

OV/VO VARIATION AND INFORMATION STRUCTURE IN OLD SAXON AND MIDDLE LOW GERMAN*

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ABSTRACT This paper discusses the syntactic status of OV/VO variation in Old Saxon and Middle Low German, a relatively understudied member of the West Germanic language family. A comprehensive corpus study on Old Saxon and novel Middle Low German material shows that OV/VO variation is to a large extent governed by information structure and grammatical weight. The results indicate that given objects are predominantly preverbal, while new objects freely surface in postverbal position. While these observations might at first glance invite an analysis in terms of extraposition from an OV base, this paper argues specifically against this. Instead, it is argued that an antisymmetric analysis in which OV word order is derived from a VO base provides a better framework to account for the effect of information structure and weight on OV/VO variation.

1 INTRODUCTION

Old Saxon and Middle Low German are no exception to the observation that the West Germanic languages allowed more flexibility in the positioning of the object (O) with regard to the verb in their historical stages, in addition to the variability in the order of the finite (Aux) and non-finite (V) verbs in complex verb clauses. This results in five attested word order patterns, illustrated in (1). Objects are printed in bold, finite verbs are underlined and non-finite verbs are printed in roman (not italics).

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(1) a. Aux-V-O

Dar na also he hadde gedodet den heyden de
 There after also he had killed the heathen who
sinen broder sloch
 his brother hit

‘Thereafter he also killed the heathen who hit his brother’
 (Engelhus_Weltchronik_OF_1435)¹

b. Aux-O-V

dat se hebben myne vroude eruollet in sick
 that they have my happiness filled in them
suluen
 selves

‘that they have filled themselves with my happiness’
 (Buxtehuder_Evangeliar_NLS_1451-1500)

c. O-Aux-V

dar du dyn erste wyff mede hest castiget
 where you your first wife with has chastised

‘with which you also chastised your first wife’
 (Griseldis_NLS_1502)

d. O-V-Aux

do de greyken dusse stad vorstort hadden
 when the Greek this city overthrown had

‘when the Greeks had overthrown this city’
 (Engelhus_Weltchronik_OF_1435)

e. V-Aux-O

dat wy den Raadmannen van Oldenborch: af ghewnnen
 that we the Councilors of Oldenburg obtained
hebbet Ene wort: de gheleghen is by deme stouwe
 have a property that located is by the quayside
vppe der nyen stad to Oldenborch
 up the new city to Oldenburg

‘that we, the councilors of Oldenburg, have obtained a property
 located by the quayside in the new city of Oldenburg’
 (Oldenburg_Urkunden_NLS_1350-1500)

¹ The Middle Low German texts are taken from the Corpus of Historical Low German (CHLG, Booth, Breitbarth, Ecay & Farasyn 2020). The corpus is still in development and does not have sentence-specific text references at the time this article was written. Therefore, I only include a reference to the text as it is included in the corpus.

The position of Low German within the West Germanic language family is particularly interesting for the purpose of studying West Germanic OV/VO variation. Low German occupies a unique position within the dialect continuum as an intermediate language between English and the other major continental varieties, Dutch and German. Old Saxon is considered a close relative of Old English and the language is frequently classified as part of the Ingvaenic, or North Sea Germanic, subgroup, which also includes Frisian and English. On the other hand, Present-Day Low German has many features in common with the continental West Germanic languages, such as asymmetric OV/V2 word order (Harbert 2006). The language is therefore crucial to our understanding of the diachronic development of the West Germanic language family, and in particular the relation between continental West Germanic Dutch and German, on the one hand and English on the other hand.

This paper focuses specifically on the influence of information structure on the position of the object, which has been the focus of many studies on object placement in the West Germanic languages (see e.g., De Bastiani 2019, Petrova 2009, 2012a, Petrova & Speyer 2011, Sapp 2014, 2016, Struik & Schoenmakers 2021, Struik & van Kemenade 2020, In press, Taylor & Pintzuk 2012, Walkden 2014). Traditional grammarians recognized from very early on that discourse-given information tends to precede discourse-new information (at least since Behaghel 1932). This has led to the hypothesis that given objects are OV, while new objects are VO. While this hypothesis has proved to be too simple, an information-structure effect has been observed for all languages. I will here replicate the methodology developed in Struik & van Kemenade (2020, In press), who study the same variation in Old and Middle English, on the HeliPaD, a syntactically parsed version of the Old Saxon *Heliand* (Walkden 2016), and the recently published Corpus of Historical Low German (Booth et al. 2020), to determine the syntactic status of OV/VO variation in historical Low German, and its relation to information structure.

The paper is structured as follows. Section 2 lays out the key properties of Low German diachronically, against the backdrop of variation within and between the West Germanic languages. The methodology is laid out in section 3. In section 4 I present and discuss the results from Old Saxon and Middle Low German, which form the basis for the analysis in section 5, which will argue against a rightward movement analysis of Low German OV/VO variation. Instead, I argue that OV is derived by leftward movement. Section 6 concludes the paper.

2 OBJECT PLACEMENT IN HISTORICAL LOW GERMAN

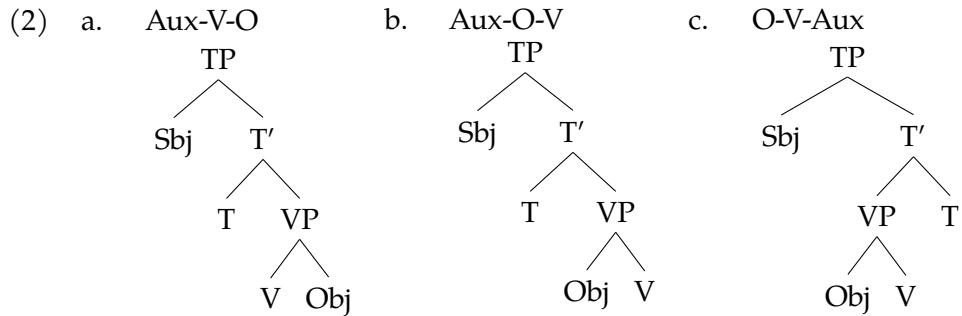
Despite the lack of in-depth work on historical Low German syntax, the structure of the language overall displays the features typical of the early West Germanic languages, and of present-day Dutch and German. In main clauses, the finite verb generally occupies the V2 position, while it is located lower in subclauses. In subclauses with a non-finite verb the order of the finite and non-finite verb may vary. The object is usually assumed to be base-generated in preverbal position (cf. [Erickson 1997](#), [Linde 2009](#), [Somers & Dubenion-Smith 2014](#) on Old Saxon and [Petrova 2012b](#) on Middle Low German). Both Old Saxon and Middle Low German allow deviations from these patterns, however, as do the other historical West Germanic languages. In addition to varying positions of the objects, as in (1), the finite verb also surfaces in positions other than V2 in main clauses. [Catasso, Coniglio, Bastiani & Fuß \(2021\)](#) show, for instance, that the finite verb can occur in V3 position, and [Somers & Dubenion-Smith \(2014\)](#) show for Old Saxon that the finite verb can also surface in V1, as does [Petrova \(2012b\)](#) for Middle Low German. These deviations from the canonical asymmetric V2/OV structure are typically attributed to information structure.

2.1 *Object placement in Old Saxon*

Early work on Old Saxon word order variation submits that variation is not random, and attributes it to principles of pragmatics and discourse organization (cf. [Rauch 1992](#), [Ries 1880](#)), but these accounts do not go beyond a general, broad-brush description. More detailed examinations of the syntax of Old Saxon and information structure have only recently been addressed in [Linde \(2009\)](#) and [Walkden \(2014\)](#). [Linde \(2009\)](#) focusses on the position of the verb and the properties of V2. She shows that backgrounded items occur preverbally, i.e. in clause initial position, while focused expressions follow the verb. [Walkden \(2014\)](#) is the only study that is specifically on the issue at hand here: OV/VO variation.

