



# Two structures of extraposition in central dialects of Early New High German

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**Abstract** Extraposition in OV Germanic languages is a complicated phenomenon, which has been analyzed in different ways—as a result of rightward movement, as base generation of extraposing items to the right, and as a result of raising of predicative elements. The most common type of item in extraposition is CP, but also PPs and heavy adjuncts are attested in extraposition in Modern German. Early New High German (ENHG) material adds complexity to this topic, since it shows much more widespread extraposition, allowed for arguments as well. In this article, I propose a twofold analysis of extraposition in ENHG. Based on DP-extraposition to the predicate, I argue that in certain cases extraposition can result from rightward movement of an extraposing XP, while in other cases it is raising of the particle to position adjoined to vP, which leaves XP in overt extraposition to the predicate.

**Keywords** Early New High German · Extraposition · Argument-extraposition · Particle verbs · Prosodic structure

## 1 Introduction

This paper considers the phenomenon of argument extraposition in Early New High German (1350–1650 A.D.; ENHG in the remainder of this paper). Although ENHG extraposition has long been a focus of descriptive work, it has been under-studied in formal frameworks such as Minimalism. Such a study, however, can be useful both for a universal description of extraposition’s nature and mechanisms, as well as for resolving the puzzle of German extraposition (see the discussion of different syntactic theories in Sect. 3).

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In an SOV language, such as Modern and Early New High German, extraposition is easily detectable in subordinate clauses, as well as in main clauses with complex predicates. Every item to the right of the verbal complex<sup>1</sup>, i.e. in the postfield (*'Nachfeldbesetzung'* in the German tradition), can be defined as having been extraposed. The postfield is non-empty if there is any element following the right boundary of the clause, which is marked by the finite verb in subordinate clauses or the non-finite part of a verbal complex in main clauses. The term *extraposition* is used here and throughout the paper descriptively, referring to the surface position of an element in the postfield of a clause in any SOV language. Before the analysis is presented, I will remain agnostic about what structure(s) extraposition corresponds to. However, the aim of this paper is to argue that extraposition can result from two different structures.

In this study I concentrate on argument DP extraposition and demonstrate that in ENHG it corresponds to two different structures, namely (i) rightward movement of an extraposing phrase (proper extraposition) and (ii) raising of a small clause in the complement of VP to a higher projection adjoined to vP (SC-intrapolation).

- (1) a.  $[_{CP} \dots [_{VP} t_i V]] X_i$   
 b.  $[_{CP} V_j \dots [[_{SC} (t_k) Y]_i [_{VP} X_k t_i t_j]]]$

Additionally I argue that the choice between these two constructions depends on both syntactic and prosodic factors: the structural characteristics of the non-extraposing part of the VP and prosodic phrasing of the extraposing XPs. The former factor ensures that only a complement of the V-head can raise under SC-intrapolation and hence that extraposition is separate from head-movement operations. The latter factor (the prosodic phrasing of the extraposing XPs) ensures the complete impossibility of multiple argument extraposition, but allows for argument+adjunct(s) extraposition via SC-intrapolation.

In what follows I will systematically consider Early New High German argument extraposition and provide arguments for each of my claims. If it is true that the choice between the two extraposition constructions depends on the structure and prosodic weight of the right boundary and prosodic phrasing in the clause, then arguments for different theories of extraposition in Modern German and other languages can be unified.

The rest of this paper will proceed as follows: In Sect. 2, the design of the study and some crucial characteristics of the ENHG argument extraposition are considered. Section 3 discusses existing theories of extraposition. In Sect. 4, I propose two mechanisms of extraposition and discuss their precise mechanics, structural constraints and predictions. Section 5 deals with empirical and theoretical consequences of the prosodic nature of extraposition. Appendix briefly discusses the extraposition of adjuncts, and Sect. 6 concludes.

<sup>1</sup> This term is used after, e.g., St. Müller (2002) and refers to complex predicates, formed by a verb and a secondary item, that can be verbal, but can be a particle or an adjective in a predicative use.

## 2 Research outline

This section presents the ENHG data which this study is based on, as well as the research design. Given that this is not a descriptive study and that a statistics-based study was already run for ENHG by Sapp (2007, 2014), I do not concentrate on how widespread the various types of data are, nor do I carry out any statistical analysis.

### 2.1 Research design

As an empirical basis of this study, particle verbs (particle verb combinations, PVCs, verbs with separable prefixes) are used. PVCs are quite well studied in the generative tradition on modern Germanic languages, such as English, German, Dutch, West Flemish, and Scandinavian. Moreover, PVCs provide profitable material for studying extraposition, since in the SOV Germanic languages the lexical verb is raised to the V2 position in main clauses, and it is only the verbal particle that marks the right boundary of the clause and allows the unambiguous identification of the XPs following it as extraposition (2).

(2) [CP XP V<sub>fin</sub> [TP (SUB) (V<sub>fin</sub>)... [vP (SUB) [VP (DO) **PART** <V<sub>fin</sub>> ]]] Y Z]

The ENHG period in the history of German shows huge variation in possible surface word orders. However, Fuß (2018) has shown that ENHG is, nevertheless, underlyingly SOV. Hence, as in Modern German, PVCs are expected to mark the right boundary of the clause. Another advantage of PVCs is that they give examples of both a very light right boundary, i.e. consisting of a particle only, and of prosodically heavy ones, e.g. when the main verb is in the participial form or in the infinitive and stays clause-final. This allows the comparison of all possible types of overtly marked VPs—with finite lexical verbs, with auxiliary-governed participles, and with infinitives selected by modal verbs.

All the ENHG examples in the article originate from Bonner Early New High German Corpus (Bonner Frühneuhochdeutsch-Korpus 1972–1985). Modern Standard German examples are constructed by the author and tested with native speakers, or taken from the existing literature. Texts presented in the Bonner Frühneuhochdeutsch-Korpus vary widely with respect to genre and style. This has a huge impact on the percentage of extraposition cases (compare the statistical analysis by Sapp 2014). For this reason, I limited my material to the period between 1450 and 1600. There are three dialects in the scope of my study, namely Thuringian, Hessian and Ripuarian, represented by two texts each (see Table 1). I leave a comparison with other ENHG dialects for further research. It is, however, unclear, what influence on extraposition dialectal differences have; as Sapp (2014) explains, “First, these ‘dialects’ are represented in the database by only a few texts; therefore, there is no way of knowing whether the variation here is truly dialectal or due to the idiosyncrasies of individual texts. Secondly, there do not seem to be any clear geographic patterns: ... adjacent dialects do not necessarily have similar numbers. Therefore, it remains unclear what role, if any, dialect plays in extraposition” (141).

**Table 1** Texts, used in this study (from Bonner Frühneuhochdeutsch-Korpus)

Dialect	Period	Text	Genre
Riparian	1450–1500	‘Die Cronica van der hilliger Stat vā Coellē’ (ff. Iir–XIIv) of Johann Koelhoff, printed in 1499	Chronicle
	1550–1600	‘Vonn warer, wesenlicher, vnd pleibēder Gegenwertigkeit des Leybs und Blūts Christi ...’ of Johann Gropper, printed in Cologne, 1556	Religious prose
Hessian	1450–1500	‘Hortus sanitatis’ of Johann Wonnecke von Cube, chapters 76–123, printed in Mainz by Peter Schöffler d. Ä., 1485	Technical prose
	1550–1600	‘Americæ achter Theil ...’ of Walter Raleigh, printed in Frankfurt, 1599	Technical prose
Thuringian	1450–1500	‘Düringische Chronik’ of Johann Rothe, later edition, Jena, 1859. Text rewritten in the 2nd half of the 15th century, after the original of Johannes Rothe from 1421	Chronicle
	1550–1600	‘Thüringische Chronick oder Geschichtbuch ...’ of Johann Bange, printed in Mühlhausen, 1599	Chronicle

Sapp (2014) argues that genre has more impact on extraposition rate than dialect. The Thuringian texts are examples of technical prose and therefore differ stylistically and pragmatically from the others and are expected to favor extraposition more than the rest. Though Sapp also argues that religious texts and chronicles have equally low extraposition rates, all chronicles in my sample have a good amount of extraposition, but the second Riparian text, ‘Vonn warer, wesenlicher, vnd pleibēder Gegenwertigkeit des Leybs und Blūts Christi ...’ of Johann Gropper, is almost irrelevant for the analysis because of a complete absence of extraposition. Nevertheless, I follow Sapp (2014) in attributing this difference not to the dialect, but rather to stylistic properties of the text. For this reason, I also argue that the absence of extraposition in this text does not provide counterarguments against my results, nor does it falsify them.<sup>2</sup>

Corpus output was collected for ten out of the seventeen particles which comprise the core of particle verb combinations (Habermann 2011). All the most frequent particles were considered, as well as some less frequent ones. Verbal particles are not glossed in the Bonner Frühneuhochdeutsch-Korpus either as separate items, or together with verbs. For this reason, automatic search in the ANNIS system was based on a token sequence for each verbal particle. Contexts with PVCs were manually selected from the search output, which included synonymous prepositions and identical token sequences in the beginning of other words, e.g., ‘an-’ in ‘ander’. Because of the search design, I provide a list of the particles represented in the corpus

<sup>2</sup> Crucially, I argue that this absence of extraposition does not straightforwardly correspond to a diachronic reduction of extraposition, since even CP-extraposition is completely absent from this text, with all CPs appearing in the middle field. However, it is well known that CP-extraposition is present and widespread in Modern German.

