellipsis has somehow obviated the constraint on promotion out of a PP.

[48] The passive in (41a) involves a free relative construction, where the promoted subject pronoun is syncretic between the FR-required accusative case ('he has X') and matrix clause-imposed nominative case ('X is taken from him').

Table 2 Patterns of passivisation for 'ditransitive' PVCs

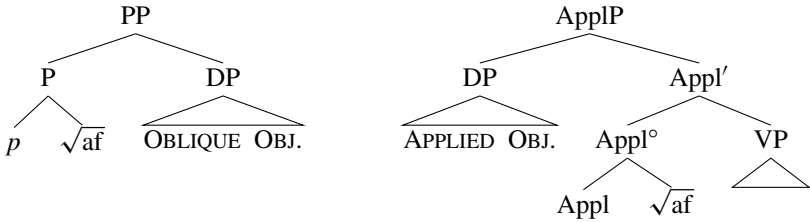| Verb	Meaning	PVC	Meaning
letan	'to allow X'	*af-letan*	'to forgive X of Y'
maitan	'to cut X'	*us-maitan*	'to cut X off of Y'
niman	'to take X'	*af-niman*	'to take X from Y'
sandjan	'to send X'	*in-sandjan*	'to send X into Y'
Passive PVC	**Meaning**	**Attestation**	
af-letanda	'(3PL) are forgiven of Y'	Matthew 9:5	
us-maitada	'(3SG) is cut off of Y'	Matthew 7:19	
us-nimada	'(3SG) is taken from Y'	Matthew 4:25	
in-sandjanda	'(3PL) is sent into Y'	Romans 10:15	

v or v_{dat} head and are available for promotion under passivisation when in combination with v_{pass}. In contrast, non-idiomatic PVCs only show the illusion of valency increase, such that any additional objects are really DPs stranded within the PP adjunct vacated by the preverb when it incorporates. They hence closely track the case assigned by the prepositional variant of the preverb (down to ACC/DAT alternations conditioned by motion vs. static location semantics) and cannot be promoted to subject under passivisation.

3.4 Roots and categories

The differences between idiomatic and non-idiomatic PVCs described above can be captured by proposing that preverbs instantiate an Appl head in the former and a P head in the latter. What does it mean for a preverb to be Appl? Here, I follow recent work on semi-lexicality which proposes that roots are structural notions, constituting a type of (terminal) syntactic node (De Belder 2011; De Belder and Van Craenenbroeck 2015; Cavirani-Pots 2020). Any vocabulary item can realise a root if it is inserted into a root position; many vocabulary items can be used functionally if inserted into a non-root position. As such, conventionally functional items can be used lexically (e.g., Dutch *maar* 'but' forming a verb *maaren* 'to object'; German *du* 2SG.NOM forming a verb *duzen* 'to address (informally) with *du*') and vice versa (e.g., Dutch *zitten* 'to sit' coming to mark progressive or durative aspect).

For a given preverb *af* 'from, away', I propose that it instantiates a root $\sqrt{af}$ that may either be combined with categorising head *p* to form a preposition (following proposals by Acedo Matellán 2010; Haselbach and Pitteroff 2015; Wood and Marantz 2017), or with Appl to form an applicative head. In its prepositional use (42a), $\sqrt{af}$ + *p* can not only introduce its own DP complement but also determine the thematic role it receives and the case it is assigned. In its applicative use (42b), Appl can introduce an applied argument in its specifier—but the case this applied object receives is based on the vP it combines with (e.g., accusative with v (38b), dative with v_{dat} (32), or nominative when passivised with v_{pass} as in (39) and (38c)).
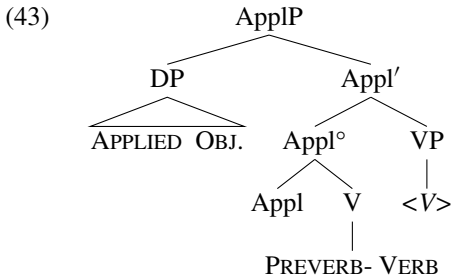
(42)   a. Prepositional *af* (non-idiomatic)   b. Applicative *af* (possibly idiomatic)

```
              PP                                        ApplP
            /    \                                    /      \
           P      DP                                DP        Appl′
          / \    /   \                            /    \     /    \
         p  √af OBLIQUE OBJ.             APPLIED  OBJ. Appl°    VP
                                                      /   \      /\
                                                   Appl   √af
```

This analysis captures the case-tracking behaviour we find with non-idiomatic PVCs but not idiomatic ones, as well as the passivisation facts we find wherein oblique objects as in (42a) cannot be promoted while applied objects as in (42b) can. Furthermore, the fact that P directly assigns a (spatio-temporal) thematic role to its complement in (42a) precludes subsequent idiomatic interpretation, while the applied object in (42b) has more flexibility in receiving a theta role from the (potentially idiomatic) Appl + $\sqrt{\text{af}}$ + V complex.[49]

3.5 Alternative possibilities

One could posit that idiomatic PVCs are first-merged as an indivisible lexical item, illustrated as follows:[50]

(43)

```
                    ApplP
                 /         \
               DP           Appl′
              /   \        /      \
       APPLIED OBJ.    Appl°        VP
                      /    \         |
                    Appl    V      <V>
                            |
                     PREVERB- VERB
```

As with the purported outcome of Morphological Fusion discussed above (Sect. 2.1.1), this would suggest that the preverb and verb are stored as an inseparable unit in the Lexicon and inserted as such at Spell-Out, and faces similar issues. Firstly, idiomatic PVCs always inherit the inflection class of the verbal base, even when the semantic contribution of that base is completely opaque—*qiman* 'to come' and *hafjan* 'to lift' are both strong verbs (Class IV and VI respectively). Their idiomatic counterparts in (29) and (30b) inherit these ablaut patterns exactly, which one would have to say is coincidence or analogy under a structure like (43).

Secondly, idiomatic compounds allow tmesis (44). It may seem odd that the lack of linear adjacency does not block idiomatic interpretation; however, recall that idiomatic

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[49] This may be a way to cash out the locality/first-merge constraints on idiomatic licensing as discussed in Sect. 3.1.

[50] The applied object in this case could also be introduced as the regular direct object complement of the indivisible preverb-verb. This analysis would be subject to the same criticisms of opacity.
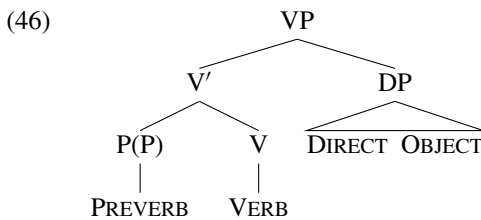
licensing occurs at first merge, such that subsequent displacement of the preverb should not affect its interpretation (Sect. 3.1).[51]

(44) a. bi=**uh=þan**-gitanda
          by=and=then-get.PASS.1PL
          'And then [we are] **deemed**' (< 'by' + 'get')   [1 Corinthians 15:15]
      b. diz=**uh=þan**-sat
          away=and=then-sit.PST.3SG
          'And then [trembles] **seized** them' (<'away' + ' sit')   [Mark 16:8]

The fact that tmesis can target the preverb as an individual prosodic element for displacement to host intervening clitics suggests not only its phonological but also its structural independence from the verb. If the preverb were truly inaccessible, we would expect tmesis to treat the entire compound as one undecomposable unit with clitics occurring after the the prefixed verb (e.g., ***bi-gitanda=uh=þan*), as in simplex verbs:[52]

(45) qaþ=**uh=þan**   du siponjam   seinaim
      speak.PST.3SG=and=then to disciple.DAT.PL POSS.DAT.3PL
      'And then [he] spoke to his disciples ...'   [Luke 16:1]

Thus, idiomatic PVCs cannot involve Vocabulary Insertion of an opaque preverb + verb unit to a single terminal node, as verb base idiosyncracies and tmesis both attest some decompositionality of the preverb and verb. Alternatively, we could posit a looser structure where the preverb instantiates a full complement of the verb:

(46)

```
                    VP
                  /    \
               V′       DP
              /  \     /   \
          P(P)    V  DIRECT OBJECT
           |      |
        PREVERB VERB
```

This structure is akin to Wurmbrand's (1998, 2000) proposal for Modern German semi-idiomatic particle verbs in (36b). However, this analysis also makes incorrect predictions for Gothic: for one, German particle verbs obligatorily strand their particle in final position when the verb is moved for V2, as exemplified in (27).[53] In

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[51] This may also be evidence in favour of a phonological account of tmesis over a syntactic one. As discussed in Sect. 2.1.2 and footnotes 25 and 27, true syntactic head-movement of the preverb/Appl head out of the structure in (33) and into the relevant clitic-introduction projection would arguably instantiate a form of excorporation.