[Walkden \(2014\)](#) approaches the data from the hypothesis that the variation observed in Old Saxon resembles that observed in Old English, as Old Saxon is one of the closest relatives of Old English. He therefore closely follows the methodology used by [Taylor & Pintzuk \(2012\)](#) to study the influence of information structure on OV/VO in Old English. [Taylor & Pintzuk \(2012\)](#) assume the Double Base Hypothesis for Old English ([Pintzuk 1999](#)), which postulates that there is variation with regard to the headedness of both the IP (TP in more recent terminology) and the VP. As V-O-Aux order is unattested in West Germanic, they assume that a right-headed TP cannot combine

with a left-headed VP (cf. [Biberauer, Holmberg & Roberts 2014](#) on the Final-over-Final constraint). On the assumption that finite verbs surface in T, this essentially results in three different grammars:



In addition to the basic structures in (2), objects can move rightward from OV structures (2b) and (2c), resulting in VO surface order, as well as from VO structure (2a), resulting in V-X-O surface order. Objects may also move leftward from VO structure (2a), resulting in OV surface order, as well as from OV structure (2b), resulting in O-X-V surface order. This means that, in Aux-V grammars (as in 2a-b), the surface order of the object is ambiguous between base-generation and movement. Because V-O-Aux orders are absent in West Germanic, V-Aux-O orders must be derived from an OV base and are hence the only unambiguous structures in the Double Base approach. O-Aux-V is also unambiguously derived. In these cases, the object is moved leftward to a position above T, either from an OV or a VO base. However, Taylor and Pintzuk assume, without discussion, that these orders are the result of factors other than information structure and hence exclude these from their analysis. [Taylor & Pintzuk \(2012\)](#) thus hypothesize that it is only in V-Aux-O clauses that the effect of information structure is visible.

Their results first of all indicate that there is a difference in the frequency of VO between Aux-V and V-Aux clauses; in V-Aux clauses VO is significantly more frequent. There is also a difference in the distribution of given and new objects between Aux-V and V-Aux clauses. Taylor and Pintzuk find no significant effect of information structure on OV/VO variation in Aux-V clauses, but find that new objects appear in VO order significantly more often in V-Aux clauses.

[Walkden \(2014\)](#) makes the same a priori assumptions about the underlying syntax of Old Saxon and reports similar results for the Old Saxon *Héliand*, although the effects are less clear than in Old English. His dataset contains 214 subclauses with a finite modal or auxiliary, a non-finite verb and a nominal direct or indirect object (excluding pronouns, quantified and negated

objects, O-Aux-V orders and object-before-subject examples). In contrast to Old English, the text does not show a significant difference in the frequency of VO in V-Aux and Aux-V clauses. However, VO is significantly more likely in V-Aux clauses when the object is new, while this effect is absent in Aux-V clauses. Importantly, the differences between Aux-V and V-Aux are not as striking as those reported by [Taylor & Pintzuk \(2012\)](#) and, as Walkden notes, might result from sampling effects as his results are based on one text only. Weight was a significant factor in both Aux-V and V-Aux clauses and shows that longer objects are more likely to surface postverbally, similar to Old English.

[Struik & van Kemenade \(2020, In press\)](#) re-examine Old and Middle English OV/VO variation and consider the data from a different perspective. They focus on direct objects only, excluding indirect objects, and only consider subclauses with two verbs from non-translated texts. Crucially, they do not a priori distinguish between Aux-V and V-Aux clauses. They include the full range of Aux-V clauses, including O-Aux-V clauses, whereas Taylor and Pintzuk included only a third of the Aux-V clauses to balance the number of V-Aux clauses. In addition, their annotation procedure is different, especially with regard to short-term referents (in the sense of [Karttunen 1976](#)) which only exist within hypothetical or conditional contexts, but do not establish a referent beyond this context, illustrated in (3).

- (3) *Ʒeah þe hwa wille her on life habban gode dagas,*
 Yet that whoever will here in life have good days,
he ne mæg hi her findan
 he NEG can them here find
 ‘Yet whoever will have good days here in life, he cannot find them here.’

[Taylor & Pintzuk \(2012\)](#) annotate objects such as *gode dagas* ‘good days’ as new, because they do not establish a referent beyond this clause. Struik and van Kemenade argue that these objects are not new by definition and do not distinguish between hypothetical or real-world domains and hence not between permanent and short-term referents. They annotate the object in (3) as inert, because there is no reference to specific days in this particular context.

Struik and van Kemenade’s approach results in a different distribution of given and new objects. They find a clear asymmetry between the position of given and new objects, which is the same in both Aux-V and V-Aux clauses. While given objects appear readily in OV word order, new objects hardly ever do so. In fact, the vast majority (around 98%) of the OV objects are given (see

also [De Bastiani 2019](#), who independently arrives at the conclusion that OV is strongly associated with discourse-givenness).

It is unclear how Walkden's data should be interpreted in this light, or whether a re-examination of the Old Saxon data would result in a similar distribution. The overall frequency of VO that Walkden reports for Old Saxon (21.5%) is lower than for Old English in both Taylor and Pintzuk's dataset (31% with lexical direct and indirect objects) and Struik and van Kemenade's (38.1% with lexical direct objects only), which suggests that OV is the more neutral word order in Old Saxon. This raises the question whether Old Saxon is as similar to Old English as Walkden claims it is. In fact, it may be that OV/VO variation in Old Saxon is more like OV/VO variation in historical Dutch and historical High German. Research on these languages indicates that VO word order is marked (as opposed to OV in English). In historical High German, for instance, objects associated with new information focus appear to prefer VO order ([Hinterhölzl 2015](#), [Petrova 2009](#), [Schlachter 2012](#) on Old High German; [Sapp 2014](#) on Middle High German; [Bies 1996](#) on Early New High German), although they also appear in OV order. Similarly, [Coussé \(2009\)](#) and [Blom \(2002\)](#) attribute the occurrence of VO structures in Middle Dutch to focus. In addition, [Struik & Schoenmakers \(2021\)](#) show that Middle Dutch given objects hardly ever appear in VO word order, whereas new objects do so rather freely.

2.2 *Object placement in Middle Low German*

Middle Low German is crucial to an understanding of the variation in historical Low German, as its textual attestation is quite rich. However, it remains relatively understudied from a formal syntactic perspective, especially with regard to word order variation (but see [Mähl 2014](#) and [Petrova 2012b](#) for some notable exceptions). To my knowledge there has not yet been a detailed study of OV/VO variation and the factors driving it.

[Petrova \(2012b\)](#) briefly touches upon the issue of basic word order in Middle Low German. She classifies Middle Low German as a canonical OV language based on the diagnostic properties developed in [Haider \(2000, 2005, 2013\)](#) and [Vikner \(2001\)](#): empty objects under coordination are possible, the order of accusative and dative objects is variable, resultative predicates and particles are left-adjacent to the verb, the order of the verbal complex is variable and non-verbal constituents may intervene between the verbs of the complex. [Petrova \(2012b: 164\)](#) notes, however, that the object does not have to be in preverbal position. In addition, she argues that an example such as (4), a passive with a postverbal subject, is evidence for extraposition of a lexical argument from an OV base. According to [Haider \(2013\)](#), the word order

of verbal complexes is variable in OV languages, but the order of the verbal complex is fixed, i.e. Aux-V, in VO languages. From this perspective, the fact that (4) displays V-Aux order entails that the basic order of the clause is OV. Hence, the postverbal position of the subject in (4) must be the result of extraposition.

- (4) *Dat do verloren was that hilge land to iherusalem*
 That then lost was the Holy Land in Jerusalem
 ‘that then the Holy Land in Jerusalem was lost’
 (LChr I 37, 11, [Petrova 2012b](#): 164)

Petrova further argues that there is no direct evidence that the Double Base Hypothesis can be applied to the variation in Middle Low German. One of the main diagnostics for [Pintzuk \(1999\)](#) to assume competition between basic OV and basic VO in Old English is the position of “light elements”, such as pronouns and particles. It is generally assumed that these elements do not undergo rightward movement, so a postverbal light element indicates a VO grammar. [Petrova \(2012b\)](#) does not find any example in which a light element follows the main verb and hence concludes that there are no base-generated VO structures in Middle Low German, and that VO orders are the result of extraposition from an OV base. Petrova does not consider the influence of information structure on OV/VO, although she demonstrates that there is an effect of information structure on the order of XPs in multiple XP-fronting constructions in main clauses.