**Table 2** Orthographic variants for verbal particles in Central dialects of ENHG

Particle (orthographic representation after Habermann 2011)	Orthographic variants		
	Thuringian	Hessian	Ripuarian
ab-	ab-, ap-	ab-	aff-
an-	an-	an-	an-
auff-	auff-, vff-, uf-	auf-, vff-	vp-
auß-	auß-, uss-	auß-, vß-, uß-	viss-, vys-
bey- (not represented in the corpus)			
ein-	ein-, yn-	eyn-, eiyn-, in-	yn-, in-
für-/vor-	für <sup>e</sup> -, vor-	für <sup>e</sup> -, vor-	vur-
nach-	nach-	–	nae-
vber-	vber-, obir-, ober-	vber-	ouer-
zu-	zu-	zu-, zû-	tzo-, zo-

(together with their orthographic variants) in Table 2. Orthographic variants, not represented in the corpus, are not reflected in the table.

## 2.2 Data description

The most common types of extraposition in ENHG are CP- and TP-extraposition (Sapp 2014). However, these are also the most common, or even obligatory, types in Modern German and thus cannot add much to the discussion of extraposition. In contrast, DP-extraposition is almost impossible or at least highly limited in Modern German. In ENHG, on the contrary, extraposing DPs are quite common even in the written language. Given that ENHG is very similar to Modern German in its main properties, differences between the two languages are interesting per se and can potentially be useful for an analysis of extraposition in general. The amounts of postposed DPs in my data are distributed as follows: in the first period (1450–1500) there are 5 cases in Thuringian, 20 in Hessian, and 17 in Ripuarian out of the overall number of 245 clauses with extraposition. In the second period (1550–1600), however, the numbers are smaller: in Thuringian, 4 cases; in Hessian, 3; and in Ripuarian, 0, out of a total number of 297 clauses with extraposition.

These numbers show a drastic reduction in argument extraposition over time—there are 42 cases of DP/NP extraposition in the first period (1450–1500 A.D.), but only 7 cases in the second period (1550–1600 A.D.). A similar reduction in frequency can be observed for extraposed PPs and adverbials: compared to 39 cases in the first period, there are only 19 in the second. As for extraposition of CPs and infinitival clauses, there is an opposite tendency: 19 cases in the first period and 73 in the second one. Despite the frequency reduction, both the DP/NP and PP/Adv extraposition types are present in both periods. This difference in frequency may be attributed to diachronic change. Nevertheless, even in the second period, the number of DP-extraposition instances is sufficient to show that this type of extraposition is present in the language. Equally important is the fact that the data does not show any radical

dialect variation within the Central dialects of ENHG (compare Sapp's 2014 conclusion, mentioned above). Based on this, I assume that even if dialect and diachronic change between 1450 and 1600 A.D. affect extraposition frequency, they do not affect the underlying system of the language. Therefore, I treat my data as a uniform reflection of the language system.

Examples (3)–(5) present argument extraposition in ENHG, which is either not allowed in Modern German, or highly restricted. Subject extraposition is illustrated in (3). I assume this word order in (3a) to be perfectly acceptable for this dialect and time, since it occurs in the text several times. Modern Standard German translation in (3b) is, in contrast, judged by native speakers as almost unacceptable.<sup>3</sup>

(3)

- a. Want vp dye                   zijt is   volkomelich **vp-gedain**           [dye duere  
why up the                   time is   completely up.PTCL-opened the door  
der ewiger raste der       selen].  
*of.the eternal rest of.the souls*  
'That's why from that time the door to the eternal rest of the souls is completely  
opened.' [Koelhoff (Rip; 15th cent.)]<sup>4</sup>

- b. <sup>\*/??</sup>Deshalb ist seit       dieser Zeit       komplett **geöffnet** [die Tür  
*that's why is from this time completely opened the door*  
der ewigen Freude der       Seelen].  
*of.the eternal joy of.the souls*  
'That's why from that time the door to the eternal joy of the souls is completely  
opened.' [Modern Standard German]<sup>5</sup>

<sup>3</sup> One of the native speakers I consulted judged this sentence as very archaic and requiring a very specific stress and intonation pattern. However, to the best of my knowledge, there is a significant variation among speakers of Modern Standard German. Some allow (3b), as well as heavy and light object extraposition. This variation in Modern Standard German lies outside of the focus of the current study and requires another careful experimental and corpus-based study.

<sup>4</sup> If a word is not translated in Bonner corpus, I add a gloss after Frühneuhochdeutsches Wörterbuch (FWB-online, <https://fwb-online.de/>).

<sup>5</sup> Modern Standard German examples, if a source is not given explicitly, are constructed by me and checked with native speakers. However, native speaker judgments about some Modern German examples may vary. Fanselow (1993) provides the following example of subject extraposition in Modern Standard German. He does, however, point out, that the status of this construction is unclear.

- (i) Auf Gleis 3                   fährt in wenigen Minuten ein       der Eurocity 27 "Fliegender Waldviertler"  
On platform 3                   goes in few minutes in.PTCL the eurocity 27 F.W.  
von Langschlag nach Stuttgart, über Zwettl, Sandl, Ritterschlag, Kefermarkt, Freystadt, Linz,  
From Langschlag to Stuttgart via Zwettl Sandl Ritterschlag Kefermarkt Freystadt Linz  
Passau, Regensburg.  
Passau Regensburg  
'The Eurocity train 27 "Fliegender Waldviertler" from Langschlag to Stuttgart via Zwettl, Sandl, Ritterschlag,  
Kefermarkt, Freystadt, Linz, Passau, Regensburg is arriving at platform 3' [from Fanselow 1993, 41, footnote 46]

For the purposes of the present study, I do not consider the most permissive judgments, because they are not accepted by all native speakers and lack a prior analysis. However, I do not make any strong arguments about Modern German because the intuitions of native speakers differ and, as pointed out above, a separate corpus- and statistics-based study is required.

The same is true for extraposition of direct objects: ENHG allows both heavy and light direct objects in extraposition, while Modern Standard German does not. Truckenbrodt (2016) argues that direct object extraposition is only possible in Modern Standard German if the direct object is heavy, as in (4).<sup>6</sup> Early New High German, however, also allows extraposition of light direct objects (5).

- (4) Er hat  $t_i$  **gegessen** [ein Schnitzel Pommes und einen Salat];  
*he has eaten a schnitzel, french-fries and a salad*  
 'He ate a schnitzel, french-fries and a salad.'
- (5) Camillen <...> drybet  $t_i$  **vB** [den eyter].  
*Chamomile drive out.PTCL the poison*  
 'Chamomile drives out the poison/toxin' [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

These contrasts show that extraposition in Early New High German was far more widespread than in Modern Standard German. However, it was not unrestricted. Given that there is no possible access to negative judgments for ENHG and that both subject and object extraposition is attested quite well in my data, I assume that the absence of a particular extraposition configuration suggests that it is unavailable in the written ENHG.<sup>7</sup> Examples in (6) provide an illustration of such unattested extraposition configurations:

- (6) a. multiple extraposition of subject + adjuncts after a participle  
 \*Want vp dye zigt is **vp-gedain** (volkomelich) [dye duere  
*why up the time is up.PTCL-opened completely the door*  
 der ewiger raste der selen] (volkomelich)  
*of.the eternal rest of.the souls completely*  
 'That's why from that time the door to the eternal rest of the souls is completely opened.' [Modified from Koelhoff (Rip; 15th cent.)] – unattested
- b. Multiple extraposition of object + adjuncts after a participle  
 \* Es hatte Lamedon der konig von Troyan uss gesant  
*it had L. the king of Troy out.PTCL sent*  
 [mit eyne heere] [uf seyne fynde] [seynen sson Priamum] .  
*with an army at his enemies his son P.*  
 'There has Lamedon, king of Troy, sent out his son Priam with an army at his enemies.' [ Modified from Bange (Thur; 15<sup>th</sup> cent.)] – unattested

<sup>6</sup> As an anonymous reviewer noted, some native speakers do not consider this sentence grammatical with either heavy or light DO. In the ENHG, on the other hand, this is a common pattern.

<sup>7</sup> As another anonymous reviewer points out, there can be a difference between spoken and written language. Since we have no access to the spoken variety of ENHG, any claim in this paper holds only for written ENHG. I would like to emphasize, however, that the same is true for any other study of ENHG. Hence, ENHG stands in fact for the written variety of German dialects, spoken in 1350–1650 A.D.

- c. multiple extraposition of two arguments after a finite verb  
 \* Plinius spricht *daz zû vil gessen vff-blasen* [zwobeln] *dē*  
*P. tells that too much eaten up.PTCL-blow onions the*  
*buche ... .*  
*stomach*  
 ‘Plinius says that onions, if to eat too many of them, blow the stomach ... .’  
 [Modified from Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)] - unattested

The examples in (6a–c) illustrate unattested patterns of extraposition in clauses with a participial and a finite right boundary. The same holds for all clause-final verbs, whether they are infinitives, participles, or clause-final finite forms. If these restrictions hold indeed, a theory of extraposition should be able to account for them.

Before proceeding to the analysis, I will review the existing theories of extraposition.

### 3 Theories of extraposition

There are three main groups of approaches, which treat extraposed elements either as moved to the right or as base-generated, either in their canonical position, or to the right of V.

Truckenbrodt (2016) considers extraposition in Modern German to consist of two different phenomena: (i) proper extraposition, i.e. an element belonging to the clausal structure (7),<sup>8</sup> and (ii) right-dislocation/afterthought, i.e. the extraposing item belongs to neither the argument structure nor the prosodic structure of the clause (8).

- (7) a. Die Maria hat ein Buch  $t_i$  gelesen [von Chomsky]<sub>i</sub><sup>9</sup>  
*the Maria has a book read by Chomsky*  
 ‘Maria has read a book by Chomsky.’
- b. Der Peter hat  $t_i$  gesagt [dass es regnen wird]<sub>i</sub>  
*the Peter has said that it rain will*  
 ‘Peter said that it will rain.’
- c. Er hat  $t_i$  gegessen [ein Schnitzel Pommes und einen Salat]<sub>i</sub>  
*he has eaten a schnitzel, french.fries and a salad*  
 ‘He ate a schnitzel, french-fries and a salad.’

<sup>8</sup> Examples (7) and (8) are given after Truckenbrodt (2016).