[52] I thank an anonymous reviewer for pointing out that the pattern of enclisis to the entire verbal complex is found in Koine Greek (65b); Homeric Greek retains the (arguably more conservative) Gothic pattern in which clitics were able to attach to preverbs (Asyllogistou 2019).

[53] This stranding is already attested in Old High German (11b).

contrast, neither idiomatic nor non-idiomatic Gothic PVCs ever strand their preverb in configurations that require V-fronting:[54]

(47) a. akei hva   **us**-iddjeduþ saihvan?
          but   what.ACC.SG out-go.PST.2PL see.INF
          'But what did you go out to see?'   [Matthew 11:8]

      b. unte wiljin   is   hvas   **and**-standiþ?
          for   will.DAT.SG POSS.GEN.3SG who.NOM.SG throughout-stand.PRS.3SG
          'For who has resisted his will?'   [Romans 9:19]

      c. ni=u   **and**-hafjis   waiht?
          NEG=QN throughout-raise.PRS.2SG thing.ACC.SG
          'Answerest thou nothing?'   [Mark 14:60]

It has been established that *wh*-items consistently trigger V2 in Gothic (Eythórsson 1995; Walkden 2012; Miller 2019), such that nothing intervenes between the verb and interrogative element. Thus, the PVCs in (47a) and (47b) must have undergone fronting to C; yet both the semantically transparent preverb *us* 'out (of)' and idiomatic preverb *and* 'throughout, along' remain prefixed to the verb. Similarly, the interrogative clitic =*u* is taken to reside in C, attaching to highest overt head of the complex which moves into it (Eythórsson 1995, §2.2, §3.2). In positive questions, this overt head is simply the verb; in negative questions, this is the negator (assuming head movement of V → Neg). Given this, (47c) also requires movement of the verb to CP, but shows no stranding of *and*. Finally, recall that German particle verbs cannot increase valency (35b), while idiomatic PVCs in Gothic can (Sects. 3.2 and 3.3). With these differences in the (un)availability of stranding and argument structure alternations, it is clear that Gothic PVCs and German particle verbs must have different structures.

3.6 Interim summary

Having established the differing underlying structures of the surface-similar obligatorily semantically transparent and optionally idiomatic PVCs, we can summarise their empirical behaviour as in Table 3.

Non-idiomatic PVCs involve a movement chain in which the head of a prepositional phrase incorporates into the verb via *m-merger*. This prepositional head determines both the case and thematic role of its underlying DP complement, 'locking in' its non-idiomatic semantics and resulting in case tracking; however, because this added oblique DP remains stranded in the PP, it is not a genuine argument of the verb and remains unavailable for A-movement operations like passivisation. Non-idiomatic PVCs therefore fail to show true valency increase. Multiple Copy Spell-Out of more than one link of the incorporation movement chain results in P-Copying, which requires adjacency of the preverb + verb and is thus disrupted by tmesis.

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[54] While Gothic is still largely V-Final, it shows the beginnings of a substantial shift to default V2 ordering in main clauses (Miller 2019, 514). Note that *unte* 'for' in (47b) does not require V-final order. I assume that this sentence involves V2 raising of the verb as well as topicalisation of the complement above the *wh*-element.

Table 3 Non-idiomatic vs. Idiomatic PVCs

PVC type	Preverb cat.	Case tracking	Valency incr.	P-Copying	Tmesis
Non-idiomatic	P	✓	✗	✓	sans P-Copying
Idiomatic	Appl	✗	✓	✗	✓

In contrast, idiomatic PVCs involve the preverb first-merged as an Appl head, which takes a VP complement (allowing for local idiomatic licensing) and can introduce applied object arguments in its specifier. As with the direct object of simplex verbs, these applied arguments are visible for case assignment via AGREE with $v_{(DAT)}$, eschewing case tracking. Similarly, they are available for promotion under passivisation. The absence of a movement chain precludes P-Copying, but not tmesis—showing that the idiomatic preverb + verb compound must remain decomposable at some level, given also the retention of idiosyncratic verb class morphology. However, the idiomatic preverb + verb must form a complex head at some point, given the absence of stranding.

4 The structure of multiple preverb compounds

The stage is now set for an analysis of multiple preverbation, which is argued to involve a combination of the two structures proposed above for obligatorily non-idiomatic and optionally idiomatic PVCs in Gothic. Examples of Multiple Preverb Compounds (MPCs) are given in (48), reiterated from (3) above; a full list of attested MPCs is given in Appendix B.3. The structure proposed for MPCs is given in (49) and is essentially that of a non-idiomatic PVC built on top of an idiomatic PVC.

(48)   Multiple Preverb Compounds
   a. ***miþ-us**-keinan* < 'with' + 'out' + 'sprout' = 'to sprout up with'
   b. ***inn-at**-tiuhan* < 'into' + 'at' + 'pull' = 'to bring in'
   c. ***ana-in**-sakan* < 'onto' + 'in' + 'dispute' = 'to contribute to'

(49)
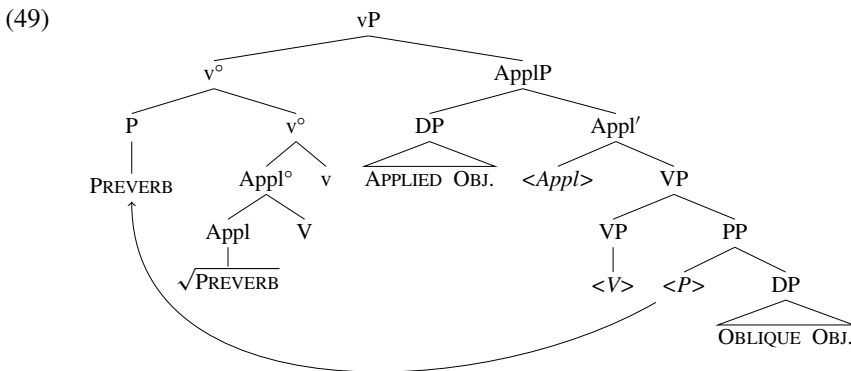
The compound begins with an optionally idiomatic PVC structure (i.e., ApplP + VP) which takes a PP adjunct.[55] Just as in strictly non-idiomatic PVCs, the head of this PP undergoes incorporation and *m-merger*; however, instead of combining with a simplex V-v, it here combines with the complex Appl-V-v. On this account, MPCs are predicted to display mixed behaviour with respect to the empirical traits discussed in prior sections.

4.1 Outer vs. inner preverbs

There are four pieces of evidence for MPCs involving both P-Incorporation of the outer preverb and an ApplP headed by the inner preverb, which are all by now familiar: P-Copying, idiomatisation, valency increase with/out case tracking, and tmesis. To begin, P-Copying is attested with MPCs, but only with the outermost preverb:

(50)   **miþ**-inn-galaiþ   [PP **miþ** Iesua]   [PP in rohsn]
        with-into-go.PST.3SG   with Jesus.DAT.SG   in temple.ACC.SG
        '[He] went with Jesus into the temple ...'   [John 18:15]

Despite similar meanings, we do not get repetition of *inn* to express or reinforce motion into the temple.[56] This suggests that the outermost preverb involves a movement chain which can undergo Multiple Copy Spell Out as in Sect. 2.1, unlike the innermost preverb.

The second piece of evidence comes from the unavailability of idiomatic meaning: the peripheral preverb never contributes additional idiomatic meaning to the complex, indicating that it does not originate in a local relationship with the verb. Instead, its contribution is always spatio-temporal:

(51)   a.   *du-* 'towards'
             PVC   {at-gaggan,   at-rinnan,   at-sniwan}
                   {'go to',   'run to',   'hurry to'}
             MPC   'go towards'   'run towards'   'hurry towards'

        b.   *faur-* 'before'
             PVC   {bi-gaggan,   bi-sniwan}
                   {'go by',   'hurry by'}
             MPC   'go before'   'precede'

        c.   *ana-* 'onto'
             PVC   {in-sakan}
                   {'set before, present'}
             MPC   'add to, contribute'

---

[55] This analysis requires the innermost preverb + verb complex to have the structure of an idiomatic PVC even when semantically transparent (e.g., *miþ* 'with' + *in-sandjan* 'in' + 'send' = 'to send in with'). This is not a problem under our account of optional idiomaticity; recall that even semantically transparent PVCs like *fra-wairþan* 'to become bad, corrupt' < *fra-* 'away, pejorative' + *wairþan* 'to become' have been argued to involve optionally idiomatic PVC structures since *fra-* cannot originate as a PP head.