The next section reports on a corpus study on historical Low German which traces the diachronic development of OV/VO variation. It will re-evaluate the data on Old Saxon, and, crucially, it will include new data on Middle Low German. It is not only desirable in and of itself to contribute to our understanding of Middle Low German, but it will also help to illuminate a diachronic scenario of the transition from Old Saxon to Middle Low German.

3 MATERIALS AND METHODOLOGY

The diachronic development of OV/VO variation in the history of Low German was studied by means of a comprehensive corpus study on Old Saxon and Middle Low German subclauses with a direct object, a finite verb and a non-finite verb, to abstract away from influence of finite verb movement. The sources and selection procedure are detailed in section 3.1. These clauses were annotated for information structure and weight, detailed in section 3.2, and the results were analyzed with a binomial regression analysis within a

Generalized Linear Mixed Model (GLMM, [Baayen 2008](#), [Gries 2015](#)) with fixed and random effects in SPSS.

3.1 *Materials*

3.1.1 *Old Saxon*

Old Saxon material is sparse and survives in only two major texts, the *Hêliand* and a verse translation of *Genesis*, as well as in some shorter texts and glosses. The *Hêliand* represents the bulk of the available material, and dates from the first half of the 9th century. It is a gospel harmony written in alliterative verse and is a (rather liberal) translation of Tatian's *Diatessaron*. The full text is available in parsed and annotated format in the HeliPaD (*Heliand* Parsed Database, [Walkden 2015](#)) and totals 46,067 words (excluding punctuation and code) ([Walkden 2016](#)). The Penn corpora can be queried using CorpusSearch 2 ([Randall, Taylor & Kroch 2005](#)), but it is not possible to enrich them with information-structural encoding in a straightforward way. This is why the corpus was converted to XML format, so that it can be queried using the XQuery language in CorpusStudio ([Komen 2011b](#)) and annotated in Cesax ([Komen 2011a](#)), which were designed specifically for the purpose of enriching corpora, including information-structure annotation.

3.1.2 *Middle Low German*

Middle Low German refers to the language spoken in northern regions of Germany, as well as the Baltic and Low Prussian regions, between roughly 1200 and 1600. The language is the descendant of Old Saxon, although there is no uninterrupted attestation of historical documents. The major surviving Old Saxon documents date from the first half of the 9th century, whereas the earliest Middle Low German texts date from the early twelfth century. Material written in the intervening time frame was in Latin. Middle Low German was used internationally as a lingua franca, especially during the time of the Hanseatic League. The language was never standardized, although the increasing importance of the Hanseatic League between 1350 and 1500 resulted in a variety that is largely modelled on the variety that was used in the town council of Lübeck ([Peters 2003](#)). It was replaced by Early New High German as a standard written language from around the second half of the 16th century ([Peters 1973](#)). Low German survives as a spoken regional language only.

Extensive quantitative studies on Middle Low German have thus far been difficult, because there were no resources available that facilitate syntactic

research on a larger scale. Recently, however, a parsed corpus has become available: the Corpus of Historical Low German (CHLG, Booth et al. 2020). The CHLG is syntactically parsed according to the Penn annotation standard. The corpus is the result of a collaboration with the Referenzkorpus Mittelniederdeutsch/Niederrheinisch (1200–1650) (ReN, ReN-Team 2017), which is POS-tagged, but not syntactically parsed. The CHLG contains a subset of the texts included in ReN to ensure a balanced diachronic representation of dialects and genres. The corpus contains material from the four major dialect areas, Westphalian, Eastphalian, North Low German and Eastelbian, and includes texts from different genres, such as charters, laws and chronicles, as well as religious texts. All texts represent original, native Middle Low German, i.e. they are not translated, and are unambiguously dated and localized. See Booth et al. (2020) for an overview of the texts included. All texts are included in the present study except *Flos unde Blankeflos*, as this text includes end rhyme. The corpus is only available via the online interface², which allows users to query one or more texts using the CorpusSearch query language (Randall et al. 2005).

3.2 Selection

I selected all subclauses with a direct object, finite verb (excluding forms of *wesan/sin* ‘to be’, to avoid passives) and a non-finite verb (excluding *to*-infinitives), as is general practice in studies on Germanic word order variation to abstract from effects of finite verb movement. However, the distinction between main and subclauses is not always obvious in earlier Low German, as adverbial subordinators are identical to adverbials in some cases. In addition, verbs are not consistently placed in V2/verb-final position and can hence not serve as a diagnostic to distinguish main clauses from subclauses (Booth et al. 2020, Walkden 2016). This means that in some cases it cannot be unambiguously determined whether a clause involves finite verb movement. Any ambiguous cases were removed from the analysis.

Indirect objects were excluded, as they differ from direct objects in at least two respects. First, they are associated with a different syntactic position: direct objects are base-generated as a sister of V, while it is generally assumed that the indirect object is base-generated in the specifier of V. Second, they represent different thematic roles and have different functions in the clause. A third reason to exclude indirect objects is that their position interacts with that of direct objects; the order of indirect and direct objects is variable (Petrova 2012b, 2015, Rauth 2021). I leave this variation and the

² <https://www.chlg.ugent.be/corpus/>

interaction with OV/VO variation for future research.

In the remainder of this paper, I will focus on the position of full DPs only, as all pronouns in my sample are preverbal (as is generally the case in continental West Germanic languages; cf. Sapp 2014, 2016 on Old and Middle High German; Burridge 1993 on Middle Dutch). While pronouns are typically discourse-given, and might be preverbal for that reason, it is unclear whether their syntactic status is comparable to that of full DPs. It is a well-known property of German to allow weak, cliticized pronouns in the Wackernagel position; a high position at the left edge of the middle field (Wackernagel 1892). This position is syntactically special in the sense that it is associated with phenomena like complementizer agreement, double agreement and partial pro-drop. Weiß (2018) demonstrates that the Wackernagel position was already established in Old High German.

3.3 Annotation: Information structure

Information Status was annotated according to the annotation scheme in Struik & Schoenmakers (2021) and Struik & van Kemenade (2020, In press). They code objects according to a binary given-new distinction, which is essentially a simplified version of the Pentaset (Komen 2013). The three Pentaset labels IDENTITY, INFERRED and ASSUMED are collated into one category GIVEN.

IDENTITY objects are mentioned in the preceding discourse, as in (5a), where *koninge Darium* ‘king Darius’ was specifically mentioned before. This sentence is part of a passage which narrates the story of Alexander the Great’s campaign against the Persian Empire and his pursuit of king Darius, who was killed before Alexander could defeat him. The sentence in (5a) follows the description of the battles between Alexander and Darius, Darius’s surrender and the brief description of his death.

Objects labelled INFERRED in the Pentaset are not mentioned in the preceding discourse, but the existence of the object can be inferred from another referent. These are essentially elaborating inferables in the sense of Birner (2006), illustrated in (5b). Here, the object *vnse licham* ‘our bodies’ can be inferred from the existence of the group of persons referred to as *wi* ‘we’, as all humans have a body. Objects labelled ASSUMED in the Pentaset are also considered given, as these objects are assumed to be familiar to the audience without explicit establishment of the referent in the text. These can be cases of encyclopedic or world knowledge, but also cases in which there is reference to the context of the text, as in (5c), where we can assume that the readers or listeners will understand that *dessen breek* ‘this letter’ refers to the physical document that they are holding.