<sup>9</sup> Truckenbrodt (2016) analyzes extraposition as a rightward movement operation, so his examples contain traces for the extraposed XP.



- (8) Ich habe sie gesehen, die Maria.  
*I have her seen, the Maria*  
 'I have seen her, the person Maria.'

Right-dislocation and afterthought are rather irrelevant for the present study since they do not belong to the syntactic structure of the preceding clause. In what follows, I concentrate on analyses of proper extraposition.

In the literature, there is no consensus on either the nature of extraposition, or on what elements can extrapose. It is agreed upon that there is CP-extraposition, which is possible for both CP-arguments and relative clauses.<sup>10</sup> Less widespread, but generally allowed, is PP-extraposition. (e.g., Haider 1997; Müller 1997; Buring and Hartmann 1997; Wurmbrand and Bobaljik 2005; Frey 2015). DP-/NP-extraposition is generally ignored in the syntactic literature, despite the fact that it is at least marginally attested in Modern German, as examples from Truckenbrodt (2016) and a brief consultation with German native speakers show. As for the nature of extraposition, present theories fall into three main groups that consider extraposition to be either (i) a result of base-generation of a constituent to the right, (ii) a result of base-generating a constituent in its canonical place, followed by raising of V, or (iii) an instance of rightward movement of the extraposed material.

Base-generation theories of extraposition (Culicover and Rochemont 1990; Wiltschko 1994) suggest that extraposed clauses are base-generated in right-adjoined positions. However, as soon as argument extraposition is considered, this analysis becomes problematic.

An alternative base-generation approach is based on Kayne's (1994) Antisymmetry Hypothesis. If the universal order 'specifier-head-complement' is assumed, the OV order emerges by movement of the direct object to a higher position. Extraposition is then analyzed as an absence of raising, keeping the original SVO-order.<sup>11</sup> Along with other problems sketched below, this analysis would not be able to account for extraposition of external arguments, since these should be first merged in Spec,vP (e.g., Harley 2017) and thus do not follow the verb. In the next section, I will show that external arguments can extrapose in ENHG.

<sup>10</sup> CPs in general tend to postpose in all Germanic languages. On extraposition of subject *that*-clauses in English see Seppänen and Herriman (2002); and for an analysis of their diachronic origin from a demonstrative discourse pronoun, 'demonstrative Diskurskatapher' see Axel-Tober (2012).

<sup>11</sup> An additional problem with the 'absence-of-raising' analysis concerns markedness: if the basic word order is an extraposition order, it should be less marked. However, this is not the case (Bies 1996; Speyer 2016 for ENHG, Vinckel-Rosin 2012; Light 2012 for Modern German). In this context, it is relevant that Fuß (2018) demonstrates ENHG to be an SOV language.

Haider (1997) suggests an analysis where an extraposed constituent is base-generated in a left-branching OV structure, followed by raising of the verbal material out of VP. His core argumentation is based on the CP position relative to the position of the standard of comparison in comparative constructions.

Büring and Hartmann (1997) point out a number of problems that base-generation approaches induce. As examples (9–10) show, some but not all extraposed CPs are islands for extraction:

(9) [= 9 Büring and Hartmann (1997)]

- a. Wen<sub>i</sub> glaubst du, daß Hans t<sub>i</sub> gesehen hat?  
*who believe you that Hans seen has*  
 'Who do you believe that Hans has seen?'
- b. \*Wen<sub>i</sub> überrascht (es) dich, daß Hans t<sub>i</sub> besuchen wird?  
*who surprises it you that Hans visit will*  
 'Who does it surprise you that Hans will visit?'

(10) [= 11b Büring and Hartmann (1997)]

- \*Was<sub>i</sub> warst du krank nachdem du t<sub>i</sub> getrunken hast?  
*what were you sick after you drunk have*  
 'What were you sick after you drank?'

However, if all extraposing CPs are base-generated in Comp,VP and do not move, no island effects should emerge. Under a rightward movement analysis, the difference between subjects and objects is determined by their base position because extraction takes place from there, prior to extraposition.

A second problem for the base-generation approach is Haider's 'Binding paradox'. Examples in (11) show that an R-expression in an extraposing relative clause can bind a pronominal indirect object. If the R-expression is in an object clause, it cannot be coreferent with a higher pronoun.

(11) [= 19a,b Büring and Hartmann (1997)]

- a. Es hat ihr<sub>j</sub> jemand gesagt [<sub>RelCP</sub> dem Ida<sub>j</sub> blind vertraut]  
*EXPL has her somebody said whom Ida blindly trusts*  
 [daß sie sehr alt wird].  
*that she very old becomes*
- b. \*Es hat ihr<sub>i</sub> jemand gesagt [<sub>RelCP</sub> dem sie<sub>i</sub> blind vertraut]  
 [<sub>ArgCP</sub> daß Ida<sub>i</sub> sehr alt wird].  
 'Somebody whom Ida blindly trusts has told her that she is going to become very old.'

Under the base-generation analysis this is indeed a paradox since both CPs are expected to be generated in the same position. But the movement analysis can

account for this pattern if the relative clause is first merged above the indirect object and thus c-commands it, while the object clause never does.

Büring and Hartmann (1997) show that the base-generation account is not only too permissive, but also too restrictive. As one example, an extraposition of a relative clause out of a PP is allowed (12). This is only possible if the relative clause is base-generated as a complement of the NP ‘Professorin’, because otherwise N cannot c-command the relative clause and bind the relative pronoun.

- (12) Er hat [NP ein Buch [PP über [NP den Vater einer  
*he has a book about the father of a*  
 Professorin]] gelesen [RelCP die er sehr schätzt];  
*professor read who he very appreciates*  
 ‘He read a book about the father of a professor who he appreciates very much.’

On the other hand, Haider (1997) points out some complications for the rightward movement theory. The first problem is the absence of island effects in, e.g., object-CPs (recall ex. 10a). However, Müller (1997) suggests that this can be accounted for if (CP-)extraposition is analyzed as remnant movement. If an item is moved out of the CP before the latter moves to the right, no island effect is expected.

The second problem is the impossibility of topicalization and scrambling of object-CPs, which is unexpected if they can be A’-moved, i.e. extraposed (13).

Thirdly, Haider shows that focus particles can be topicalized together with the phrases they introduce, but cannot be extraposed. This difference is not expected if both operations are A’-movement.

However, at least the last complication can be resolved. It has been argued that extraposition is a PF phenomenon, tightly linked to prosody and information structure (e.g., Sapp 2014; Truckenbrodt 1995; Göbbel 2007; Wurmbrand and Bobaljik 2005; Belkind 2021, Ms.). Truckenbrodt (1995), and more recently Wurmbrand and Bobaljik (2005), argue for a treatment of extraposition as a choice of copy at PF:

- (13) Choice of copy in an extraposition chain:  
 Pronounce the higher copy ... unless doing so interrupts the maximal parsing of the remaining material into a prosodic phrase.

Thus, the choice of copy is regulated by prosodic phrasing rules and does not need any separate syntactic motivation. However, this analysis, being a base-generation one, runs into the same problems as described above (after Büring and Hartmann 1997). Nevertheless, it seems that prosodic structure is indeed the best motivation for extraposition (e.g., Belkind 2021, Ms.). Since prosody is tightly connected to information structure (Samek-Lodovici 2015, 2005; Szendrői 2017;

etc.), extraposition of focus particles can be seen as overgeneration of overt focus marking on one element.

As this section shows, there is no consensus about what extraposition is. Since there are strong arguments for treating it as a PF phenomenon, it would be an easy and logical solution to argue that it is an operation on linear order of elements that does not care about syntax. However, such an approach would be too permissive and would not straightforwardly predict any structural constraints on extraposition. Adopting Belkind's proposal that extraposition in ENHG, as a prosodically motivated reordering of elements, takes place postsyntactically, I will show that it nevertheless does not ignore syntax completely.

## 4 Analysis of ENHG DP-extraposition

In this section, I will argue that DP-extraposition in ENHG is best described as two different operations: either small clause raising over an extraposing XP or rightward movement of the extraposing XP. The choice of operation is sensitive to (i) whether the verbal complex consists of only one V-head or the matrix verb takes a small clause (SC) complement which forms a part of the verbal complex (e.g., verbal particle), and (ii) overt vs. silent copies of the verb in the VP.

This section proceeds as follows: First, I provide motivation for using particle-verb combinations (PVCs) as the main piece of data for the analysis of extraposition. Subsection 4.2 contains arguments for the small clause raising analysis as well as structural constraints on this operation. In Subsect. 4.3, a rightward movement analysis is suggested for the rest of the extraposition contexts. In Sect. 5, constraints for each of the operations are postulated and a unifying analysis is proposed that makes it possible to treat both operations as extraposition, despite the different machinery used.

### 4.1 Structure(s) of PVC

Before proceeding to the analysis of ENHG extraposition, a few remarks on the structure of PVC should be made. PVCs provide good material for research. On the one hand, the particle (in the unmarked case) stays in situ and marks the right boundary of the clause, which allows one to test extraposition not only in perfect or passive contexts, but also in the present or preterite, when the verb raises to a higher position. (ENHG is not obligatorily V2 in main clauses, but the finite verb normally does not stay in situ (Schmidt 2013; Ebert et al. 2013).) On the other hand, PVCs form complex tenses and passive forms, as well as embed under modal verbs. Therefore, PVCs make it possible to detect extraposition both in clauses with a raised lexical verb and in clauses where the lexical verb remains clause-final (e.g., perfect, infinitives selected by modal verbs or causatives, subordinate clauses). As will be discussed in the next subsection, extraposition that follows a sole verbal particle differs in its properties from extraposition that follows a full verb.

There exist two main approaches to analyze the inner structure of PVC: the small clause approach and the complex head approach (e.g., Neeleman 2002; Müller 2002; Dehé 2015; see Wurmbrand 2000 for some further references).