[56] This may be because adverbial *inn* is not attested with doubling even with single-preverb PVCs. However, even MPCs in which the innermost element is prepositional and which are built off a PVC which frequently evidences doubling (e.g., *ut-us-gaggan* 'to go forth from', *miþ-in-sandjan* 'to send in with') show no doubling of the inner preverb.

inn- 'into'

d. PVC   {at-bairan,   at-gaggan,   at-tiuhan,   uf-sliupan}
           {'carry to',   'go to',   'bring to',   'sneak in'}
   MPC   'carry into',   'go into',   'bring into',   'sneak into'

miþ- 'with'

e. PVC   {fra-hinþan,   inn-galeiþ,   in-sandjan,   us-keinan,   us-hramjan}
           {'capture',   'go in',   'send in',   'sprout from',   'crucify'}
   MPC   'capture with',   'enter with',   'send in with',   'sprout with',   'crucify with'

ut- 'forth'

f. PVC   {us-gaggan}
           {'go out'}
   MPC   'go forth from'

The outermost preverb always bears completely transparent meaning. Even when the original PVC is idiomatic (e.g., *in-sakan* 'in' + 'to rebuke' = 'to set before, present evidence'), the second preverb does not add more idiomatic or metaphorical meaning ('onto' + 'to set before, present' = 'to contribute to'). Indeed, a similar observation is made by Bucsko (2008, 77) that "outer layers of derivation do not normally produce idiomatic value." This shows that the peripheral preverb behaves like an incorporated preposition in retaining its transparent semantics.

Thirdly, MPCs allow for apparent valency increase, but only add a single additional object—no MPC is 'tritransitive'. For instance, *miþ-in-sandjan* means 'send X with Y' (52a), not 'send X **to** Y with Z' , even though *in-sandjan* is a "derived ditransitive" built off of the underlyingly monotransitive verb *sandjan* 'to send' (52b).[57]

(52)   a.   baþ   Teitu jah **miþ**-in-sandida   **imma** broþar
            bid.PST.1SG Titus and with-in-send.PST.1SG 3SG.M.DAT brother.ACC.SG
            'I bade Titus and sent a brother with him.'   [2 Corinthians 12:18]

       b.   jah **in**-sandida   ina   **haiþjos**   **seinaizos** haldan sweina.
            and in-send.PST.3SG 3SG.M.ACC field.ACC.PL POSS.GEN.SG feed.INF swine.ACC.PL
            'And he sent him into his fields to feed swine.'   [Luke 15:15]

---

[57] There are a number of ways to account for the fact that we do not seem to find MPCs with both an oblique object (stranded by the incorporated outer preverb) and an applied object (introduced by the inner preverb Appl head). One possibility is due to the limited number of case assigners in any given derivation. Whilst the oblique object introduced by the outermost preverb can always receive case (and a thematic role) within the PP, other (non-subject) arguments must receive case via AGREE with v or v$_{dat}$. As there is only one vP projection, it is either the verb's direct object or applied object that can receive this case and surface in MPCs, never both. Indeed, Gothic lacks tritransitive verbs in general—even when an inherently ditransitive verb participates in a PVC, it does not become tritransitive (e.g., *giban* 'to give Y X' vs. *at-giban* 'to give X to Y', not 'to give X to Y **at** Z'). Recall that the applied objects of idiomatic PVCs can be promoted to subject under passivisation even when they would otherwise have received dative case (39); this shows that HighApplP cannot itself assign case, contra certain analyses of Modern German (Georgala 2012; Hallman 2021). In order to account for underived ditransitive verbs, I assume that LowApplP can assign dative case to the argument it introduces in its specifier (Pylkkänen 2008), unlike HighApplP. This gels well with the fact that these inherently ditransitive verbs almost always involve the transfer-of-possession semantics associated with LowApplP (e.g., *dragan* 'to collect (for)', *bugjan* 'to buy'; cf. also ditransitive verbs of communication/"transfer of knowledge" like *meljan* 'to write (to)', *taiknjan* 'to show (to)'). Another possibility is related to the discussion in footnote 40 regarding how PVCs with an optionally idiomatic structure can either merge a (semantically transparent) direct object complement or an (idiomatic) applied object in Spec, ApplP; in order to avoid inconsistency in the idiomaticity of the PVC, it cannot merge both.

Crucially, the single indirect/oblique object that does get added is semantically related to the peripheral preverb and not the innermost one, and always takes the case assigned by the relevant independent preposition. As independent *du* 'to' and *miþ* 'with' always assign dative case, while *faur* 'before' assigns accusative, we find the same case pattern in MPCs:

(53) a. jah **du**-at-iddja   **imma** aina   þiwi
          and to-at-go.PST.3SG 3SG.M.DAT sole.NOM.SG woman.NOM.SG
          'And a woman came unto him ...'   [Matthew 26:69]
      b. þai   waidedjans þai   **miþ**-us-hramidans
          DEM.M.PL.NOM thief.NOM.PL DEM.M.PL.NOM with-out-crucify.PST.PPL.NOM.PL
          imma
          3SG.M.DAT
          'Those thieves which were crucified with him ...'   [Matthew 27:44]
      c. jah **faur**-bi-gaggands   **ins**   Iesus
          and before-by-go.PRS.PPL.NOM.SG 3PL.M.ACC Jesus.NOM.SG
          'And Jesus went before them ...'   [Mark 10:32]

In this way, MPCs show the same case-tracking and 'valency increasing' behaviour as non-idiomatic PVCs, controlled by the outermost preverb.[58]

Finally, consider how tmesis is employed in MPCs: clitics only intervene between the two preverbs, and not between the inner preverb and verb:

(54) a. ga=**uh**=**þan**-miþ-sandidedum imma   broþar
          GA=and=then-with-send.PST.1PL 3SG.M.DAT brother.ACC.SG
          'And then [we] have sent the brother with him.'   [2 Corinthians 8:18]
      b. *ga-miþ=**uh**=**þan**-sandidedum
          GA=with=and=then=send.PST.1PL

Assuming the post-syntactic analysis of tmesis as discussed in Sect. 2.1.2 above, this pattern is predicted by the structure in (49)—prosodic displacement targets the leftmost prosodic word of the MPC, which in this case instantiates the outermost preverb (and precludes P-Copying), resulting in [PreV1=Clitic-PreV2-Verb] order. Deriving [PreV1-PreV2=Clitic-Verb] order would require that both preverbs comprise a single prosodic word which can be displaced as a unit; there is no way to form this unit given the preverbs' non-constituency in (49); any prosodic word that includes both the outer and inner preverb must also include the verbal base.[59]

In sum, the distribution of P-Copying, idiomaticity, valency alternations with case tracking, and tmesis all suggest that the peripheral preverb should be analysed like in Sect. 2 as involving P-Incorporation, while the innermost preverb should be analysed like in Sect. 3 as the head of an ApplP.

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[58] While we would expect that passivised MPCs would not allow promotion of this oblique object, there are unfortunately no attested synthetic or analytic passive MPC constructions.

[59] This distribution is also captured by a syntactic approach to tmesis, since only the highest head, being that of the outermost preverb, would be targeted for head-movement; the preverbs do not form a syntactic constituent capable of head-raising to the exclusion of the verbal base (barring excorporation).

Table 4 Attested Gothic preverb combinations

ana-in	inn-at	miþ-fra	miþ-us
du-at	inn-uf	miþ-in	ut-us
faur-bi	miþ-ana	miþ-inn	

Table 5 Possible preverb 'slots' (modified from Wolmar 2015, 37; Table 2)

Slot 4	Slot 3	Slot 2	Slot 1	Slot 0.5
miþ	inn	ana	at	fra-
	ut	du	bi	ga-
		faur	in	
		us	uf	

4.2 Preverb ordering

Given existing work on the ordering of preverbs in MPCs across Indo-European (McCone 1997; Rossiter 2004; Papke 2010; Imbert 2008; Zanchi 2014, 2019), it is worth exploring whether any ordering tendencies exist in Gothic MPCs. Table 4 presents the multiple preverb combinations attested in Gothic.[60]

As observed by Wolmar (2015), the attested combinations suggest the relative ordering in Table 5.[61]

Sections 2 and 4.1 have demonstrated that the preverb in non-idiomatic PVCs and on the outer edge of MPCs retain adpositional behaviour in the form of oblique DP introduction and case assignment. As mentioned in Sect. 2.2, directional phrases have long been proposed to have complex internal structure (van Riemsdijk 1978; Jackendoff 1983; Koopman 1999), with a basic distinction between static location PlacePs and directed motion PathPs built atop of PlacePs. Subsequent work has not only attempted to uncover more fine-grained hierarchies within the PP (Svenonius 2010; Pantcheva 2011), but extended this approach to other types of directional expressions, as with Radkevich's (2010) work on the cross-linguistic ordering of suffixing local cases (e.g., essive, allative) which shows that cases involving static location occur more internally than those involving motion (i.e., N-Place-Motion).