(5) a. IDENTITY

Do he wolde pynigen de morderere de koninge
 When he wanted punish the murderers who king
Darium gedodet hadden
 Darius killed had
 ‘When he wanted to punish the murderers who killed king
 Darius’

(Engelhus_Weltchronik_OF_1435)

b. INFERRED (ELABORATING)

Dat wi vnse licham dar mede sullen voden.
 That we our bodies there with will feed
 ‘that we will feed our bodies with that’

(Spiegelhel_WF_1444)

c. ASSUMED

de dessen brief beseghelet hebbet
 who this letter sealed have
 ‘who have sealed this letter’

(Stralsund_EE_1301-1500)

Objects are annotated as NEW if they are newly introduced in the discourse. For example, *eyne arken* ‘an ark’ in (6a) is new information that has not been mentioned before, which is supported by the use of the indefinite pronoun *eyne* ‘a(n)’. Bridging inferables (Birner 2006) are also considered NEW. These are objects that have an explicit textual link to an antecedent, but the existence of the referent does not naturally follow from the existence of the antecedent. In (6b), the object *sinen wingarden* ‘his vineyard’ contains the possessive pronoun *sinen* ‘his’, linking it to a previously mentioned referent. However, readers cannot know that the referent actually owns a vineyard, as it has not been mentioned before and is not an inherently human thing to possess (unlike e.g., *vnse licham* in (5b)), so it is a new referent.

(6) a. NEW

Do gebot ome god dat he scholde buwen eyne
 Then commanded him god that he should build an
arken
 ark

‘Then commanded God that he should build an ark’

(Engelhus_Weltchronik_OF_1435)

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b. INFERRED (BRIDGING)

de ome sinen wingarden nicht vorkopen wolde
who him his vineyard not sell wanted

‘who did not want to sell him his vineyard’

(Engelhus_Weltchronik_OF_1435)

Objects do not always establish discourse referents. For instance, when they are abstract, part of a fixed expression or are quantified or negated.

(7) INERT

thu giuuald obar mik hebbian ni mohtis
you power over me have not can

‘that you cannot have power over me’

(Héliand 3167.5350-5352)

These objects, illustrated in (7), were labelled INERT and excluded from the statistical analysis.

4 RESULTS

This section presents the results of the corpus study. Section 4.1 discusses the interaction between information structure and word order in Old Saxon, and Section 4.2 discusses the interaction between information structure and word order in Middle Low German. Section 4.3 sketches the diachronic change from Old Saxon to Middle Low German.

4.1 Old Saxon

The Old Saxon sample contains 179 analyzable subclauses with a finite verb, a non-finite verb and an object, 26 of which are INERT and hence excluded from the following discussion. The distribution of given and new objects across OV and VO orders is illustrated in Table 1.

	AUX-O-V	AUX-V-O	O-AUX-V	O-V-AUX	V-AUX-O	TOTAL
GIVEN	30 23.1%	12 9.2%	27 20.8%	54 41.5%	7 5.5%	130
NEW	3 13.0%	6 26.1%	2 8.7%	8 34.8%	4 17.4%	23
TOTAL	33 21.6%	18 11.8%	29 19.0%	62 40.5%	11 7.2%	153

Table 1 Distribution of given and new objects across word order in the Old Saxon *Hêliand*.

There is no clear preference for Aux-V or V-Aux word order; 80 out of 153 (52.3%) objects surface in Aux-V order. The object surfaces in a position preceding the non-finite verb in the majority of the cases (126 out of 153, 82.4%), but there is a clear difference in the position of given and new objects. While over 85% of the given objects surface in OV order, the position of new objects is variable. New objects appear in VO order in 43.5% of the cases. The data thus largely corroborate [Walkden \(2014\)](#)'s findings.

Since the number of new objects is too low in each individual word order category to test the statistical validity of the observations for all word orders in [Table 1](#), the category word order was first collapsed into a binary value OV or VO. Recall from the discussion in [section 2.1](#) that there is no reason to (a priori) assume that the position of the object is related to the order of the verbs, or that information status has a different effect in Aux-V and V-Aux clauses, and the data do not suggest that this is the case.³ The simplified analysis should therefore not lead to different conclusions: the model still predicts the probabilities for an object with a particular information status to surface in a particular word order.

The results in [Table 1](#) were analyzed by means of a binary logistic regression in SPSS28 with word order (OV or VO) as the dependent variable, and OV as the reference category. Information Status (new or given, coded using deviation contrasts) and Length (of the object, measured as the logarithm of the number of letters, centered around the mean) as independent variables.

³ The effect of information structure is significant in Aux-V clauses (Fisher's exact, $p = 0.0133$) and marginally significant for V-Aux clauses (Fisher's exact, $p = 0.0747$). In [Walkden \(2014\)](#)'s dataset the effect of information structure is marginally significant in Aux-V clauses (Fisher's exact, $p = 0.0878$), whereas the effect of information structure is significant in V-Aux clauses (Fisher's exact, $p = 0.0225$). Walkden speculates that there may not be a genuine difference between AuxV and VAux clauses, as the differences in significance values is relatively low, and that it may be the result of sampling. The fact that the significance values for my data are similarly low but reversed suggests that this is indeed the case.

Model Term	Odds Ratio	95% CI for Odds Ratio	
		Lower	Upper
Intercept	.004	.000	.082
Information Status	3.696	1.386	9.859
Length	2.700	1.248	5.842

Table 2 Odds ratios and confidence intervals of the fixed effects of the Old Saxon model

There is a significant main effect of Information Status ($\beta = 1.307$; $SE = .4965$; $t = -2.633$; $p = .009$) and Length ($\beta = .993$; $SE = .3905$; $t = -2.544$; $p = .012$) on the surface word order. Table 2 presents the odds ratios and 95% confidence intervals for each of the fixed effects. These values represent the size of an effect and indicate whether the influence of a particular factor increases the odds of objects appearing in preverbal position (values below 1) or in postverbal position (values above 1).

The odds ratio for the variable Information Status indicates that new objects are 3.696 times more likely to appear in postverbal position than given objects. The odds ratio for length indicates that, with each one unit increase in object length, the chances that this object appears in postverbal position are 2.700 times larger.

4.2 Middle Low German

The Middle Low German sample contains 387 analyzable subclauses with a finite verb, a non-finite verb and an object, 99 of which are INERT and hence excluded from the following discussion. The distribution of given and new objects across OV and VO orders is illustrated in Table 2.

There is a slight preference for Aux-V word order; 168 out of 288 (58.3%) objects surface in Aux-V order. The majority of the objects surface in preverbal position (235 out of 288, 81.6%), but there is a difference between given and new objects, very much like in Old Saxon. Given objects surface in preverbal position in 89.9% of the cases, whereas new objects only do so in 42.0% of the cases. This suggests a strong preference for placing given objects in a preverbal position, while new objects may occur freely in postverbal position.

	AUX-O-V	AUX-V-O	O-AUX-V	O-V-AUX	V-AUX-O	TOTAL
GIVEN	12	21	101	101	3	238
	5.0%	8.8%	42.4%	42.4%	1.3%	
NEW	5	23	6	10	6	50
	10%	46.0%	12.0%	20.0%	12.0%	
TOTAL	17	44	107	111	9	288
	5.9%	15.3%	37.2%	38.5%	3.1%	

Table 3 Distribution of given and new objects across OV and VO word order in Middle Low German.

To allow for a direct comparison with the Old Saxon material, the Middle Low German dataset was also analyzed by means of a binary logistic regression within a generalized mixed model in SPSS28 with word order (OV or VO) as the dependent variable, and OV as the reference category.⁴ Information Status (new or given, coded using deviation contrasts) and Length (of the object, measured as the logarithm of the number of letters, centered around the mean) as independent variables. In addition, TextID (the source text of an item) was entered as a random effect, to control for variation that is the result of individual texts. There is a significant main effect of Information Status ($\beta = 2.216$; $SE = .4501$; $t = 4.923$; $p < .001$) and Length ($\beta = -.926$; $SE = .2076$; $t = 4.458$; $p < .001$) on the surface word order. Table 4 presents the odds ratios and 95% confidence intervals for each of the fixed effects.

The odds ratio for the variable Information Status indicates that new objects are 9.167 times more likely to appear in postverbal position than given objects. The odds ratio for Length indicates that, with each one unit increase in object Length, the chances that this object appears in postverbal position are 2.524 times larger.