Vikner (2013) tries to reconcile these two approaches. He argues that particles form a syntactic phrase the same way as prepositions do, with the only difference that particles do not assign case (Vikner 2013, 2). There are two possibilities of how a DP can be assigned case: either the particle moves to the V-head and pseudo-incorporates into the verb, or the DP moves to Spec, PtcIP, where case can be assigned by V°. Though both options are possible, Vikner argues that particles are incorporated into the V-head.

Wurmbrand (2000) suggests another way to combine the small clause and complex head analyses, arguing that particle verbs can have either structure, depending on their semantic compositionality. Semantically transparent PVCs have the small clause structure, while idiomatic (and semi-idiomatic) PVCs have the complex head structure.

- (14) a. small clause structure      b. complex head structure<sup>12</sup>
- VP

└───┬───

V°   SC

      └───┬───

      Obj   PTCL

VP

└───┬───

Obj   V°

      └───┬───

      V°   PTCL

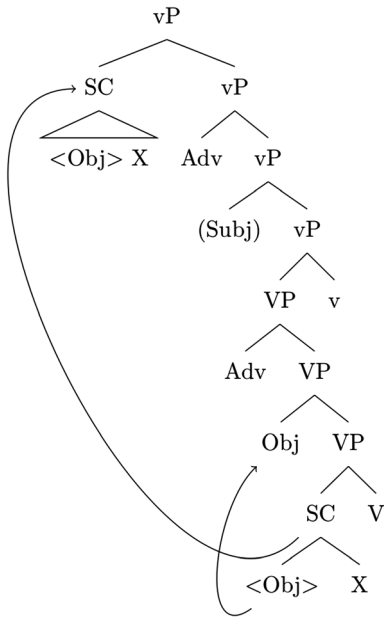
In the remainder of this paper, I will adopt this approach as a baseline for my argumentation. I will also refer to these structures as transparent vs. (semi-)idiomatic particles, respectively. However, given the absence of negative judgements, as well as incomplete positive data, it is not possible to run all necessary tests. Therefore, all statements about differences in syntactic behavior of transparent vs. (semi-)idiomatic PVCs are to a certain degree speculative and should be taken with caution.

## 4.2 Small clause raising

In this subsection, I argue that some instances of extraposition can be only derived by raising of a small clause, which contains a non-silent part of a verbal complex. The proposed derivation is presented in (15). It takes place in main clauses with transparent PVCs and raised finite verbs.

<sup>12</sup> Syntactic trees in (14) are taken from (Wurmbrand 2000).

(15)



The derivation in (15) has several consequences. First, small clause raising will only lead to extraposition if the matrix verb raises from its base position. Secondly, particle raising is an instance of phrasal movement. In addition, it requires the direct object to move out of the small clause beforehand. Thirdly, the landing position of the raised small clause is an (adjoined) projection above vP. In what follows, each of these predictions is shown to be borne out. In Subsect. 4.2.4, multiple extraposition is introduced as evidence against a rightward movement analysis of these clauses.

4.2.1 Verb raising out of vP feeds particle raising

In this subsection, I show that extraposition can be derived via small clause raising only if the lexical verb is finite and moves out of the vP.

Examples in (16–17) show that multiple extraposition of an object and adjunct(s) is only possible if the lexical verb is finite and raised to TP (or to CP). Crucially, no example like (17b) was found in the corpus.

- |      |             |                  |                  |              |                     |
|------|-------------|------------------|------------------|--------------|---------------------|
| (16) | Jtem        | camillen         | blomen           | dryben       | <b>vß</b>           |
|      | <i>Also</i> | <i>chamomile</i> | <i>flowers</i>   | <i>drive</i> | <i>out</i>          |
|      | böse        | feuchtüge        | <b>[do von</b>   |              | <b>gedruncken].</b> |
|      | <i>bad</i>  | <i>moisture</i>  | <i>this from</i> |              | <i>drink.PTCPL</i>  |
- ‘Also, flowers of chamomile drive out bad moisture, <if you> drink from it.’  
 [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

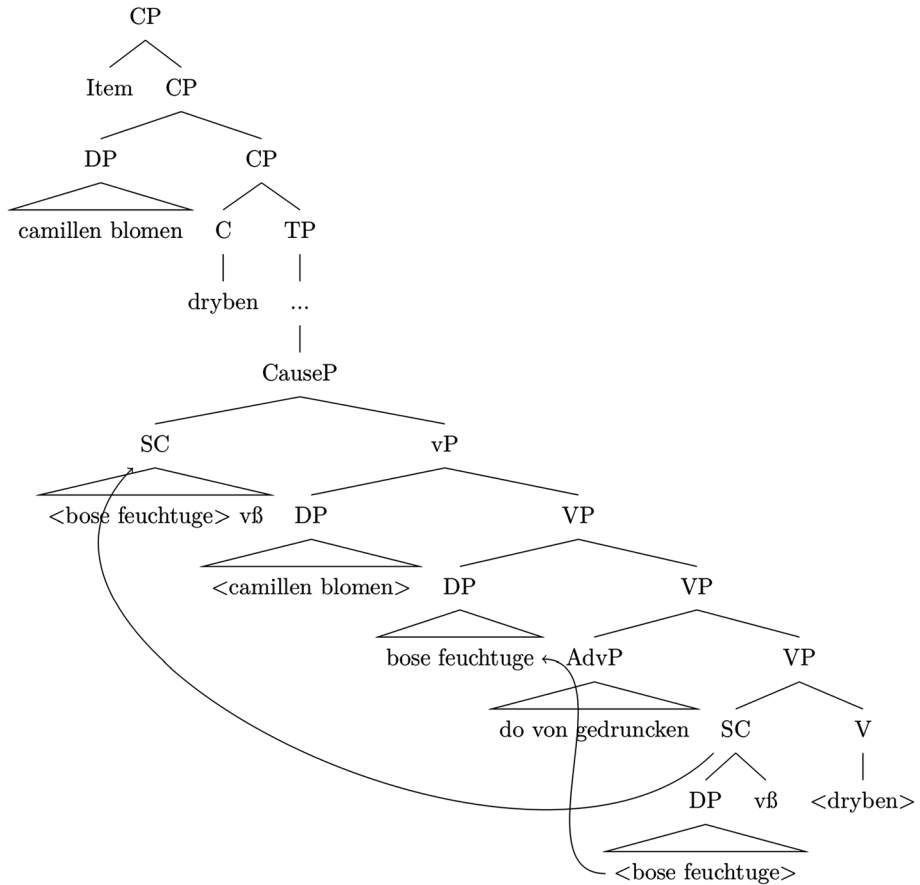
- (17) a. Plinius            spricht    daz    zwobeln  
*Plinius            says      that    onions*  
**[zũ   vil                    gessen]      vff-blasen            dē    buche ... .**  
*too    much                    eaten            up.PTCL-swell      the    stomach*  
 ‘Pliny says that onions, if to eat too many of them, make the stomach swollen ...’  
 [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

- b. Plinius        spricht    daz    zwobeln                            **vff-blasen**  
*Plinius        says      that    onions                            up.PTCL-swell*  
**\*[zũ   vil        gessen]    [dē   buche]    \*[zũ                vil        gessen] ...**  
*too    much    eaten      the    stomach    too                    much    eaten*  
 ‘Pliny says that onions, if to eat too many of them, make the stomach swollen ...’  
 [Modified from Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)] - unattested

A possible complication for the small-clause raising analysis can arise from the fact that in (16) the direct object and the adverbial seem to be additionally scrambled. Such a word order is expected if both phrases are right-merged in their base positions. However, a right-adjunction analysis would not be able to rule out (17b). A simple solution for obligatory scrambling in extraposition is provided in Vikner’s (2013) proposal that objects are first merged as complements of a particle but assigned case in the Spec, VP. However, it should be noted that the second part of Vikner’s proposal, i.e. subsequent particle incorporation into the V-head, is impossible in the analysis presented here since it would require double movement of a V-head—the verb raising to the V2 position and the particle raising to an adjoined projection above vP.

Hence, I propose the derivation in (18): First, the direct object moves above the adverbial to Spec, VP in order to get Case; second, the SC undergoes remnant movement to Spec, vP, leaving both the direct object and the adverbial phrase in extraposition; and at last, the verb is raised to C.

(18)



This derivation makes an additional prediction. If a verbal particle can move to a higher position in extraposition clauses, this operation should also be available when the main verb stays inside VP. This is indeed the case, as is shown in the next subsection in (19).

4.2.2 Phrasal movement

In the derivation in (18) the particle moves with the small clause, and not through head movement. This proposal consists of two parts: (i) the particle is the head of a small clause and not incorporated into the verbal head, and (ii) the particle moves together with the whole small clause, and not as a head. Additionally, (iii) if an object is introduced in the small clause, it should be raised together with the small clause, unless it escapes the small clause before it moves. In what follows, I address each subclaim in turn.



As has been already mentioned above, I adopt a small clause analysis for semantically transparent PVCs (e.g., Wurmbrand 2000). Under this analysis, a verbal particle is not incorporated into the V-head (contra, e.g., Vikner 2013) and is expected to be able to move independently from the verb. This is borne out, since transparent particles in ENHG can be raised while the lexical verb stays in situ:

- (19) Der safft [[gemischt mit honig] v̄n  
*the sap mixed with honey and*  
 [die dückeln augen vssen an do mit  
*the dark eyes on.the.outside on.PTCL this with*  
**geschmieret]] machet sye clare vnd hübsch.**  
*smear makes them clear and fine*  
 ‘This sap, when mixed with honey and spread on dark (=blind?) eyes, makes them clear and fine.’ [Wonneck von Cube (Hess; 15<sup>th</sup> cent.)]

The word order in (19) seems to be the result of a separate movement of the particle, with the PP-object *do mit* not having undergone the raising to a higher position. With *do mit* in situ, the raised particle is separated from the verb. For this to be possible, the particle must not be incorporated into the V-head. With respect to extraposition, this means that raising of a particle can be either head movement or phrasal movement of the whole small clause. I argue that the latter is the case.