As such, there are a number of observations which can be made from the ordering in Table 5. Firstly, there is a general tendency for preverbs involving motion (e.g., *inn* 'into', *ut* 'forth', *ana* 'onto', *du* 'to(wards)', *us* 'out of') to occur more peripherally than those involve static location (e.g., *at* 'at', *bi* 'by', *faur* 'in front of', *in* 'in', *uf* 'under'). As discussed in Miller (2019, §6.37), this can be captured by the adpositional hierarchy of SOURCE > GOAL > PLACE (Pantcheva 2011), wherein SOURCE and

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[60] This excludes combinations involving the derivational and/or aspectual prefix *ga-*, which this paper does not discuss due to space constraints. This preverb always appears closest to the verb stem except for in the unique tmetic example in which it appears to have been inserted to host clitics 26. The sole example of a putative 'triple' MPC is *miþ-inn-ga-leiþan* 'to enter along with', built to the bound verbal base *-leiþan from PGmc. *līþaną 'to go, pass through'.

[61] In adapting Wolmar's (2015) table, I omit all preverbs not attested in MPCs, differentiate between separable (Slot 1) and inseparable prefixes (Slot 0.5), and situate *uf* 'under' together with other static place preverbs in Slot 1 rather than with motion/path preverbs in Slot 2.

GOAL can be thought of as further elaborations of the directed motion PathP occurring peripherally to the static location PlaceP.[62]

Secondly, preverbs of adverbial origin such as *inn* 'into' and *ut* 'forth' seem to occur more peripherally than those of prepositional origin. One potential reason for this is that neither of these adverbs form any idiomatic PVCs (cf. Appendix B.2). Thus, it may be that they were less inclined to instantiate the ApplP structure required to serve as the innermost preverb + verb complex for these MPCs, both synchronically and diachronically.[63]

Lastly, comitative *miþ* 'with' prefers to occur most peripherally. This is not surprising, as its semantics of accompaniment are distinct from the spatio-temporal and directional-locative meanings expressed by the other preverbs. There are a number of parallels for this external positioning—for one, Miller (2014, 128), draws from similar 'preposition-stacking' phenomena in English lexicogenesis to argue that the thematic relations hierarchy INSTRUMENT > LOCATION > RESULT results in elements like 'with' occurring more externally. Similarly, Caha (2009) identifies the Comitative and Instrumental cases as the most peripheral on his case hierarchy, external to the Dative, Genitive, Locative, Accusative, and Nominative.[64] Thus, looking at both adpositional and case-based hierarchies, the occurrence of *miþ* as the most peripheral preverb in MPCs is predicted cross-linguistically; I here describe its comitative and instrumental functions with the label MANNER.

We can therefore revise the relative ordering in Table 5 to show that the preverb 'slots' in Gothic potentially instantiate meaningful categorial differences, as in Table 6. This ordering has clear parallels in the structure of local cases, directional expressions, and their role in lexicogenesis cross-linguistically.[65]

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[62] Note that Svenonius (2010) proposes the alternative ordering GOAL > SOURCE; for our purposes, it is only important that PATH > PLACE. One possible exception to this is *faur-bi-*, in which it appears that two static location preverbs have combined. The two Germanic elements *furai/*furi + *bi can be found to combine in various orders throughout Germanic, such that German *vorbei*, Dutch *voorbij* 'past'; Danish *forbi* 'near/next to', Swedish *förbi* 'past, over' co-exists alongside English *before*, German *bevor* 'before'.

[63] Another possibility is that these adverbs frequently and freely reinforce both simplex verbs and PVCs, where their co-occurrence with prepositional preverbs expressing similar meaning (e.g., *ut* 'forth, out' + *us* 'out of, from') is not considered redundant:

(i)   a.   **us**-gaggands   **ut**   qaþ   im
           out-go.PRS.PPL.NOM.SG forth speak.PRT.3SG 3PL.M.DAT
           'Went forth and said to him ...'   [John 18:4]
      b.   **at**-gaggands   **inn** habaida   handu   izos
           at-go.PRS.PPL.NOM.SG into have.PRT.3SG hand.ACC.SG 3SG.F.GEN
           'Came in and took her by the hand ...'   [Matthew 9:25]

A PVC with locative semantics as contributed by a prepositional preverb may have been more restricted in taking an additional PP expressing similar spatial meaning, especially since P-Copying was already an option for reinforcement instead. Thus, appending a preposition onto another may have been felt to be more pleonastic.

[64] While Caha (2009) excludes Locative case from his universal hierarchy, his cross-linguistic survey suggests that it surfaces at various boundaries (e.g., between Gen/Dat and Acc in Armenian) but never above Instrumental.

[65] For a comparative overview of Gothic preverb ordering with respect to other older Indo-European languages including Classical Sanskrit, Old Irish, and Homeric Greek, the interested reader can refer to Appendix C.

Table 6 Revised preverb 'slots'

Slot 4	Slot 3	Slot 2	(Slot 1.5)	Slot 1	Slot 0.5
MANNER	PATH – ADV.	PATH – P.	(PLACE)	PLACE	DERIV.
miþ	inn	ana	faur	at	fra-
	ut	du		bi	ga-
		us		in	
				uf	

5 Diachrony

Having discussed the synchronic significance of Gothic PVCs, we can briefly assess their diachronic development. As argued by Miller (2019, §6.43), Gothic instantiates an intermediate step between the stages of P-Incorporation and univerbation; I propose that these stages are represented by obligatorily non-idiomatic and optionally idiomatic compounds respectively. The phenomena of P-Copying, case/valency alternations, and idiomatisation all relate to a change in the functional status of these preverbs. In particular, PVCs involve reduction of both the independence of the preverb and the internal structure of the verb compound. This change may be described as an instance of grammaticalisation, where a lexical or grammatical unit comes to acquire increasingly grammatical function (Heine et al. 1991); one of the primary processes involved in grammaticalisation is syntactic reanalysis, where the underlying structure of an expression is changed without "immediate or intrinsic modification of its surface manifestation" (Langacker 1977, 59). Consider instances of PVCs involving P-Incorporation without P-Copying, which would be surface ambiguous between the following underlying structures:

(55) **P-Incorporation** $\xrightarrow{\text{Reanalysis}}$ **Univerbation**
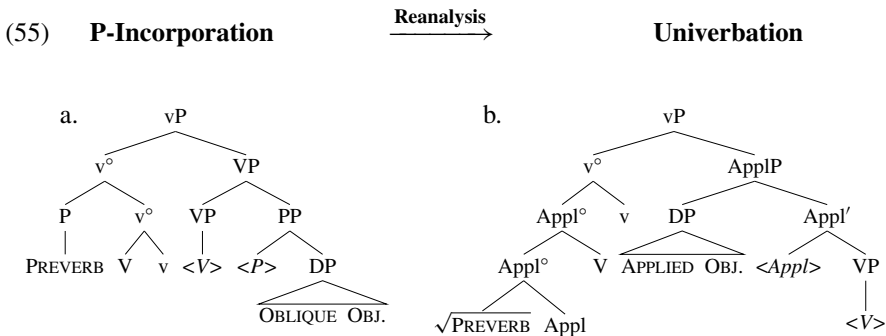
Given canonical Chain Reduction (sans Multiple Copy Spell-Out), a learner might postulate the structure in (55b) rather than (55a), given that both result in the same surface string: [Preverb-Verb Obj]. I hence posit that non-idiomatic compounds are the 'older' more analytic form of the PVC, while idiomatic ones instantiate a later synthetic development. Recall the two main differences between the structures in (55): i) the category of the preverb, and ii) the absence of movement and *m-merger* of

the preverbal element. I argue that both of these involve a well-motivated diachronic change.[66]

The former change where a preverb goes from instantiating a P head to an Appl head constitutes a form of Upwards Reanalysis (Roberts and Roussou 2003; van Gelderen 2004), in which an element is preferentially interpreted as a functional head first-merged as late/high in the structure as possible. As in Cavirani-Pots's (2020) proposed development pathway for semi-lexical roots, building on Song (2019), what begins in Stage I (55a) as a categorised root ($p + \sqrt{\text{root}}$), comes in Stage II (55b) to instantiate an actegorial root merged together with a syntactic feature (Appl + $\sqrt{\text{root}}$). This forms a complex functional head (Appl°) which is merged in the functional domain of another lower root (i.e., $v + \sqrt{\text{root}}$). This categorial change exemplifies typical grammaticalisation as per the following cline, accompanied by phonological reduction:

(56)   LEXICAL ITEM > GRAMMATICAL WORD > CLITIC > AFFIX > (∅)
                                                               (Hopper and Traugott 2003)

We can further specify this as involving the following pathway for syntactic reduction (van der Auwera 1999):

(57)   XP > particle X(P) > particle X > incorporated particle X > prefix

Most Gothic preverbs are part-way down these pathways, beginning as independently projecting AdvPs or PPs prior to incorporation; at the P-Incorporation stage, these preverbs become non-projecting heads, surfacing either as clitics (when available for tmesis) or affixes (especially when P-Copied); the preverbal Appl head of idiomatic PVCs is also the result of reduction to just a prefix.