4.3 Discussion: from Old Saxon to Middle Low German

The results presented in sections 4.1 and 4.2 present a picture of historical Low German word order variation that fits well with the other continental West Germanic languages. While the earlier varieties of Low German allow substantially more variation in the position of the object, the majority of the objects surface in preverbal position. The VO orders that are observed, however,

⁴ The effect of information structure is significant in both AuxV (Fisher's exact, $p < .001$) and VAux clauses (Fisher's exact, $p < .001$).

Model Term	Odds Ratio	95% CI for Odds Ratio	
		Lower	Upper
Intercept	.008	.001	.054
Information Status	9.167	3.780	22.232
Length	2.524	1.677	3.797

Table 4 Odds ratios and confidence intervals of the fixed effects of the Low German model.

are due to the effects of information structure – new objects are more likely to surface in postverbal position than given objects, and weight – longer objects are more likely to surface in postverbal position. The data show a strong continuity in terms of object placement from Old Saxon to Middle High German. The frequency at which objects appear in postverbal position is stable, and the effects of information structure and length remain equally strong.

In fact, the odds ratios suggest that the effect of information structure is stronger in Middle Low German (9.167) than in Old Saxon (3.696). However, this does not necessarily mean that there is also a diachronic increase in the strength of the effect of information structure. The Old Saxon data are based on materials from only a single text, which is a translation from Latin, and focusses on one topic: the life of Christ. As a consequence, the number of discourse-new objects is relatively low. In addition, the text is written in alliterative verse, which might have had an influence on surface word order.

Somers & Dubenion-Smith (2014) argue that extraposition is directly related to the alliterative pattern of the *Héliand*. They show that the right sentence bracket (in topological terms, i.e. the position of the non-finite verb), frequently coincides with the end of a metrical unit and that this leads to inflated extraposition rates. It is unclear, however, to what extent their analysis applies to direct objects, as they treat any postverbal constituent as extraposed, including appositions. There are cases in my dataset in which the alliterative pattern might have resulted in a particular word order. Consider, for example, (4.3):

- (8) *that he mahte fon erðu | up gihôrean uualdandes uuord |*
 that he may from earth up hearken All-Wielder's word
bithiu uuas is gewuit mikil
 because was his wisdom great
 'That he may hearken up from the earth the All-Wielder's word,
 because his wisdom was great'

(Héliand 302.572-575)

The object *waldandes word* 'the All-Wielder's word' is placed across the line boundary, following the non-finite verb *gihôren* 'hearken'. The object does not alliterate with any word in its own clause, but instead alliterates with *gewit* 'wisdom' in the following clause. The object is not particularly heavy, and it conveys given information, which typically results in OV word order as shown above. It might therefore be argued that the object is placed in postverbal position to alliterate with the following passage. However, this type of example does not occur very frequently. In most cases the object and verb alliterate on the same line, as in (4.3).

- (9) *Hie liudeo barn | losian uuolda*
 he men children save wanted
 'he wanted to save the children of men'

(Héliand 2898.4920-4923)

The object *liudeo barn* 'the children of men' and the verbal complex *losian uuolda* 'wanted to save' may, at least at a first glance, be inverted without violating the meter, and without creating ungrammatical structures. This suggests that the author enjoyed considerable freedom in his composition, and that the meter obeys the general syntactic constraints of the language in the majority of the text, which is in line with the general observation that the poet models his composition on the basis of the spoken language. However, it cannot be ruled out entirely that the author exploited the syntactic flexibility of the language for metrical purposes, which might have resulted in a weaker effect of information structure in Old Saxon compared to Middle Low German.

5 TOWARDS AN ANALYSIS

The present section turns to the consequences of the results presented in section 4 for an analysis of historical Low German word order variation. There are three logical possibilities for the derivation of OV/VO variation in Low

German, each of which has been proposed in the previous literature in the larger context of West Germanic language variation:

- (10) a. Basic OV with rightward extraposition
- b. Variation in headedness of VP: OV and VO are both base-generated
- c. Basic VO with leftward movement

While all proposals derive the surface variation, I demonstrate that the diagnostics developed to detect variation in the headedness of VP, (10b), do not warrant the conclusion that historical Low German allows both OV and VO bases. Second, I argue that an analysis in terms of extraposition from a VO base, (10a), is theoretically untenable. Finally, I argue that an analysis in terms of leftward movement from a VO base, (10c), is a conceptually and empirically better motivated alternative.

5.1 *Arguments against extraposition*

The evidence adduced for head-initial VP is often based on the position of light elements, such as pronouns and particles. Kroch & Taylor (2000), Pintzuk (1999) and Haider (2013, and earlier publications) have argued that there is a strong correlation between the position of these light elements and the head-directionality setting of the VP. It is generally assumed that light elements cannot be extraposed, so if a light element surfaces on the right of the verb this is considered as evidence that the VP is head-initial. Since particles and pronouns optionally appear in postverbal position in Old and Middle English, they argued that English showed competition between underlying OV and VO grammar in its earlier stages: the Double Base Hypothesis (Pintzuk 1999). Each of these grammars is associated with its own movement operations to derive the attested word order variation (cf. the discussion in Section 2.1).

Conceptual drawbacks of such an analysis aside (cf. Fischer, van Kemenade, Koopman & van der Wurff 2000, Struik & van Kemenade 2020, In press for discussion), it cannot account for OV/VO variation in historical High and Low German. The above diagnostics for the directionality of the VP do not lead to conclusive evidence for a head-initial VP in historical High German, a very close relative of Low German. Sapp's (2014, 2016) quantitative results demonstrate that postverbal pronouns and particles are rare in historical High German. Similarly, Petrova (2012b) notes that there are no postverbal pronouns or particles in her (relatively small) sample of Middle Low German

texts either. My Old Saxon and Middle Low German datasets also do not contain postverbal particles or pronouns, which suggests that there is no evidence of this type for a head-initial VP. Both Sapp and Petrova argue that this must mean that the VP is head-final underlyingly, and that Old High German, Middle High German and Middle Low German are OV languages. As a consequence, they assume that VO objects are derived by rightward extraposition of the object.

The fact that VO is information-structurally motivated is frequently considered as an argument for extraposition from an OV base in the literature on continental West Germanic. OV is perceived as the basic neutral word order, and it is argued that arguments are moved rightward for pragmatic or prosodic reasons (cf. Sapp 2014, Sapp 2016 on Old and Middle High German, and Burridge 1993, Blom 2002, Coussé 2009 on Middle Dutch). However, the syntactic status and precise derivation of extraposition is generally left implicit in the literature on historical West Germanic syntax.

The extraposition analysis runs into several problems, however, especially when we consider its status in relation to clauses with two verbs. Sapp (2016) suggests that VO in Old High German is the result of right-adjunction to VP or TP. However, adjunction to VP is ruled out for two reasons. First, Baltin (2006: 241) demonstrates that extraposition targets “the first maximal projection that dominates the phrase in which it originates” in English, which in the case of object extraposition means that adjunction of the object must be to a phrase higher than VP. Second, if a head-final basic word order is assumed, the basic word order is O-V-Aux. Extraposition to VP derives the ungrammatical V-O-Aux order. To resolve this, one would have to assume that objects right-adjoin to TP, so that the object surfaces behind the verbal complex.

There is data from Modern German which suggests that extraposition to VP is possible (cf. Haider 2010: 311), but only when the VP is fronted. Consider the following two clauses:

- (11) a. [*Hingewiesen darauf*] *haben wir sie oft.*
 pointed there-on have we her often
 ‘We have often pointed it out to her.’
- b. *...*dass wir sie oft* [*hingewiesen darauf*] *haben*
- (Haider 2010: 311)

In (11a), the VP is raised to Spec,CP, but it has a postverbal prepositional object. In (11b) the verb is in a base-generated position from a head-final perspective, but the combination with a postverbal object leads to an ungrammatical sentence. It has been argued that the ungrammaticality is not the result of a restriction on in-situ extraposition, but is the result of independent reasons

such as impossibility of linearizing the resulting structure or obligatory verb cluster formation (see, for instance, Fuß 2008).