The first argument for particle raising as (remnant) phrasal movement comes from causative constructions. In (20), multiple phrases are in extraposition after the lexical verb *vßgen* ‘go out’.

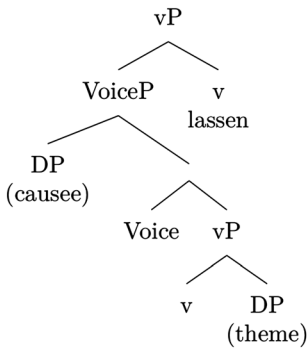
- (20) Zû dem dritten machet sie vß gen [blût]  
*to the third makes she out.PTCL go blood*  
 [vnden v̄n oben] [sterglichen vnd feste].  
*down and above strongly and strongly*  
 ‘~ Thirdly, it makes one to bleed <lit. makes the blood to go out> strongly from up and down.’ [Wonneck von Cube (Hess; 15<sup>th</sup> cent.)]

(20) looks like a counterexample to the proposal that multiple extraposition past overt copies of verbs is banned. However, there is a crucial difference between an infinitive in a causative construction (as in (20)) and, for instance, an infinitive in an infinitival clause: the infinitive in causative construction is the head of a small clause. Pitteroff and Campanini (2013) argue convincingly that causative verbs in Modern German such as *lassen* ‘let’ are phase-selecting; i.e., they take VoiceP<sup>13</sup> as their complement (21).<sup>14</sup> Thus, causative constructions have a structure very similar to that of transparent verbal particles (repeated in 22) and allow phrasal movement.

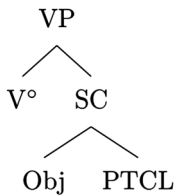
<sup>13</sup> In the current paper, I do not split the Voice domain into Voice and *v*, but assume a simple bundled *vP*.

<sup>14</sup> Though different causatives do take complements of different size (Pylkkänen 2008; Alexiadou et al. 2015), I do expand this analysis to ENHG *machen*-clausatives. Speyer (2018) shows that in MHG and ENHG *accusativus cum infinitivo* (ACI) had in general a uniaxial structure. Though he does not analyze causative constructions, the same analysis can be applied to them as well, considering the analysis of Pitteroff and Campanini (2013) for Modern German.

(21)

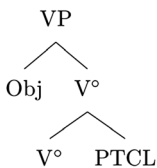


(22)



A second argument for phrasal movement comes from the inability of idiomatic particles to raise. Recall Wurmbrand's (2000) hypothesis that semantically transparent verbal particles differ from semantically opaque ones (idiomatic and semi-idiomatic) in that the former have a small-clause structure (22) while the latter form a complex head with a verb (repeated in 23).<sup>15</sup>

(23)



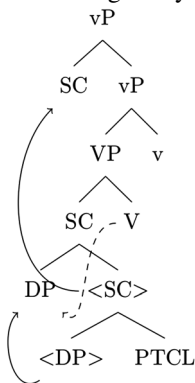
An immediate consequence is that small-clause raising is unavailable since the particle is now in the V-head. Hence, idiomatic PVCs do not allow extraposition via SC-raising. This prediction seems to be borne out. Though it is impossible to run syntactic tests (e.g., those in Wurmbrand 2000) in order to diagnose a PVC to be a transparent or (semi-)idiomatic one, and the grammaticality of the ENHG data cannot be judged based on the intuitions of speakers of Modern German, I was not

<sup>15</sup> This structure can also be replaced with that of Vikner (2013), where the particle is first merged in a small clause and forms a complex head with V only later.

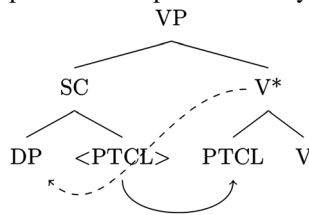
able to find any examples of multiple XPs (argument DP + adjuncts) linearized to the right of a clearly (semi-)idiomatic particle in my corpus data.

There is an additional derivational step, predicted by the phrasal movement proposal: if a particle moves together with the small clause, it is remnant movement. In other words, the object should escape from its base-position in the complement of the small clause beforehand, in order to be linearized to the right. I argue that the object obligatorily raises from its base position in all clauses, irrespective of whether remnant movement of the small clause takes place. As Vikner (2013) points out, particles cannot assign case. Hence, objects base generated as complements in the particle phrase cannot receive case in their base position. He suggests two ways out: (i) the DP moves to the Specifier position of the small clause where it can get case from the verb in an ECM-like configuration (24a); (ii) the particle gets incorporated into the verb and this complex head assigns case to the DP (24b). Vikner argues for the second option. However, as discussed above, the incorporation approach cannot account for a particle raising separately from the verb. On the contrary, DP-movement not only creates the environment for phrasal movement of the SC, but also independently explains how the object escapes from the moved phrase.

(24) a. DP-raising analysis



b. particle incorporation analysis

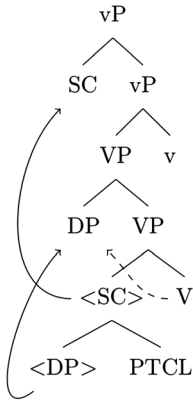


An additional argument for the DP-raising analysis comes from the relative order of the object DP and adjuncts. As already pointed out in Sect. 4.2.1, extraposed objects universally precede low adjuncts. This follows naturally if DP moves to a position above the modifier projection.

However, the derivation in (24a) has two disadvantages. First, DP-raising is triggered by case assignment. Hence, it either happens before V is merged and is thus unmotivated at this step of the derivation, or it violates the Extension Condition. Secondly, a movement step from the Comp, SC to the Spec, SC is too short and violates Antilocality (Abels 2003; Deal 2019). Therefore, I suggest Spec,

VP as the landing site. In causative constructions, the causee is introduced in the Spec, CauseP and gets case-licensed there (e.g., Pylkkänen 2008). Similarly, if the direct object moves from Comp, SC to Spec, VP, it does not violate antilocality and can get case (25).

(25)



To sum up, the main arguments for phrasal remnant movement are:

- a. Phrasal movement explains why there is a difference between transparent and (semi-)idiomatic particles, i.e. why particle movement is only available for transparent ones.
- b. It also explains why multiple extraposition is possible after an embedded verb in a causative construction, but there is no such option for participles in complex tenses.
- c. For phrasal movement to be allowed, the direct object should first move out of the SC. This prediction is borne out. Objects in extraposition land higher than adverbials modifying the VP/SC (see examples 16 and 20 above). Additionally, Object movement to Spec,VP might be independently required for case assignment.

Analyzing these instances of extraposition as a result of remnant movement has an additional advantage. Müller (1997) argues for CP-extraposition in Modern German to be remnant rightward movement. If the particle or the embedded vP movement is also remnant movement, both types of extraposition show similarities—an advantage for attempts of a unified analysis. In Sect. 4.3, I will provide arguments for rightward movement to be present in the ENHG argument extraposition, as well, but for now I will leave this topic and turn to the landing site of the raised SC.

### 4.2.3 Landing position

There are three possible positions for a particle to land lower than the finite verb in  $C^\circ$  (or  $T^\circ$ ):

- vP-adjoined projection, i.e. the lowest position available to enable subject extraposition;
- Some functional projection above vP, available due to some adverbial and aspectual semantics of transparent particles;
- T domain, where the particle gets pied-piped with the verb, or independently raises to Spec, TP.

The projection adjoined to vP is the most uncontroversial option and is supported by extraposition in causative constructions.

Particle movement to the T-domain is a possible option, but leads to severe problems. There are two available landing sites in the T-domain— $T^\circ$ , i.e. pied-piping with the verb, and Spec, TP—but both of them are incompatible with either the theory or the data.  $T^\circ$  is an unsatisfactory option for particle movement for various reasons. First of all, it should be occupied by a silent copy of the finite verb. Secondly,  $T^\circ$  bears a tense feature that cannot be interpreted on the particle. Thirdly, if particle raising is indeed an instance of phrasal movement, it cannot be pied-piped to  $T^\circ$  and then stranded when the verb is moved higher to  $C^\circ$ . As for Spec, TP, it seems to be less problematic theoretically, but various material can occur between a finite verb and a raised particle.

(26) a. Instrumental PP

Jtem	die	würtzel	vnd	das	krut ...	zucht
<i>Also</i>	<i>the</i>	<i>root</i>	<i>and</i>	<i>the</i>	<i>herb</i>	<i>draws</i>
<b>da</b>	<b>mit</b>		vß		[geliebbert	blût] ...
<i>that</i>	<i>with</i>		<i>out.PTCL</i>		<i>coagulated</i>	<i>blood</i>

‘Also, this herb and its root ... draw also out coagulated blood ...’ [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

b. Adverb

Diß	also	genutzt	drybet	<b>auch</b>	vß	[die	doit	geburt].
<i>This</i>	<i>so</i>	<i>used</i>	<i>draws</i>	<i>also</i>	<i>out.PTCL</i>	<i>the</i>	<i>dead</i>	<i>birth</i>

‘Used so, this <medicine> draws out stillborn foetus.’ [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

c. Pronominal subject

Dornach	sante	<b>her</b>	uss	[eyne	tubin] ...
<i>After:that</i>	<i>sent</i>	<i>he</i>	<i>out.PTCL</i>	<i>a</i>	<i>dove</i> ...

‘Then he sent out a dove ...’ [Bange (Thur; 15<sup>th</sup> cent.)]

These examples allow to conclude that the landing site for a moved particle in the T-domain is rather unlikely.