This shift goes hand-in-hand with the second change, being the loss of movement steps. The diachronic shift from MOVE to MERGE is thought to be driven by the greater economy of the latter operation (van Gelderen 2004, 2011). Without evidence for a more articulated structure, learners can and will posit an underlying representation with less derivational complexity. Given that the evidence for incorporation (55a) comes from nuanced case-tracking and passivisation facts, any non-P-Copying, active instance of an 'added' object which is syncretic for accusative and dative case co-occurring with a preverb whose prepositional equivalent could only assign one of the two would obscure the distinction between the structures, allowing one to posit the second, simpler derivation (55b).

The diachronic development of Gothic preverbs closely parallels the prefix cline proposed by Los et al. (2012) for resultative complex verbs in West Germanic, which they claim involve the univerbation of a verb with its resultative phrase complement

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[66] As pointed out by an anonymous reviewer, there is a tendency for syntactic change in Germanic to involve the shift from (more) synthetic to (more) analytic structures, contra the change proposed in (55). However, examples of changes in the opposite direction are well-attested, as with the development of case suffixes from free-standing adpositions in Tocharian, Old Lithuanian, and a number of Middle Indo-Aryan languages (Kulikov et al. 2009, §28.1.1).

Table 7 Grammaticalisation of Gothic Preverb Compounds

Stage 1	$[_{V'}$ ... $V°$ PP]	(Head of Full Phrase)
Stage 2	$[_{V'}$ ... $V°$ P(P)]	(Optionally-Projecting Word)
Stage 3	$[_{V'}$ ... $V°$ P]	(Non-Projecting Word)
Stage 4	$[_{V'}$ ... $[_{V°}$ P $V°$] (P)]	(Incorporated Word)
Stage 5	$[_{V'}$ ... $[_{V°}$ prefix-V]]	(Prefix)

(ResP) following the cline in (57).[67] Consider the proposed syntactic development pathway for Gothic PVCs in Table 7, adapted from (Los et al. 2012, 174).

In Stage 1, preverbs are independent adpositions that head their own PP; unambiguous examples of this include sentences wherein these P heads take complements, as in (58a). However, sentences wherein the PP contains no material other than the head give rise to ambiguity between Stage 1 and 2/3, as in (58b).[68]

(58)   a.   akei qimands   at-lagei   handu   þeina   [PP **ana**
            but   come.PRS.PPL.NOM.SG at-lay.IMP.2SG hand.ACC.SG POSS.ACC.2SG   *onto*
            ija   ]
            3SG.F.ACC
            'But come and lay thy hand upon her ...'   [Matthew 9:18]

       b.   jah galagidedun [PP **ana** ∅] wastjos   seinos
            and lay.PRT.3PL   onto   garment.ACC.PL POSS.ACC.PL
            'And laid their garments on (him) ...'   [Mark 11:7]

At Stage 4, these preverbs have undergone P-Incorporation (55a), involving movement and *m-merger* of the PP. Unambiguous evidence of incorporation would involve a bare P head occurring in a pre-verbal position adjacent to the verb rather than its original complement. At this stage, both copied and non-copied variants are possible as depending on the variable order of Chain Reduction and *m-merger* (Sect. 2.1.1) and the presence of tmesis. Finally, at Stage 5, preverbs are reanalysed as the base-generated head of ApplP (55b). This reanalysis is facilitated by instances of Stage 4 without clear case-tracking between the preverb and its prepositional counterpart and/or with canonical Chain Reduction (i.e., no P-Copying). Thus, all optionally idiomatic PVCs and PVCs with inseparable prefixes are at Stage 5, while semantically-transparent PVCs which show case-tracking and P-Copying are still at Stage 4. Note that PVCs at any stage are free to take additional PP/AdvP adjuncts, entering Stage 1 again (cf. (16), (40), and footnote 63).

This re-entry into the cycle is what produces MPCs. Crucially, every PVC (whether idiomatic or not) which serves as the **base** for multiple preverbation must also be at Stage 5, for reasons described in Sect. 4 above. Actual MPCs on the whole have only reached Stage 4 of their 'second cycle', given the unavailability of additional idiomatic meaning as contributed by the peripheral preverb. This discussion emphasises how

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[67] Los et al. (2012) themselves suggest that some Gothic PVCs like *bi-hlahjan* 'to laugh to scorn' (< 'by' + 'to laugh') show an identical trajectory to Dutch inseparable complex verbs, roughly equivalent to the optionally idiomatic PVCs proposed in (55b).

[68] Other examples of these null object PPs can be found in Harbert (1978, 220) and Ryder (1951).

grammaticalisation is a process holding over particular constructions, rather than languages as a whole: different compound types may have reached different diachronic stages of the same cycle at a given point in time of synchronic analysis. In sum, we can identify several bridging contexts for transitioning between stages: PPs comprising just their heads (1 > 2/3), canonical Chain Reduction (sans P-Copying) (4 > 5), and the incorporation of a P whose complement is syncretic for case (4 > 5). The change from Stage 2/3 > 4 is simply the productive process of P-Incorporation.

The structures presented throughout this paper therefore not only derive the synchronic distribution of three types of Gothic PVCs—transparent, idiomatic, and multiply-prefixed—but also capture the diachronic relationship amongst them as paralleled elsewhere in Germanic.

6 Conclusion

This paper has closely examined both the synchronic status and diachronic development of preverb compounds in Gothic. It has presented a formal account of obligatorily non-idiomatic, optionally idiomatic, and multiple preverb compounds in Gothic. By distinguishing between the preverb as the outcome of incorporation and *m-merger* of a P head in non-idiomatic PVCs or as obtained at first-merge as an Appl head in idiomatic PVCs, this paper has derived the different behaviour of these compounds with respect to i) the availability of idiomaticity (requiring a local licensing relationship), ii) case assignment (as assigned by P but not Appl), iii) valency alternations (allowing promotion under passivisation of objects introduced by Appl but not those stranded by P), iv) P-Copying (requiring a movement chain and blurring of prosodic boundaries), and v) tmesis (requiring prosodic independence of the preverb), where the latter two are in complementary distribution. We have also seen that MPCs involve a combination of these two structures, where the peripheral preverb is an incorporated P but the inner preverb is first-merged as an Appl head. The empirical distribution of these PVC types is summarised in Table 8.

This paper has also presented a possibly cyclic diachronic development pathway for these Gothic preverb compounds, invoking processes of grammaticalisation and (upwards) syntactic reanalysis. This approach parallels similar changes in the history of West Germanic and may be extendable to languages with greater degrees of preverb stacking (e.g., Old Irish). Looking to languages with corpora spanning greater amounts of time would allow for the testing of our hypotheses by assessing the relative frequency of certain bridging constructions and the rate of transition between stages over time. In

Table 8 Diagnostics for PVCs and MPCs

PVC Type		Preverb cat.	Case tracking	Valency incr.	P-Copying	Tmesis
Non-Idiomatic		P	✓	✗ (stranding)	✓	sans P-Copying
	Idiomatic	Appl	✗	✓	✗	✓
MPC	Outer	P	✓	✗ (stranding)	✓	sans P-Copying
	Inner	Appl	NA	NA	✗	✗

sum, it is clear that Gothic can and does exhibit independent, linguistically-significant morphosyntactic phenomena which may help us in elucidating formal approaches to synchronic structure and diachronic change.

Declarations

Appendix A Gothic vs. Greek

The Gothic and Greek texts differ in a wide variety of ways, as presented in the following Gothic (a) and Greek (b) parallels. In (59), the Gothic PVC *in-widand* 'deny' translates a simplex Greek verb; the opposite case with a Gothic simplex verb *rinnandans* 'running' and Greek PVC is attested in (60).