Such an account becomes problematic when we consider the status of multi-verb clauses in early Germanic. The auxiliary system was not yet fully grammaticalized, as many auxiliaries and modals still display full verb properties (Coupé & van Kemenade 2009 for a general perspective, Lightfoot 1979, Warner 1993 on English) and, crucially, there does not seem to be obligatory verb clustering in early Germanic. Jäger (2018) notes in relation to High German that the IPP (*infinitious pro participio*) construction, in which an expected past participle is replaced by an infinitive when it is followed by another infinitive, is indicative of verb cluster formation and that this is a Middle High German innovation. Similarly, Coupé (2015) shows for Middle Dutch that the origin of the IPP traces back to the 13th century. Walkden (2014) argues, following Biberauer & Roberts (2005, 2008), that Old Saxon clauses with more than one verb are in fact biclausal; the auxiliary is base-generated as a V with its own functional structure, and takes (at least) a TP containing the object and main verb as its complement. If extraposition targets TP associated with the main verb, the object still surfaces in the ungrammatical V-O-Aux word order, under the assumption of a head-final structure, as Aux is in the higher TP. In this case, it must be assumed that extraposition must be delayed until the verbal complex is formed, but there is no clear theoretical rationale for such an assumption (see Koster 2000 for a similar argument).

This issue is also related to the status of Aux-O-V orders in historical Low German. In a head-final approach, these orders would be considered cases of Verb Projection Raising (VPR; Haegeman 1992, Haegeman & van Riemsdijk 1986), an operation which extraposes the entire VP and adjoins it to the higher verb. However, it is unclear what the status of VPR is in Low German. Haerberli & Haegeman (1999) demonstrate that VPR-like patterns in Old English do not have the same status as VPR in present-day West-Flemish, a dialect of Dutch, with regard to negative concord. VPR in West-Flemish creates a scopal island and only allows a double negation reading for a negative object, illustrated in (12) (adapted from Haerberli & Haegeman 1999: 108).

- (12)
- | | | | |
|---|---------------|----------------|--|
| Aux | O | V | |
| <i>Da Valère nie en-durft</i> | <i>[niets</i> | <i>zeggen]</i> | |
| that Valère not not-dares | nothing | say | |
| ‘that Valère does not dare not to say anything’ | | | |

In Old English, the VPR-like order always results in a negative concord reading. This suggests that in Old English Aux-O-V order should not be analyzed as rightward movement of the VP (and it does not need to be, as demon-

strated by [Biberauer & Roberts 2005](#), [Struik & van Kemenade In press](#)). This raises the question if such an approach is tenable for Old Saxon and Middle Low German. However, the historical Low German negation system differs substantially from that in Old English. [Breitbarth \(2013, 2014\)](#) shows that there are hardly any cases of negative concord in the Old Saxon *Hêliand*, i.e. clauses with the sentential negator *ni* and an n-marked indefinite, and that Middle Low German only allows negative spread; in such a case negation is to be expressed on multiple indefinites in the scope of negation, illustrated in (13):⁵

- (13) *Na sunte Micheles daghe 1349 scal nemen nenne rok*
 After St. Michael's day 1349 shall no one no cloak
dragen ...
 wear ...
 'No one shall wear a(ny) cloak after St. Michael's day 1349 ...'
 (Braunschweig 1390, adapted from [Breitbarth 2014](#): 99)

The data retrieved for the present study did not include any object in the scope of negation in combination with another constituent in the scope of negation, so the syntactic status of VPR cannot be unambiguously determined as in [Haerberli & Haegeman's \(1999\)](#) observations on Old English.

The information status of objects in Aux-O-V clauses suggests that Aux-O-V patterns more with OV clauses than with VO clauses, which is what we would expect if Aux-O-V is the result of leftward movement. The data in section 4 do not suggest that Aux-O-V orders pattern with Aux-V-O or V-Aux-O in terms of information status of the object; new objects occur less often (13%) in Aux-O-V order than given objects (23%) in Old Saxon, cf. Table 2. In comparison, new objects appear in VO order in 44% of the cases, compared to only 15% of the given objects. This demonstrates that the information status of the object cannot be assumed to be the trigger for VPR. In addition, it is unclear how (and why) examples such as (14) should be derived under an extraposition account:

- (14) *huo sia sculun era gilobon haldan thuru hlutteran hugi*
 how they should their belief keep through pure mind
 'how they should keep their belief through pureness of the mind'
 (Hêliand 483.896-899)

⁵ Note that this is a main clause, so the Aux-O-V order in the clause is the result of finite verb movement to V2, and not of any VPR-like operation.

In (14) the object *era gilobon* ‘their belief’ surfaces between the auxiliary *sculun* ‘should’ and the non-finite verb *haldan* ‘keep’. The non-finite verb is followed by the PP *thuru hlutteran hugi* ‘through pureness of the mind’. To derive this order, two separate extraposition operations must be assumed, both of which target the same position: TP. The VP adjoins to TP to derive the VPR pattern, and following the discussion above, the PP must also be assumed to adjoin to the higher TP. If it adjoins to the lower TP, it would derive ungrammatical V-O-Aux when no extraposition takes place.

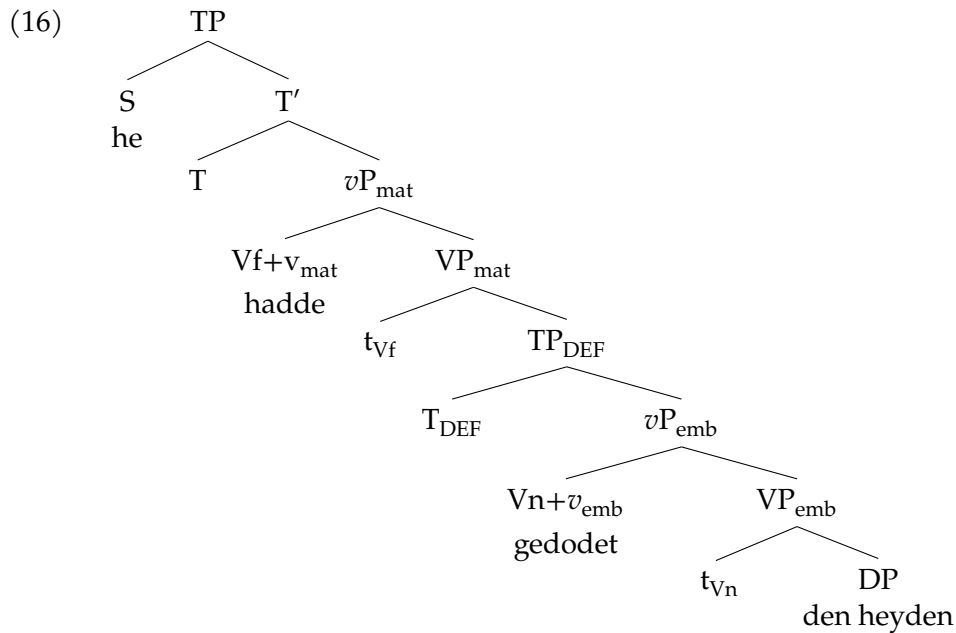
Thus far, I have argued that previous analyses of OV/VO variation do not result in an empirically and conceptually adequate analysis of the variation. The diagnostics developed to diagnose the headedness of the VP do not lead to unambiguous evidence for a double base, as postverbal light elements are rare. While this might suggest that the VP is head-final, I have argued that an analysis in terms of extraposition runs into several theoretical and conceptual problems. First, extraposition derives the unattested word order pattern V-O-Aux under the assumption that extraposition is adjunction to TP and a biclausal approach to historical Low German clause structure. Second, there is no evidence for VPR as a rightward movement operation. It is clearly different from VO objects in terms of information status and is allowed in structures for which multiple extraposition movements to the same position have to be assumed. In what follows I will demonstrate that an antisymmetric account, in which rightward movement is ruled out by definition, of historical Low German word order variation derives all word order patterns in a uniform way, and allows a natural transition from Old Saxon to Middle Low German.