An adverbial projection is not an obvious option for movement of the head of a small clause. However, it is well known that, etymologically, verbal particles used to be locative adverbials (e.g., Grimm, Bd. 2 1826, 698). Hence, small clauses built by transparent particles can be seen as headed by an adverbial-like item and able to move to an adverbial projection higher in the tree. Alternatively, particle movement to AspP can be proposed (e.g., Svenonius 1996; Grewendorf and Poletto 2012; Quaglia and Trotzke 2017). However, this analysis is not borne out. In the previous subsection, it was shown that multiple extraposition to vP in causative construction is possible (repeated in 27). It is unlikely that particle raising and VP-raising in (27) have different landing sites since lower adverbs occur to the right of the moved infinitive (27a), and higher sentential adverbs occur to the left (27b). However, a VP lacks features which would trigger movement to an adverbial projection or to AspP.

- (27) a. Zû dem dritten machet sie vß gen [blût]  
*to the third makes she out.PTCL go blood*  
 [vnden vñ oben] [sterglichen vnd feste].  
*down and above strongly and strongly*  
 ‘ ~ Thirdly, it makes one to bleed <lit. makes the blood to go out > strongly from up and down.’ [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

- b. so lies Noe tzo dem eyrsten vyss-gaen [die diere].  
*so let Noah to the first out.PTCL-go the animals*  
 vnd dairnae ginck he .  
*and then went he*  
 ‘So, Noah first let out the animals, and then he <and his family > went out.’  
 [Koelhoff (Rip; 15th cent.)]

Hence, the only available landing position for a small clause or infinitival phrase is a projection above the vP. Since I believe this type of movement to not be feature driven, I assume that it is adjunction, rather than raising to a functional projection.

#### 4.2.4 Evidence against rightward movement: multiple extraposition

One of the most prominent theories of extraposition and an alternative to the proposed analysis is a rightward movement theory. However, multiple extraposition provides an argument for the small clause raising analysis.

As examples in (28) and (29) show, multiple extraposition of an argument and adjunct(s) is possible for both subjects and objects. Simultaneous extraposition of

several arguments is absent in my sample, which I take as evidence for it to be ruled out. However, as will be discussed in Sect. 5, it is ruled out due to prosodic phrasing rules, and not due to syntactic reasons.

- (28) Do sprang **yn**<sub>i</sub> [williglichen] [Marcus Tullius wole gewopent]  
 then jumped in.PTCL willingly M. T. well armed  
 ‘Then M.T. rushed well armed into <the hole and> ...’ [Bange (Thur; 15<sup>th</sup> cent.)]

- (29) a. Coloquintida drybet **vß** [flecma vnd clebericht  
 Colocynth drives out.PTCL phlegm and adhesive  
 feuchtüge] [von grunt der gliedder].  
 moisture from depth the limb  
 ‘Colocynth drives out phlegm and <another> adhesive moisture from the deep  
 parts of limbs.’ [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

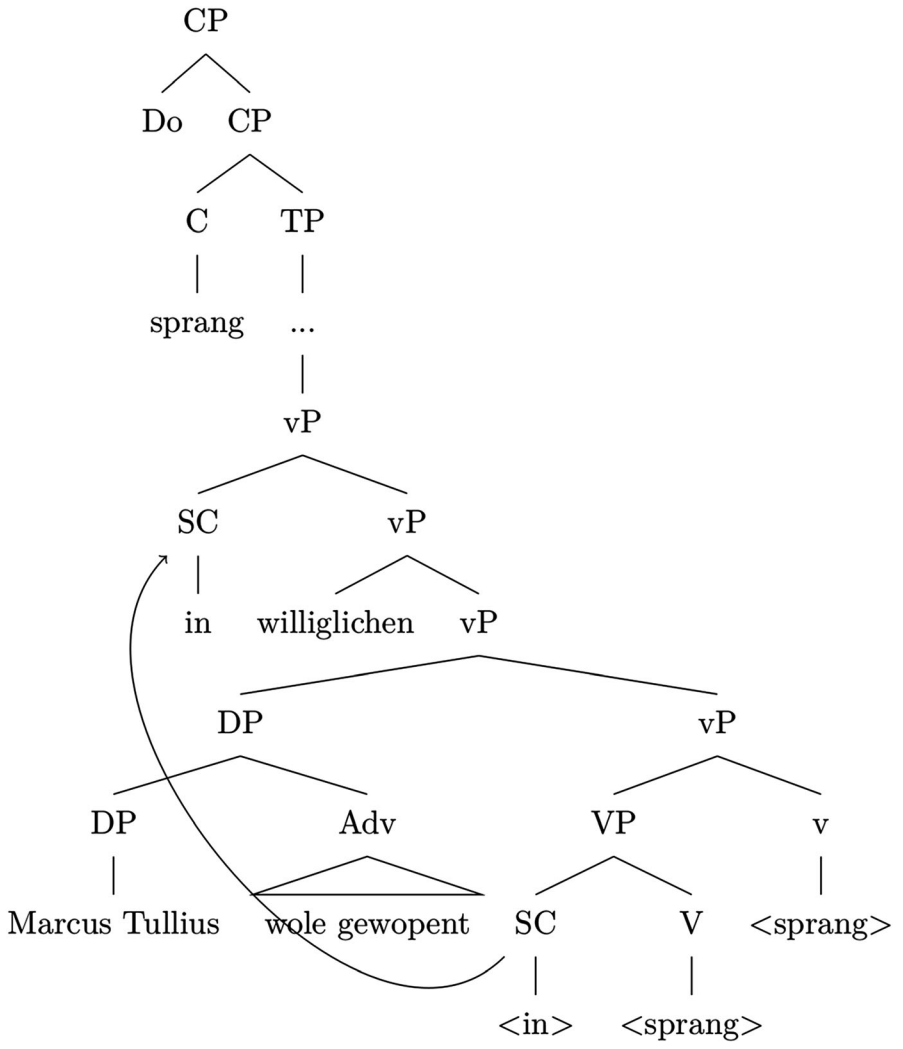
- b. ... Thet er **auff** [die Arche] [am Tache]  
 Did he up.PTCL the arch on.the roof  
 ‘... he opened the arch on the roof.’ [Bange (Thur; 15<sup>th</sup> cent.)]

Examples (28–29) show an important asymmetry in the relative position of adverbials and arguments: in (28), the subject follows subject-oriented adverbial ‘*williglichen*’, while in (29), the objects precede place adverbials. This is true for all examples of multiple extraposition in the corpus. On the one hand, it shows that object DPs in extraposition should be moved out of their base position. On the other hand, in (28), the subject and the adverbial keep their base-generated ordering: the adverbial ‘*williglichen*’ (‘willingly’) is subject-oriented and can be merged only if Spec,vP is already occupied by an external argument (e.g., Pykkänen 2008; Alexiadou et al. 2015; Harley 2017). Therefore, it is merged after the external argument is introduced and is higher than the argument DP. To sum up, adverbial+subject extraposition keeps the base-generated order, while object+adverbial extraposition shows a reversed order of elements. If both XPs are moved to the right, this asymmetry is accidental. In contrast, under the small-clause raising analysis, it emerges naturally.

Based on this, I assume small-clause raising to be the optimal analysis. The derivations for subject and object extraposition are presented in (30)<sup>16</sup> and (31).

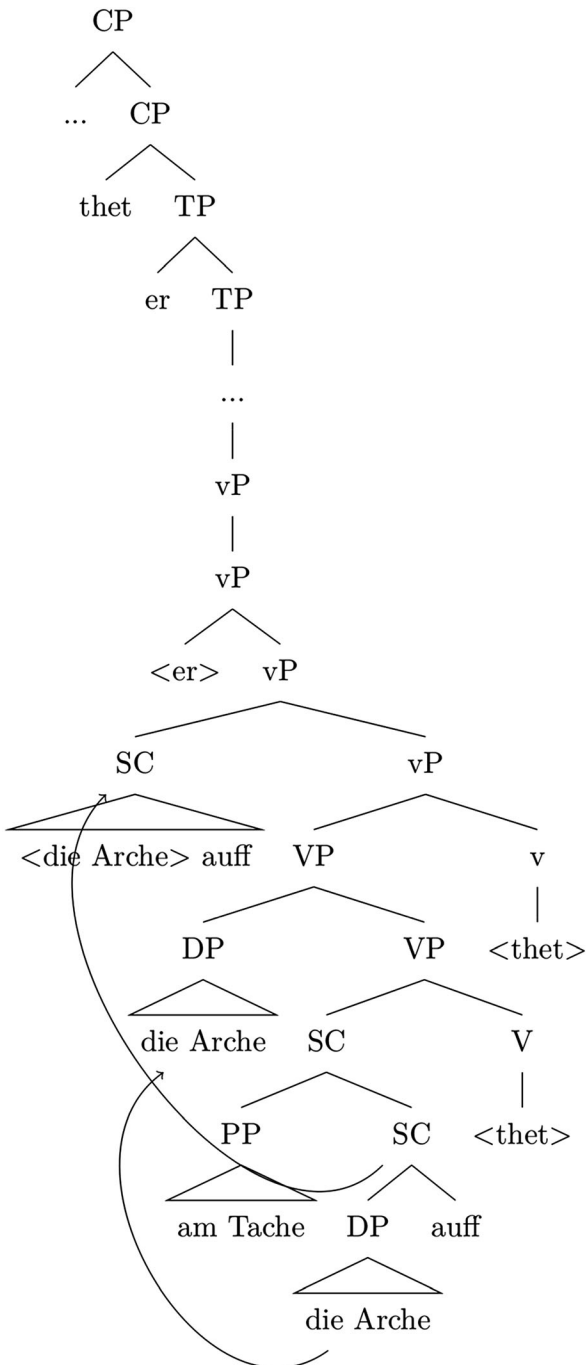
<sup>16</sup> Since ‘wole gewopent’ in (30) lacks agreement marking, it is introduced as an adverbial inside the DP (after e.g. Zimmermann 2000; Helland and Pitz 2014; also Paul 2007).

(30)





(31)



A further argument against the rightward movement analysis comes from the motivation for extraposition. Under the rightward movement analysis, each phrase moves separately. Hence, each one should have a separate motivation. However, this is hard to model: since all candidates for extraposition are in the same Spell-Out domain, the order in which they should be moved to the right does not emerge naturally. There is no way to identify an order in which the same movement operation should be applied to several elements with more or less similar triggers for this operation.<sup>17</sup> Thus, the derivation would crash because it is impossible to define the order of several identical operations.