(59)   a.   iþ   waurstwam **in**-**widand**
           but work.DAT.PL   in-bind.PRS.3PL

       b.   de ergois   **arnountai**
           but work.DAT.PL deny.PRS.3PL
           'But deny [him] in works ...'   [Titus 1:16]

(60)   a.   twai daimonarjos us   hlaiwasnom **rinnandans**
           two   demon.NOM.PL out tomb.DAT.PL   run.PRS.PPL.NOM.PL

       b.   dyo daimon-izomenoi   ek tōn   mnēmeiōn
           two demon-possess.PRS.PPL.NOM.PL out ART.GEN.PL tomb.GEN.PL
           ex-erchomenoi
           forth-go.PRS.PPL.NOM.PL
           'Two devil-possessed [men] coming out of the tombs ...' [Matthew 8:28]

West (1982, 139), drawing from Rice (1932), illustrates that up to 31.9% of Gothic PVCs in *in-* translate a simplex Greek verb with no corresponding preverb; similar statistics can be found for every other Gothic preverb. Even when a correspondence between Gothic and Greek preverbs can be found, it is far from consistent. Greek

pros- 'to(ward)' may alternately occur as Gothic *at-* 'at', *du-* 'to', or *in-* 'in' (amongst others), the latter two of which occur within a single line in (61a); the corollary of this is that a single Gothic preverb may translate a wide range of Greek preverbs. Again, West (1982, 139) and Rice (1932) show that the Gothic preverb *in-* corresponds to 14 different Greek prefixes, while *af-* translates no less than 10. Observe also in (61) that the translationally-equivalent Gothic PVC *in-wait* and Greek PVC *pros-ekynei* 'worshipped' are formed with semantically-distinct stems (the Gothic being idiomatically built on *weitan* 'to see, know', the Greek on *kunéō* 'to kiss'); these verbs also assign different cases: accusative in Gothic, and dative in Greek.

(61) a.   manna   þrutsfill   habands   **du-rinnands**
           man.NOM.SG leprosy.ACC.SG have.PRS.PPL.NOM.SG to-run.PRS.PPL.NOM.SG
           in-wait   ina
           in-know.PST.3SG 3SG.M.ACC

      b.   lepros   **pros-elthōn   pros-ekynei autō**
           leper.NOM.SG to-go.AOR.PPL.NOM.SG to-kiss.IMPF.3SG 3SG.M.DAT
           'A leper came and worshipped him ...'   [Matthew 8:2]

Whereas multiple preverbation is attested in both Greek and Gothic, its presence in a given construction cannot be correlated across the languages. In (62) and (63), the same Gothic MPC *inn-at-gaggandans* 'going into' translates two different Greek single-preverb compounds: *em-banti* 'stepping into' and *eis-ēlthon* 'went into'.

(62) a.   **inn-at-gaggandin**   imma in skip
           into-at-go.PRS.PPL.DAT.SG 3SG.M.DAT in ship.ACC.SG

      b.   **em-banti**   autō   eis to   ploion
           in-walk.AOR.PPL.DAT.SG 3SG.M.NOM into ART.ACC.SG boat.ACC.SG
           'Him entering into a ship ...'   [Matthew 8:23]

(63) a.   **inn-at-gaggandans** in þo   weihon   baurg
           into-at-go.PRS.PPL.NOM.PL in DEM.ACC.SG holy.ACC.SG city.ACC.SG

      b.   **eis-ēlthon**   eis tēn   hagian   polin
           into-go.AOR.3PL into ART.ACC.SG holy.ACC.SG city.ACC.SG
           '[They] entered into the holy city ...'   [Matthew 27:53]

Beyond word-for-word or morpheme-by-morpheme comparison, Gothic has also innovated the use of the PVC compound *du-ginnan* 'to begin' to periphrastically translate the synthetic Greek future tense in (64), showing again that PVCs are not direct calques. In addition, Eythórsson (1995, 121, 2002) observes that Wackernagel enclitics occur post-preverb in Gothic, but post-verb compound in Greek as in (65).[69]

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[69] As pointed out by an anonymous reviewer, this post-verb encliticisation in New Testament Greek and the univerbation it entails is a significant departure from Homeric Greek (Asyllogistou 2019), where preverbs were still independent enough to host enclitics themselves as in the Gothic example (65a). Here we can extrapolate that Gothic preverbs are conservative in retaining this phonological independence; further discussion on prosodic structure and tmesis can be found in Sect. 2.1.2.

(64) a. unte gaunon   jah gretan   **du-ginnid**
          for   mourn.INF and weep.INF to-begin.PRS.2PL
      b. hoti penthēsete   kai klausete
          for mourn.FUT.2PL and weep.FUT.2PL
          'For you shall mourn and weep.'   [Luke 6:25]

(65) a. at=**uh**=**þan**-gaggand   inn jah unweisai
          at=and=then-go.PRS.3PL into and unlearned.NOM.PL
      b. eis-elthōsin   **=de** idiōtai
          into-go.AOR.3PL =then unlearned.NOM.PL
          'And then unlearned [people] come in ...'   [1 Corinthians 14:23]

Given differences in both the lexical-translational and syntactico-functional distribution of Greek and Gothic preverbs, as well as the attestation of preverbs across Germanic, there is good reason to believe that the synchronic grammar of Wulfila's Gothic had its own independent system of preverbs and PVCs. As expected of an independent system, these compounds demonstrate consistent morphosyntactic behaviour as investigated by this paper.

Appendix B PVC data

B.1 P-Copying

Table 9 PVCs with P-copying and frequencies

Preverb	Verb	PVC Meaning	PP Position	Freq.
af 'from, away'	*airzjan*	'to stray from'	V PP [1], PP V [1]	2
	gaggan	'to go away from'	V PP	1
	haban	'to refrain from'	PP V DO	1
	hrisjan	'to shake off from'	DO PP V	1
	leiþan	'to go from'	V PP	2
	linnan	'to depart from'	V PP	1
	niman	'to take away from'	V (DO) PP	9
	skaidan	'to separate (oneself) from'	{DO} V {DO} PP	3
	standan	'to abandon'	V PP	3
	wagjan	'to remove'	V PP	1
	wairpan	'to throw away from'	V PP	1
	walwjan	'to roll away from'	V DO PP	1
	wandjan	'to turn away from'	PP DO V	4
ana 'onto, into, upon'	*aukan*	'to add (on)to'	V PP DO	2
	kumbjan	'to sit down on'	V PP	3
	haitan	'to call on'	V PP	1
	timrjan	'to build on'	V PP	1

Table 9 continued

Preverb	Verb	PVC Meaning	PP Position	Freq.
bi 'by, around, near'	*rodjan*	'to speak about/around'	V PP (DO)	3
	sitan	'to sit near/with'	V PP	1
	stigqan	'to strike against'	V PP	3
	swaran	'to swear by'	V PP	1
faura 'before, in front of'	*gaggan*	'to go before'	V PP	1
	meljan	'to present before'	PP V	1
in 'in(to), among'	*feinan*	'to have pity for'	V PP	1
	rauhtjan	'to become agitated by'	V PP	1
	sandjan	'to send in(to)'	{DO} V {DO} PP	10
	saian	'to sow in(to)'	V PP	1
	swinþjan	'to be strengthened in'	V PP	3 (+1)[a]
	trusgjan	'to graft in'	V PP	3
miþ 'with'	*arbaidjan*	'to work with'	V PP	1
	inn-galeiþan	'to enter along with'	V PP	1
	gaqiujan	'to quicken with'	V PP	1
uf 'under'	*hnaiwan*	'to subject under'	{DO} V PP {DO}	4
ufar 'over, above'	*hafjan*	'to raise oneself above'	V DO PP	1
us 'out (of), from'	*bugjan*	'to buy out'	V PP DO	1
	bairan	'to bear forth from'	PP V DO	2
	gaggan	'to go out of'	V PP [15], PP V [7]	22
	driban	'to drive out of'	V DO PP	1
	driusan	'to fall from'	PP V	1
	lausjan	'to set free from'	V DO PP	2
	leiþan	'to go out of'	PP V	1
	maitan	'to cut out of'	DO PP V	1
	niman	'to take out of'	{DO} V {DO} PP	3
	raisjan	'to raise out of'	{DO} V {DO} PP	7
	reisan	'to arise out of'	V PP [6], PP V [4]	10
	rinnan	'to run out from'	V PP	1
	satjan	'to consist of'	PP V	1
	skarjan	'to recover (oneself) from'	V PP	1
	standan	'to rise out of'	V PP [3], PP V [2]	5
	taiknjan	'to single out of'	DO V PP	1
	tiuhan	'to bring out of'	PP V	1
	wagjan	'to provoke through'	PP V DO	1
	wairpan	'to cast out of'	DO V DO PP [2], PP V [1] PP	3
	windan	'to braid from'	V DO PP	1
Total				**140** (+1)

* This column indicates whether the pleonastic PP occurs before or after the PVC. A {DO} indicates that the direct object is attested in either position.