5.2 *OV is derived from VO*

The present section motivates an antisymmetric analysis (in the spirit of [Kayne 1994](#)) of historical Low German word order variation. The analysis builds on the work of [Biberauer & Roberts \(2005\)](#), [Struik & van Kemenade \(In press\)](#), [Walkden \(2014\)](#), [Wallenberg \(2009\)](#), to derive the various word order patterns, and incorporates insights from [Struik & Schoenmakers \(2021\)](#) to further account for scrambling patterns in the middle field. An antisymmetric framework entails the assumption of a uniform spec-head-complement configuration for all phrases in Low German, which means that all phrases are head-initial and that the underlying word order in VP is VO. This is not to say that Low German is a ‘true’ VO language in terms of surface word order phenomena. The underlying VO word order follows from the theoretical assumption of uniform head-initiality. The OV character of early Low German is the result of leftward movement which derives the surface various word orders.

I follow [Biberauer & Roberts \(2005\)](#) and [Walkden \(2014\)](#) in the assumption that auxiliaries in Old Saxon have not fully grammaticalized and hence project their own VP and associated structure. They select a defective TP complement which hosts the lexical main verb. A derivation in which no (non-obligatory) movement has taken place, i.e. an AuxVO clause, as in (1 a), repeated here as (15), is illustrated in (16).

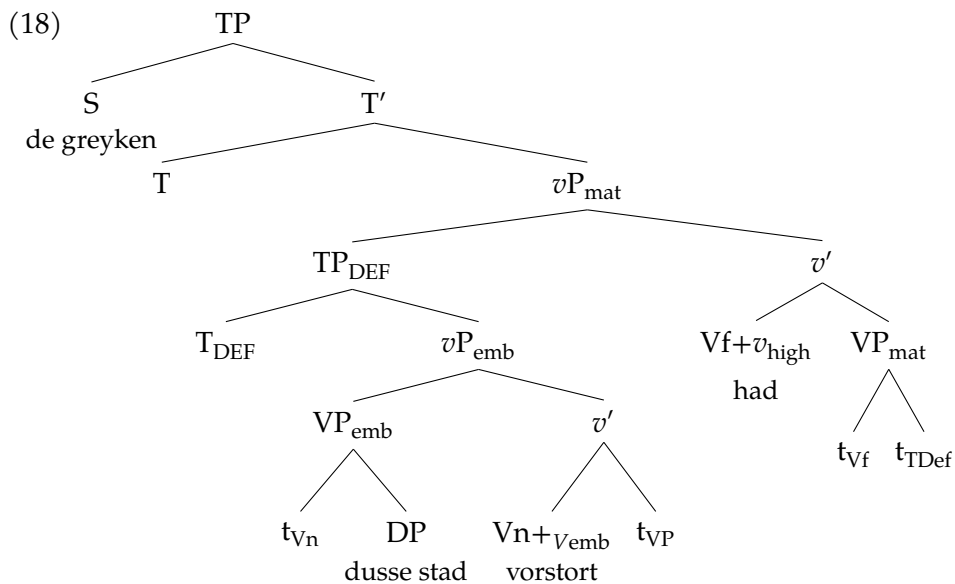
- (15) *Dar na also he hadde gedodet den heyden de sinen*
 There after also he had killed the heathen who his
broder sloch
 brother hit
 ‘Thereafter he also killed the heathen who hit his brother’
 (Engelhus_Weltchronik_OF_1435)



The various word order patterns observed in Old Saxon and Middle Low German are derived by optional pied-piping of the object to spec,*vP*. Movement of only the object in (16) results in leaking structures, in which part of the VP is stranded in a position following the main verb. When the object is pied-piped as part of the VP, any VP-internal material surfaces in preverbal position. This straightforwardly derives Aux-O-V order and does not require a VPR-type analysis. O-Aux-V orders, which are not included in [Walkden's \(2014\)](#) analysis, are derived similarly. In this case, the object is raised to *vP_{mat}* in (16).

O-V-Aux is derived by pied-piping (at least) the embedded vP to a higher position within the main clause. The exact landing site and the size of the constituent that is raised depends on one's assumptions about the position of the finite verb, and the trigger of movement. Biberauer & Roberts (2005) and Wallenberg (2009) assume that the finite verb is located in T, and hence derive V-Aux order by raising of the embedded vP to SpecTP (as a by-product of subject-raising to satisfy the EPP requirement on T). Walkden (2014) assumes that the auxiliary does not raise higher than v and that V-Aux is the result of pied-piping of VP_{mat} to Spec, vP_{mat} . Struik & van Kemenade (In press) argue that the finite verb does not move to T in Old English, and remains in v . They suggest that V-Aux clauses are backgrounded in Old English, and postulate TP_{DEF} movement to spec, vP_{mat} as an information-structurally motivated parallel to object movement to vP_{emb} . Nothing crucial hinges on the precise landing site or the size of the lower clause that moves at this point, pending a precise analysis of the position of auxiliaries in Old Saxon and Low German. The crucial point here is that at least vP_{emb} raises to the matrix clause to a position above the finite verb. The derivation of an O-V-Aux clause, (1d), repeated here as (17), is illustrated in (18), in which TP_{DEF} moves to Spec, vP_{mat} :

- (17) *do de greyken **dusse stad** vorstort hadden*
 when the Greeks this city overthrown had
 'when the Greeks had overthrown this city'
 (Engelhus_Weltchronik_OF_1435)



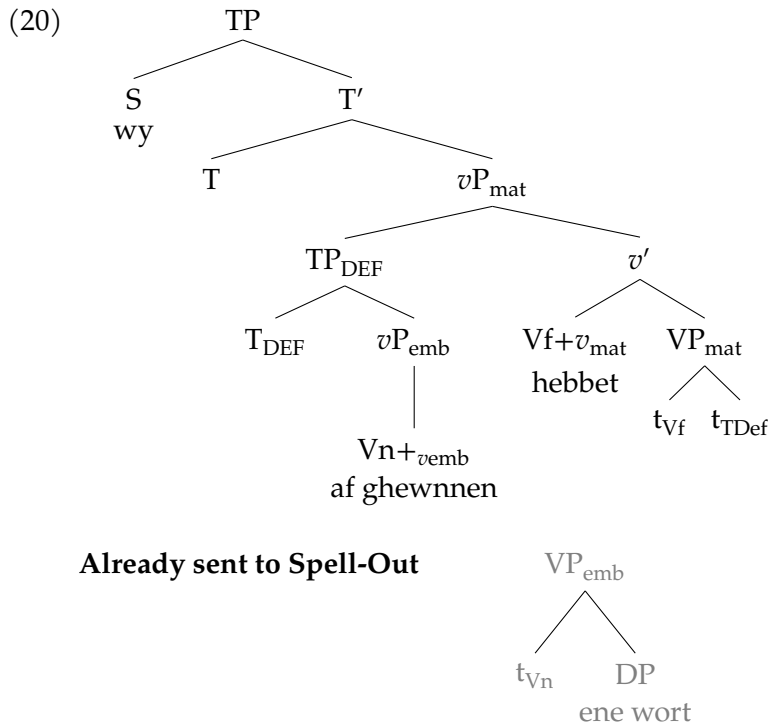
The derivation of V-Aux-O order is less straightforward. [Walkden \(2014\)](#), following the analysis in [Wallenberg \(2009, 2015\)](#), argues that V-Aux-O is a case of Heavy NP Shift (HNPS). The derivation is similar to that of (16), in which the embedded VP is first raised to vP_{emb} , and the vP_{emb} (TP_{DEF} in (18)) is raised to vP_{mat} to derive V-Aux order. Walkden extends the clause in (18) by inserting a dedicated FocusP and TopicP between TP and vP_{mat} . HNPS is derived by movement of the object to the FocusP above vP_{mat} , which is followed by remnant movement of vP_{mat} to the TopicP above FocusP which hosts the object. Walkden argues that Aux-V-O clauses are ambiguous between the basic derivation as in (16) and a HNPS derivation of Aux-V-O. In a HNPS derivation of Aux-V-O the object moves to FocusP, but vP_{emb} is not moved to $\text{spec},vP_{\text{mat}}$ before vP_{mat} moves to TopicP. He argues that this explains the differences with regard to Aux-V and V-Aux clauses in interaction with information structure. Recall that his data suggest that newness significantly predicts VO order in V-Aux clauses, but not in Aux-V clauses. The data presented in section 4, however, provide no evidence for such a distinction, which makes it unlikely that the derivation of VO orders differs between V-Aux and Aux-V clauses.