In this subsection, I have introduced arguments for small-clause raising and against the rightward-movement analysis of multiple extraposition in ENHG. These are the relative position of arguments and adverbials and problems with modelling the timing of multiple identical movement operations in the same Spell-Out domain.

### 4.3 Rightward movement

This section aims to show that not all cases of the ENHG extraposition can be analyzed as a result of SC-raising. Rightward movement proposed for CP-extraposition in Modern German (e.g., Buring and Hartmann 1997; Müller 1997) also occurs in ENHG when SC-raising cannot take place.

As was pointed out in Sect. 2.2, extraposition of multiple XPs after clause-final verbs is not attested in the corpus (examples are repeated in 32).<sup>18</sup>

<sup>17</sup> Belkind (2021, Ms.) argues that extraposition is motivated by prosodic phrasing and prominence.

<sup>18</sup> There is one apparent counterexample. In (i), both the object and the PP follow the infinitive and the finite form of a modal verb in a subordinate clause.

- (i) Noch andere suerlichē vnd merckliche reden dair viss mē  
 Yet another difficult and noticeable speeches which from one(?)  
 nemen mach [troest in den tzeiten der bedroeffnisse].  
 take may comfort in the times of.the needs  
 ‘Yet other difficult and noticeable speeches, in which one can find comfort in the times of needs.’ [Kohlhoff (Rip; 15th cent.)]

Nevertheless, this is the sole example of this sort I have been able to find. More importantly, there are at least two alternative analyses which are consistent with the present theory and which cannot be ruled out. First, ‘troest in den tzeiten der bedroeffnisse’ can be one constituent, where the PP is either a modifier or a complement of the noun. The second option is to treat the PP as an afterthought, which is possible because of its position at the edge of the sentence. In order to rule out each of these analyses, access to prosodic information is required. If the PP is not a part of the DP, it should form a separate prosodic phrase. As an afterthought, it should have a specific prosodic marking. Since neither of these analyses can be tested, I do not take the example in (i) as a counterargument to my proposal.

## (32) a. Multiple extraposition of subject + adjuncts to a participle

\* Want vp dye zijt is **vp-gedain** [dye duere  
*why up the time is up.PTCL-did the door*  
 der ewiger raste der selen] [volkomelich]  
*of.the eternal rest of.the souls completely*  
 ‘That’s why from that time the door to the eternal rest of the souls is completely  
 opened.’ [Modified from Koelhoff (Rip; 15th cent.)] – unattested

## b. Multiple extraposition of object + adjuncts to a participle

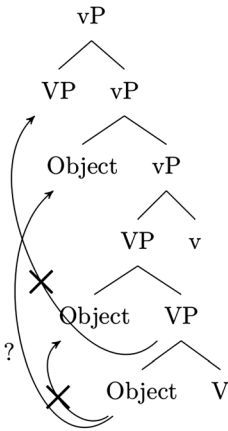
\* Es hatte Lamedon der konig von Troyan uss Gesant  
*it had L. the king of Troy out.PTCL sent*  
 [mit eyme heere] [uf seyne fynde] [seynen sson Priamum].  
*with an army at his enemies his son P.*  
 ‘So has Lamedon, king of Troy, sent out his son Priam with an army at his  
 enemies.’ [Modified from Bange (Thur; 15<sup>th</sup> cent.)] – unattested

Out of these patterns, (32b) is the most important one. Object extraposition is well represented in the corpus (32 cases), as well as object + adjunct(s) extraposition (7 cases). However, an object + adjunct(s) string can only follow a transparent participle, but not a verbal stem. I take this as evidence that this structure is unavailable in the language. A model of extraposition for ENHG should be able to predict this restriction. In the remainder of this subsection, I present counterarguments against a small-clause raising analysis of extraposition after verbal forms. As a consequence, it is necessary to assume the existence of another operation leading to the extraposition structure. A good candidate is the rightward movement analysis. It is not only able to capture the data, but was already argued for in studies about Modern German extraposition.

The restriction on multiple extraposition after full verbal forms cannot be derived in the raising analysis. On the contrary, the SC-raising analysis was proposed for ENHG in order to capture multiple extraposition. As the examples above show, multiple extraposition is unavailable if a verb stays clause final.

The simplest way to save the SC-raising analysis is a VP-raising to the same position. However, VP raising to Spec,vP would violate antilocality as Comp-to-Spec movement (e.g., Abels 2003). Moreover, object movement to Spec, VP would be necessary because, otherwise, it would be pied-piped with the rest of the VP. This also violates antilocality. Object movement to Spec, vP would solve the antilocality problem, but this lacks any independent motivation since it is absent in non-extraposition clauses. An abstract derivation in (33) gives a summary of the problems just listed.

(33)



Yet another argument against the VP-raising analysis comes from the position of low adverbials *before* the verb (34). If the VP is raised, it should be raised above the low adverb, similar to SC. But this is not reflected in the surface word order. In (35–36), a participial manner adjunct shows up in the extraposition domain or outside of it, depending on the position of the verb:

- (34) Jtem camillen blomen dryben **vß**  
*Also chamomile flowers drive out.PTCL*  
 b<sup>e</sup>ose feuchtüge [**do von gedruncken**].  
*bad moisture this from drink.PTCL*  
 ‘Also, flowers of chamomile drive out bad moisture, <if you> drink from it.’  
 [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

- (35) Plinius spricht daz zwobel[n] [zû Vil gessen] vff-blasen dē buche ...  
*P. says that onions too much eaten up.PTCL-swell the stomach*  
 ‘Pliny says that onions, if too many are eaten, make the stomach swollen ...’  
 [Wonnecke von Cube (Hess; 15<sup>th</sup> cent.)]

In the previous section, I have argued that multiple extraposition of arguments and low adverbials follows directly if a SC raises to a position above the vP and everything inside the vP automatically occurs in extraposition. In (35), low adverbials are linearized before the verb. This, taken together with antilocality problems, rules out a VP-raising analysis. Hence, there are two logical possibilities to derive a word order as in (35): (i) base-generation of an argument in a right-branching complementizer/specifier projection, and (ii) rightward movement of a DP. The second option has an advantage since it allows the internal argument in

(36) to be passivized and rise to a position where it can get nominative case (Harley 2017). Only after that does it get to extraposition.

(36) Want vp dye zift is **volkomelich** vppedain [dye duere  
*why up the time is completely opened the door*  
 der ewiger. raste der selen].  
*of.the eternal rest of.the souls*

'That's why from that time the door to the eternal rest of the souls is completely opened.' [Koelhoff (Rip; 15th cent.)]

Based on these arguments, I assume (i) that the VP-raising analysis is not supported, despite its advantage being very similar to the SC-raising analysis, and (ii) that rightward movement of the DP-extraposition to full verb forms is most preferable since it captures all relevant data and allows to combine passivization with extraposition.

#### 4.4 Interim summary

In this section, I have shown that extraposition in ENHG is best analyzed as two distinct operations—small clause raising and rightward movement. The choice of operation is dependent on the structure of VP (i.e., presence vs. absence of a small clause in the complement of VP) and on the position of the lexical verb (raised out of vP vs. in situ). In the next section, I will address the question why these two derivations can still be treated as one phenomenon, and what constraints on extraposition exist.

### 5 Prosodic nature of extraposition

This section argues that both operations described above can still be unified under a notion of extraposition. Despite technical differences, they share a prosodic motivation and, crucially, a constraint on multiple argument extraposition which can be only motivated in prosodic terms.

Multiple extraposition of an argument and one or several adjuncts is allowed when it results from SC-raising to a projection adjoined to vP. There are, however, two constraints: multiple rightward movement, as well as multiple argument extraposition in general are not attested in my data. I argue that this is not a coincidence, but a motivated pattern.

(37) Constraint on multiple rightward movement:

If in a clause one XP has undergone rightward movement, no other XP can move to the right.

(38) Constraint on multiple argument extraposition:

If an argument X is extraposed and follows a verbal particle, a verb cluster or a verb, no other argument Y is allowed to extrapose.

These constraints are both prosodic in nature. As argued by Szendrői (2017), extraposition forms a separate prosodic phrase. Crucially, arguments and adjuncts differ in the mechanism of prosodic phrasing: arguments in the middle field are included in a bigger prosodic phrase (=VP). Adjuncts, on the contrary, form separate prosodic phrases, irrespective of their position in a clause (Samek-Lodovici 2005). Hence, adjuncts do not change their prosodic phrasing characteristics from the middle field to extraposition. This is not true for arguments. Arguments in the middle field all belong to one and the same prosodic phrase, but in extraposition, they form each a separate prosodic phrase. This captures the difference between extraposition derived with SC-raising and rightward movement. SC-raising leaves the whole vP in extraposition. This leads to the formation of a separate prosodic phrase of an argument XP. But adjuncts remain unaffected. Hence, only an argument XP needs motivation for prosodic rephrasing.<sup>19</sup> Under rightward movement, however, each XP moves separately, and therefore, each requires separate motivation. Since the most common motivation for extraposition is contrastive focus (Sapp 2014), multiple rightward movement would lead to two emphasized phrases in a row. This should be ruled out as a prosodically unlikely configuration. However, Szendrői (2017) argues that defocusing can trigger extraposition, as well. If one phrase is contrastive and the other one defocused, multiple rightward movement would not lead to two emphasized phrases in a row. Nevertheless, this configuration can be ruled out, as well. If extraposition takes place during Spell-Out, two phrases will be able to trigger rightward movement in the same Spell-Out domain. Since motivations for extraposition are not hierarchically ordered, it is impossible to define the order in which both phrases should undergo rightward movement, and the derivation crashes. Hence, only one instance of rightward movement can be allowed for each Spell-Out domain.