[a] The PVC *inswinþjan* is attested in Ephesians 6:10 with two conjoined PPs, each headed by *in*.

B.2 Idiomatic PVCs

Table 10 Idiomatic PVCs built off of prepositional preverbs*

Preverb	Verb	Verb Meaning	PVC Meaning	Freq.
af 'from, away'	*giban*	'to give'	'to depart' (reflex.)	1
	bugjan	'to think, suppose'	'to bewitch'	1
	-slauþjan	(PGot. *slauþa 'weak')	'to be in doubt, despair'	4
	-slauþnan	'to be weak'[a]	'to be amazed, speechless'	3
ana 'onto, into, upon'	*filhan*	'to hide, conceal'	'to deliver, entrust'	32
	-praggan	(PGmc. *pranganą 'to press')	'to oppress, trouble'	2
	-stodjan	'to make stand'[b]	'to begin' (itr.)	10
and 'throughout, along'	*beitan*	'to bite'	'to reproach, threaten'	6
	hafjan	'to raise, lift'	'to answer, respond to'	138
	-letnan	'to be let'[c]	'to depart, die'	1
	rinnan	'to run'	'to discuss, dispute'	1
	sitan	'to sit'	'to consider, question'	4
	speiwan	'to spit'	'to despise'	1
	-staurran	(PGmc. *sturrāną 'to be rigid')	'to reproach, speak against'	1
	-tilon	(PGmc. *tilōną 'to strive')	'to be devoted to'	2
at 'at, by, of'	*haban*	'to have, own, keep'	'to come towards (reflex.)'	1
	hafjan	'to raise, lift'	'to take down'	1
	kunnan	'to know, recognise'[d]	'to give, award, confer'	1
bi 'by, around, near'	*-abrjan*	(Der. from *abrs* 'severe')	'to be astonished, amazed'	1
	-gitan	(PGmc. *getaną 'to get')	'to find, meet with'	70
	laikan	'to leap (for joy), play'	'to mock'	7
	-nauhan	(Got. *ga-nauhan* 'to suffice')	'to be permitted, lawful'	2
	rodjan	'to speak, say'[†]	'to mutter (about), grumble'	7
	wandjan	'to turn (around)'	'to shun, reject, avoid'	11
du 'to(wards), against'	*-stodjan*	'to make stand'[a]	'to begin'	5
faur 'before, in front of'	*qiþan*	'to speak, say'	'to make excuses'	4
in 'in(to), among'	*sakan*	' to dispute, rebuke, reproach'	'to set before, present'	5
	-weitan	(PGmc. *wītaną 'to know')	'to worship, greet'	11
	-widan	(PGmc. *wedaną 'to join')	'to deny, reject'	9
uf 'under'	*brikan*	'to break, quarrel'	'to reject, despise'	8
	hausjan	'to hear, listen to'	'to obey, submit to'	33
	ligan	'to lie down'	'to fail, faint'	2
ufar 'over, above'	*swaran*	'to swear (an oath)'	'to swear falsely'	2
und 'unto, until'	*rinnan*	'to run'	'to fall to (by inheritance)'	2
us 'out (of), from'	*-baugjan*	'to make bend'[e]	'to sweep (out)'	1
	-lukan	(PGmc *lūkaną 'to close, shut')[†]	'to open, draw (a sword)'	18
	-luknan	'to be closed'[f,†]	'to be opened, unlocked'	12
		'to measure'	'to behave, conduct oneself'	7
	qiman	'to come'	'to destroy, kill'	28
Total				**455**

* No idiomatic PVCs built off of adverbial preverbs *inn* 'into' and *ut* 'forth' are attested.

a The verbal base *-slauþnan* is the fientive form of *-slauþjan* 'to make weak'.

b The verbal base *-stodjan* is the causative form of *standan* 'to stand (itr.)'.

c The verbal base *-letnan* is the fientive form of *letan* 'to let, allow'.

d The verb *at-kunnan* is weak, with 3SG.PRS *at-kunnaiþ*, in contrast to preterite-present verbal base *kunnan* with 3SG.PRS *kann*.

e The verbal base *-baugjan* is the causative form of *biugan* 'to bow, bend (itr.)'.

f The verbal base *-luknan* is the fientive form of *-lukan* 'to close, shut'.

† Contra Bucsko (2011), it is not obvious to me that *bi-rodjan*, *us-lukan*, and *us-luknan* are fully idiomatic rather than metaphorical, given clear retention of the verbal bases' original semantics.

B.3 Multiple preverb compounds

Table 11 MPCs

Preverb 1	Preverb 2	Verb	Verb Meaning	PVC Meaning	Freq.
ana 'onto, into, upon'	*in* 'in(to), among'	*sakan*	'to rebuke'	'to add to'	1
du 'to(wards), against'	*at* 'at, by, of'	*gaggan*	'to go'	'to go/come to'	13
	at 'at, by, of'	*rinnan*	'to run'	'to run to'	1
	at 'at, by, of'	*sniwan*	'to hurry'	'to hurry towards'	1
faur 'before, in front of'	*bi* 'by, around, near'	*gaggan*	'to go'	'to go before'	2
	bi 'by, around, near'	*sniwan*	'to hurry'	'to precede'	1
inn 'in(to), within'	*at* 'at, by, of'	*bairan*	'to carry'	'to carry in'	2
	at 'at, by, of'	*gaggan*	'to go'	'to enter'	8
	at 'at, by, of'	*tiuhan*	'to pull'	'to bring in'	1
	uf 'under'	*sliupan*	'to slip, sneak'	'to sneak in '	1
miþ 'with'	*fra-* 'away, pejorative'	*-hinþan* (PGmc. *hinþaną 'to catch')		'to capture with'	2
	in 'in(to), among'	*sandjan*	'to send'	'to send with'	1
	inn 'in(to), within'	*galeiþ*	'to go'	'to enter'	1
	us 'out (of), from'	*hramjan*	'to crucify'	'to crucify with'	3
miþ 'with'	*us* 'out (of), from'	*keinan*	'to sprout'	'to sprout up with'	1
ut 'out, forth'	*us* 'out (of), from'	*gaggan*	'to go'	'to go forth from'	1
Total					**40**

Appendix C Multiple preverbation cross-linguistically

This appendix presents a brief survey of attested multiple preverb orderings in related older Indo-European languages. Here, attested cognates are used as a proxy to assess the extent to which the ordering tendencies discussed in Sect. 4.2 for Gothic can be extended to Classical Sanskrit, Old Irish, and Homeric Greek—each from a different branch of Indo-European.

Papke's (2010) dissertation on Classical Sanskrit was among the first to discuss correlations amongst relative preverb ordering across Indo-European. Based on MPCs attested in the *Mahābhārata* and Monier-Williams (1899) dictionary, she presents the following relative ordering, with preverbs on the left being the most peripheral from the verb and those on the right being the most interior, as in Table 12.

Note the flexible position of, e.g., *upa* 'towards' with regards to the more strictly ordered *anu* 'after' and *vi* 'apart', suggesting some indeterminacy in ordering. There is reason to believe that these relative orderings are not exceptionless. Papke's (2010)

Table 12 Classical Sanskrit relative ordering (from Papke 2010, 119, Table 4.2)
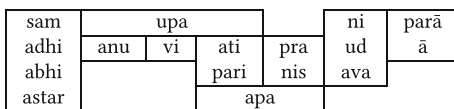
sam adhi abhi astar	upa				ni ud ava	parā ā
	anu	vi	ati pari	pra nis		
			apa			

Table 13 Gothic and Classical Sanskrit cognate orderings

Got.	*!ut* 'forth'	*ana* 'onto'	*(af)* 'from'	*uf* 'under'	*fra-* 'away'	
Skt.		*anu* 'after'	*apa* 'off'	*upa* 'towards'	*pra* 'forward'	*!ud* 'above, on'

Table 14 Old Irish relative ordering

Slot 5	Slot 4	Slot 3	Slot 2	Slot 1
to	for	ad	cum	uss
	fris	ath(e)	ro	ne
	eter	ar(e)		
	imb(e)	de/di		
	ess			
	fo			
	in(de)			

Appendix A lists attested triple-preverb combinations in Classical Sanskrit with both *sam-**anu-vi**-* as well as ***vi-anu**-ā*, amongst other seemingly switchable pairs. I leave for future work the extent to which a greater number of stacked preverbs may lead to more flexibility in ordering. It may be that stacking three or more preverbs necessarily involves the univerbation of the most interior preverb(s) and the verb into an indivisible structure like (43), rendering the innermost preverb opaque to the ordering tendencies discussed in Sect. 4.2. In comparing the data in Table 12 to their Gothic cognates, as determined with reference to Dunkel's (2014) *Lexikon der indogermanischen Partikeln und Pronominalstämme*, certain correlations arise as in Table 13.[70]

With the exception of Sanskrit *ud*, whose Gothic cognate *ut* surfaces more peripherally, the relative preverb orderings are similar. With regards to the oddness of *ut*, Sanskrit *ud* is notably more interior than *pra*, whose Gothic cognate *fra-* is an inseparable particle. Additionally, while *ut* means 'forth' in Gothic, *ud* means 'above, on' in Sanskrit. The static meaning of the latter may account for its more interior position, given that it may be classified as a PLACE head in Sanskrit instead of a PATH head as in Gothic. Similarly, the indeterminate order between Sanskrit *apa* and *upa* may fall out from their PATH-like semantics; in comparison, Gothic *uf* is more static in meaning than its cognate *upa*, predicting its more interior ordering compared to *ana* 'onto'. This comparison suggests that preverb cognacy and a shared etymology are overridden by synchronic meaning when it comes to ordering tendencies: ordering tracks meaning, and thus meaning change.

Papke (2010) discusses Old Irish data from McCone (1997, 90), whose ordering is reproduced in Table 14. By again extracting those preverbs for which we have confirmed Gothic cognates, correlations surface as in Table 15.

With the exception again of *ut* and *uss*, the cognate-based ordering seems to hold. However, assuming PATH > PLACE, it is unclear why Old Irish *ad* with directional meaning 'to, towards' occurs closer to the verb than stative locative *fo* 'under' and *for*

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[70] Solid lines indicate linear precedence, while dotted lines indicate indeterminate ordering. Bracketed forms are unattested in MPCs. Problematic *ut/ud* have been highlighted with !.

Table 15 Gothic and Old Irish cognate orderings

Got.	*!ut* 'forth'	*(ufar)* 'over'	*uf* 'under'	*at* 'at'	*fra-* 'away'	
OIr.		*for* 'over'	*fo* 'under'	*ad* 'to'	*ro* intensifier	*!uss* 'up, off'

'over'. Furthermore, unlike Sanskrit *ud*, Old Irish *uss* does not have the stative locative semantics suggestive of a PLACE head, making its interior position puzzling. One possible explanation for these anomalies may be the fact that Old Irish preverb compounds allow for far more stacking than Classical Sanskrit and Gothic, with attestations of up to five preverbs on a single verb (Papke 2010, 137, ex. 4.12):

(66)   a.   *tautat* < to-ad-**uss**-tét 'come near'
        b.   *intururas* < ind-to-air-**uss**-ress 'incursion'
        c.   *comtherchomracc* < **com**-to-er-**com**-ro-icc 'assembly'

Recalling the discussion above on triple preverbation in Classical Sanskrit, featurally aberrant orderings could derive from MPCs which are not fully transparent. Indeed, Rossiter (2004) argues that MPCs in Old Irish actually involve the incremental one-by-one 'accretion' of preverbs, rather than the simultaneous affixation of several preverbs onto the verb at once (as argued by McCone 1997). It may hence be the case that only the two most peripheral preverbs are relevant for ordering tendencies (i.e., in a five-preverb compound, the three innermost preverbs are thematically opaque). Thus, the unexpectedly low preverb *uss* in (66a, b) may not actually have been visible for ordering. Consider also the preverb *com* which shows up twice in (66c)—this pleonasm may be another sign that the most interior preverbs were no longer transparent at the time of later prefixation. Further work would hence have to reassess the relative orderings proposed for Old Irish with specific reference to the number of preverbs involved in a given compound and their peripherality.

Finally, turning to Homeric Greek, Papke (2010) refers to Imbert's (2008) dissertation for attested MPCs in the *Iliad* and *Odyssey*. Following Imbert (2008, §V.2.2), the set of Homeric Greek preverb orderings with clear cognates is as follows:

(67)   Inventory of Multiple Preverbation in Homeric Greek

- *amphí-perí-* 'around-around'
- *apó-aná-* 'off-up'
- *apó-pró-* 'off-forth'
- *eis-aná-* 'towards-up'
- *eis-apó-* 'towards-off'

- *ek-aná-* 'out-up'
- *ek-apó-* 'out-off'
- *ek-hupó-aná* 'out-under-up'
- *ek-pró-* 'out-off'
- *perí-pró-* 'around-off'

Imbert (2008, §VI.1.1) categorises Homeric Greek preverbs into three main classes: Trajectory, Location, and Orientation. The former two essentially correspond to PATH ('to, towards') and PLACE ('in, on') respectively, dealing with the presence of motion and the identification of a static point in space. Orientation preverbs are more distinct, describing orientation on a vertical or horizontal axis (e.g., above, below, through); this seems to encompass specific subtypes of PLACE. Imbert (2008) uses this classification

Table 16 Homeric Greek relative ordering (after Imbert 2008, §VI.1.1)

Slot 3 Trajectory	Slot 2 Location	Slot 1 Orientation
eis	apó	aná
ek	perí	pró
amphí	en	
epí		

Table 17 Homeric Greek preverb classification (after Zanchi 2017)

Goal	Source	Location
eis	apó	én
amphí	ek	pró
epí		
perí		
aná		

Table 18 Gothic and Homeric Greek cognate orderings

Got.	*inn* 'into'	*!ana* 'onto'	(*af*) 'from'	(*in*) 'in'	*fra-* 'away'	
Grk.	*eis* 'into'		*apó* 'from'	(*en*) 'in'	*pró* 'toward'	*!aná* 'up'

Table 19 Overall cognate preverb orderings

Got.		inn	!ut	ana	(af)	uf	at		fra-	
Skt.	abhi			anu	apa	upa		pari	pra	ud
OIr.	imb(e)	ess			fo	ad	ar(e)		ro	uss
Grk.	amphí	ek	eis		apó	hupó		perí	!aná	pró

to argue that Homeric Greek preverbs are ordered based on their semantics as in Table 16. Based on the same Homeric Greek data, Zanchi (2017) studies Source-Goal asymmetries and proposes the semantic classification as in Table 17.

Where these two charts differ, this paper remains agnostic on the precise classification of these heads pending closer investigation of their selectional behaviour. Assuming Zanchi's (2017) GOAL/SOURCE to correspond to subtypes of PATH, we can consider the Gothic cognates to these preverbs in Table 18.

Our cognate orderings again seem to hold with the exception of the problematically low Greek *ana*. This anomaly could be accounted for through Heine et al.'s (1991) scale of metaphorical directionality, where originally locative or spatial lexical items often shift over time to become temporal and subsequently causal or concessive in meaning. Traugott and König (1991) identify this as a tendency to drift from objective/extralinguistic meaning to meaning grounded in 'text-making' (e.g., connectives), followed by meaning grounded in speaker attitudes. On one hand, Classical Sanskrit *anu* is the most abstract, with causal-temporal 'then, after, again' alongside metaphorical 'according to' interpretations; intermediate Gothic *ana* has both spatial meaning 'onto, upon', as well as conjunctive meaning 'thereon, thereupon.' In contrast, Homeric Greek *aná* primarily expresses spatial 'up, upwards' meaning and is thus most

conservative. Recalling the discussion in Sect. 4.2 on how comitative *miþ* is peripheral to the locative system, it is possible that metaphorical Sanskrit *anu* and Gothic *ana* might be more peripheral than the still-spatial Greek *aná*. In addition to the historical-etymological and synchronic-featural pressures that shape relative preverb orderings across the older Indo-European languages, a third factor must also be considered: varying degrees of diachronic metaphoric shift of a given preverb. Acknowledging these complexities, synthesising the data from all four languages into one overall relative ordering chart (even if only indicative of the extent to which cognates pattern alike) yields the correlations in Table 19.[71]

This appendix has presented a preliminary survey of relative ordering across the older Indo-European languages using cognacy as a proxy in our comparisons. While some tendencies seem to arise, the actual distributions remain complex and indeterminate. Furthermore, any attempt to generalise is complicated by differences in the amount of stacking allowed in each language as well as varying developments in the semantic and metaphorical functions of individual preverbs.

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[71] Empty cells indicate an absence of confirmed cognates. Problematic Gothic *ut* and Greek *aná* are again indicated with ! and have been placed where the majority of their cognates agree. Go. *bi* has been excluded from cognacy with OIr. *imb(e)* and Skt. *abhi*, which may themselves not be cognate (cf. OHG *umbi* and OE *ymb*, which are closer to OIr *imb(e)* than Gothic *bi*).

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