In this section, I have briefly shown that two extraposition configurations are ruled out by prosodic phrasing rules. Since extraposition is argued to be derived during Spell-Out, only one operation is allowed per Spell-out domain. This presupposes that only one XP can trigger extraposition; otherwise, a conflict of interests emerges, and the derivation crashes. Based on that, both multiple rightward movement and multiple argument extraposition can be easily ruled out as configurations requiring several XPs that have independent—and conflicting—motivations for extraposition.

<sup>19</sup> This also explains why extraposition of a subject XP is only possible if it is the sole argument of the verb. Alexiadou and Anagnostopoulou (2001, 2008) argue that due to the Subject-in-situ Generalization, only one NP-argument can stay vP internal, while all others have to be evacuated. This would explain constraint (38). Note that this generalization does not quite work in Modern German, where multiple arguments inside vP are allowed (Wurmbrand 2004; Alexiadou and Anagnostopoulou 2008). However, as pointed out before, due to the prosodic nature of extraposition, only one argument has to occur in the postfield. Hence it is crucial that the in situ subject would be the only argument, when in extraposition.

## 6 Conclusion

Extraposition has been a long-standing problem in linguistics. With this study, I aim to contribute to the discussion about the syntax of extraposition in Germanic SOV languages by providing an analysis of argument DP extraposition in Early New High German. Despite the complications unavoidable in an analysis of a non-modern language, Early New High German can offer a relevant piece of data to the general discussion since argument extraposition seems to be absent—or at least highly restricted—in modern German and Dutch. For ENHG, on the contrary, DP-extraposition is a widespread phenomenon.

The analysis proposed in this study suggests that DP-extraposition in ENHG cannot be analyzed as one movement operation. Instead, DP-extraposition results from two distinct operations, where the choice of operation depends on the inner structure of the VP. The first type of derivation takes place in main clauses with a lexical verb raised out of its base position in vP. If, after verb raising, the right boundary of the clause is still marked with an embedded vP or a small clause headed by a transparent verbal particle, the embedded phrase moves to the left edge of the Spell-Out domain. Since such an operation will not bring about the desired result, if the V-head is occupied by an overt copy of the main verb, a second type of derivation is introduced. In this second type of derivation, extraposition is the result of rightward movement of a DP.

Each of the proposed derivations has certain consequences. First, the raising operation should be an instance of phrasal movement. Secondly, it feeds multiple extraposition of a DP and low adverbs. Thirdly, it presupposes that under object extraposition, an object DP should first move out of the small clause. This movement predicts that the object should precede adjunct modifiers of the small clause. The subject, however, stays in situ. Hence, it should follow a subject-oriented adverbial modifier of vP. If, on the other hand, the raising derivation is not available and DP extraposition results from rightward movement, no multiple XPs can occur in extraposition. All these predictions are borne out.

Despite having two derivations, I argue that extraposition is still a coherent phenomenon since it has one motivation. Moreover, it is not a purely syntactic phenomenon because it is triggered by prosodic phrasing, which should be inaccessible in syntax. During Spell-Out, however, all three necessary components are available: (i) the hierarchical structure of the phase is not yet flattened, (ii) information about head movement should be accessible, and (iii) since Spell-Out happens at PF, prosodic information can also be assumed to be active.

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**Declarations**

**Competing interests** The author declare that they have no competing interests.

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## Appendix: Extraposition of adjuncts

Extraposition of adjuncts is a separate topic which raises its own complications for the analysis presented in this paper. I will discuss this problem briefly, since direct access to information about prosody and stress is crucial in this case, but historical data do not and cannot provide it.

Multiple extraposition of adjuncts is generally possible in ENHG, irrespective of the structure of the verbal complex:

- (1) a. multiple extraposition of adjuncts to transparent particle

Da	zog	Hannibal	<b>auß</b>	[von	Carthago],
<i>then</i>	<i>drew</i>	<i>H.</i>	<i>out.PTCL</i>	<i>from</i>	<i>Carthage</i>
[mit	hundert	Tausend	zu	Fuß,	vnd
<i>with</i>	<i>hundred</i>	<i>thousand</i>	<i>to</i>	<i>foot</i>	<i>and</i>
Zwanzig	Tausent	zu	Roß] .		
<i>twenty</i>	<i>thousand</i>	<i>to</i>	<i>horse</i>		

‘Then Hannibal left Carthage with 100,000 infantry and 20,000 horsemen ...’ [Bange (Thur; 15<sup>th</sup> cent.)]

- b. multiple extraposition of adjuncts to transparent particle with non-postposed object

Es	hatte	Lamedon	der	konig	von	Troyan
<i>it</i>	<i>had</i>	<i>L.</i>	<i>the</i>	<i>king</i>	<i>of</i>	<i>Troy</i>
die	weile	[DO	seynen	sson	Priamum]	<b>uss</b>
<i>the</i>	<i>while</i>		<i>his</i>	<i>son</i>	<i>P.</i>	<i>out.PTCL</i>
<b>gesamt</b>	[mit	eyme	heere]	[uf	seyne	fynde].
<i>sent</i>	<i>with</i>	<i>a</i>	<i>army</i>	<i>on</i>	<i>his</i>	<i>enemies</i>

‘So, Lamedon, the king of Troy, sent his son, Priam, after a while on his enemies with an army.’ [Bange (Thur; 15<sup>th</sup> cent.)]

- c. multiple extraposition of adjuncts to idiomatic particle

...	den	<Mahomet>	stellte	er	<b>vor</b>	[in	den
	<i>Him</i>	<i>M.</i>	<i>presented</i>	<i>he</i>	<i>PTCL</i>	<i>in</i>	<i>the</i>
	Städten]	[als	ein	Propheten] .			
	<i>cities</i>	<i>as</i>	<i>a</i>	<i>prophet</i>			

‘... He presented him <Muhammad> in many cities as a prophet ...’ [Bange (Thur; 15<sup>th</sup> cent.)]

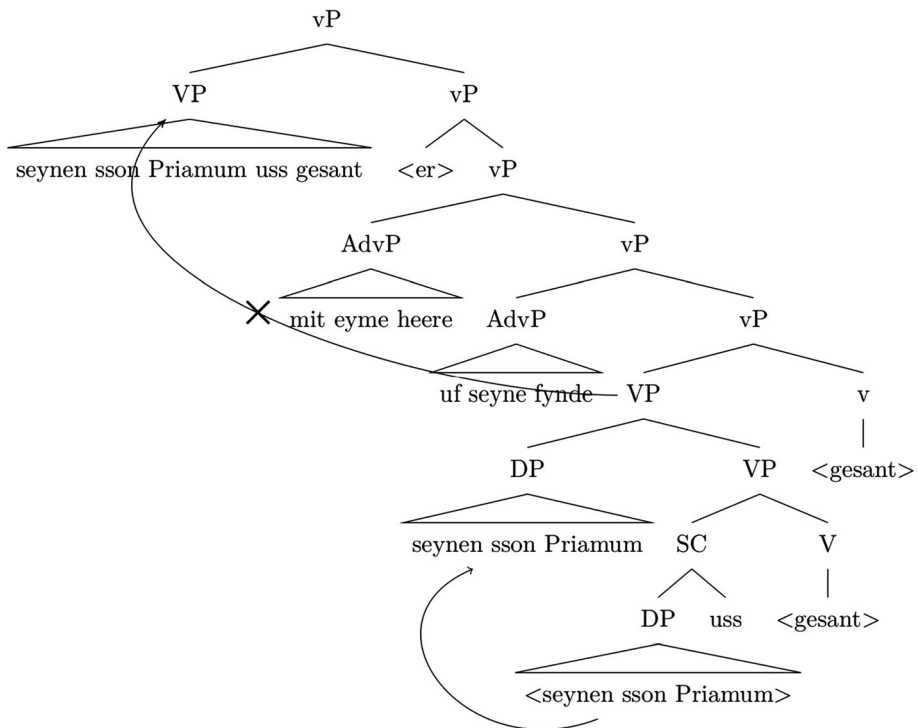


Thus, even in cases which require arguments to move rightward in order to extrapose, multiple extraposition of adjuncts is possible. There are three logically possible ways to model this:

- VP-raising to Spec,vP
- Multiple rightward movement of each extraposing adjunct
- Base-generation to the right.

The problem with the first model is that it violates the antilocality restriction on Comp-to-Spec movement (see tree-derivation in (2)).

(2)



The next model, namely, multiple rightward movement, would be in principle possible, but only if the constraint on multiple rightward movement (presented in (37) in Sect. 5) were not active. Since this constraint ensures that there is no multiple extraposition of arguments + adjunct(s) to a non-silent V-head, such a solution would be unsatisfactory.

Finally, the last option—base-generation of adjuncts to the right—seems to be a plausible way out. Frey (2015) suggests this model for Modern German. By

analyzing c-command relations and Principle C violations, he argues that adverbials and PP-arguments are base generated in extraposition, while attributive subordinate clauses are moved to the right post-syntactically. The structure of the postfield ('Nachfeld') is identical to the right-branching structure of VP (initially proposed in Larson 1988). Adverbials, on the other hand, are base generated in the same positions as in the middle field with the only difference that, when postposing, they right-adjoin and appear in the reversed order (3).

- (3) a. Sentential adverbials < mood adverbials < Subject < time and place adverbials < Objects < manner adverbials < verb
- b. Sentential adverbials < mood adverbials < Subject < verb < objects < manner adverbials < time and place adverbials

Crucially, Frey's theory does not exclude additional scrambling of the adjuncts in extraposition, which makes it impossible to test whether this theory captures ENHG data, e.g. whether the order of the adverbials in (1a) and (1c) is a result of scrambling or base generation.

As pointed out in Sect. 5, adjuncts form separate prosodic phrases irrespective of their position in the clause. Scrambling results in a specific stress pattern, but when there are only written sources available, no information of this sort can be found. Therefore, adjunct extraposition cannot be used as an argument either for or against the model of extraposition in ENHG presented in this section.

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