In addition, a HNPS analysis runs into some problems, as [Walkden \(2014\)](#) also acknowledges. Most importantly, there is no strict correlation between the position of the object and its information status in historical Low German. Assuming a (cartographic) functional projection which attracts the object leads to the expectation that movement is obligatory and categorical. However, new objects surface postverbally in approximately half of the cases in both Old Saxon and Middle Low German. At the same time, given objects are allowed in VO order as well. It is unclear why newness does not always result in a HNPS-type derivation. In addition, there is no immediate reason why a heavy object would have to move to a FocusP, as heaviness is also a significant predictor of VO word order. Finally, it raises the question why TopicP and FocusP are not involved in any of the other derivations. Whenever there is no HNPS, TopicP and FocusP play no part.

In the analysis presented here information structure is not an integral part of syntax. Instead, the surface position of objects is determined at the interfaces. I argue that after each movement step, the object leaves behind a copy in its base-generated position. Once material is sent to the interfaces, the Spell Out position of an object is determined based on its information-structural and prosodic features (see [Hinterhölzl 2015](#) for a similar approach). An object will be spelled out in its highest position, Spec,vP , unless it is new or heavy. Note that in such an approach to the interaction between syntax and information structure, V-O-Aux orders are ruled out if [Biberauer & Roberts'](#)

(2005) and [Struik & van Kemenade \(In press\)](#)'s analysis is on the right track: both adopt a phase-based approach, in which material is subjected to Radical Spell-Out upon the completion of a phase. Only material that is located in the specifier or the head of v remains available, whereas anything stranded in a lower position is transferred to PF, freezing it in place. Spell-out of the object in its lowest position will result in linearization in clause-final position. The derivation of an V-Aux-O clause, (1e), repeated here as (19), is illustrated in (20). The object *ene wort* 'a property' has not left vP_{emb} in the derivation in (20) and is hence sent to Spell Out. As a consequence, it surfaces in postverbal position.

- (19) *dat wy den Raadmennen van Oldenborch: af ghewnnen hebben*
 that we the Councilors of Oldenburg obtained have
Ene wort: de gheleghen is by deme stouwe vppe der
 a property that located is by the quayside up the
nyen stad to Oldenborch
 new city to Oldenburg
 'that we, the councilors of Oldenburg, have obtained a property
 located by the quayside in the new city of Oldenburg'
 (Oldenburg_Urkunden_NLS_1350-1500)



One issue that has not been addressed thus far is how the emergence of verb clusters fits within the model presented here. Verb clustering has been the topic of debate for a very long time, but there is no consensus in the literature on how verb clusters are formed and how they should be analysed in Modern German (cf. [Wurmbrand 2006](#) for an overview of the many different proposals), and it is unclear how they are derived diachronically, although it is suggested in the literature that verb clustering is a Middle stage innovation (cf. [Coupé 2015](#) on Dutch; [Jäger 2018](#) on High German). It is beyond the scope of this paper to provide a detailed analysis of (incipient) verb clustering in early Low German, but the data presented in Tables 1 and 3 show a diachronic change from Old Saxon to Middle Low German which points to verb clustering in general, and a reduction in the size of the verbal complement (TP_{DEF}) in particular; in Old Saxon, Aux-O-V word order occurs frequently at 21.6%, but this drops to 6.0% in Middle Low German. At the same time, O-Aux-V clauses increase in frequency from 19% to 37.3%. In terms of the analysis presented in this section, this means that the vP_{emb} position above becomes unavailable as a landing site for the object and that the object can only be spelled out in vP_{mat} . The clause structure essentially reduces to a monoclausal structure. This may result in a serialization effect, in which the verbal complex becomes a series of heads, rather than a series of phases, which allows reordering of Aux and V.

5.3 *The integration of scrambling*

The analysis that is developed in this section also straightforwardly accommodates a second type of variation in object placement: middle field scrambling. Scrambling is still a common operation in Present-Day German and Dutch, and is generally considered to involve leftward movement to a higher position in the middle field, crossing adverbials, negation or (in the case of high German) indirect objects and subjects ([Frey 2004](#)). Several factors are brought up as motivation for scrambling in German, such as animacy ([Zubin 1985](#)), agentivity ([Fortmann & Frey 1997](#)) and definiteness ([Lenerz 1977](#), [Reis 1987](#)), as well as information structure. Scrambling typically obeys the given-before-new principle, and given objects are more likely to scramble than new objects in standard German ([Frey 2004](#), [Meinunger 2000](#), [Musan 2002](#)). The examples in (21) show that scrambling is at least a syntactic option in Old Saxon and Middle Low German. In both examples, the object precedes an adverbial.

- (21) a. *that man is herron thar bindan scolda*
 that man his lord there bound should
 ‘that man should bind their lord there’
 (Héliand 2868.4868-4869)
- b. *war he sin vader erue van rechte vorstan*
 where he his father inheritance from right claim
scole
 should
 ‘where he could claim his father’s inheritance as of right’
 (Herford_Rechtsbuch_WF_1375)

It is, however, as yet unclear whether scrambling in Old Saxon and Middle Low German is in any way motivated by information structure.⁶ [Struik & Schoenmakers \(2021\)](#) demonstrate that there is a correlation between the loss of VO and a visible effect of information structure on scrambling in Middle Dutch. More specifically, there is no significant effect of information structure on scrambling as long as VO is a productive option. As long as it is, most objects surface in the scrambled order, regardless of their information status. As VO is being lost, and more objects start to appear in the middle field, the information-structural division of the middle field into a given (before an adverbial) and a new (following an adverbial) domain becomes clearer. After the 16th century, when VO was lost, given objects strongly prefer the scrambled position, whereas new objects strongly prefer the unscrambled position.

[Struik & Schoenmakers \(2021\)](#) argue, building on [Broekhuis \(2008\)](#), that object licensing occurs in two steps, through Spec,VP to Spec,vP, and that the object leaves a copy in each intermediate landing site. The obligatory movement of the object in two steps makes available three positions in which an object can surface. Once the object reaches the edge of vP, the material inside it is sent to interfaces where the Spell Out position is determined. If an object is new or heavy the object is optionally spelled out in the lowest, i.e. VO, position. In other cases, the preferred Spell Out position is the highest available position, i.e. Spec,vP (see [Struckmeier 2017](#) for a similar proposal). [Struik and Schoenmakers](#) argue that because information structure is generally considered a binary category, i.e. given versus new, only two Spell Out positions are needed. As long as VO is still an option, these are VO and the highest, Spec,vP, position. Once VO is lost, the verb no longer demarcates the

⁶ [Rauth \(2021\)](#) studies the effect of information structure on the order of direct object and indirect object. His analysis suggests that a given object is more likely to precede a new one. However, he also reports a significant decrease of DO > IO in Low German, which is most likely the result of the loss of case. See also [Petrova \(2015\)](#) for a discussion of argument order in the middle field in Middle Low German.

given and new domain. As a consequence, the middle field, with adverbials as the boundary, takes over this function.

Under the assumption that scrambling is motivated by IS, given objects are expected to scramble in historical Low German, whereas new objects are expected to remain in a lower position. The objects in the present dataset show that, in most cases, new objects precede adverbials. This suggests that scrambling always takes place and is not (yet) information-structurally motivated. Old Saxon and Middle Low German seem to pattern similarly to Dutch: as long as VO is still productive, information structure does not have a visible effect on middle field scrambling. Note, however, that the overall number of new object in OV order is relatively low (because VO is still productive) and that not every clause contains an adverbial. Further research is needed to determine the exact status of scrambling in historical German.

6 CONCLUSION

This paper substantiates and analyses the status of OV/VO variation from Old Saxon to Middle Low German, as well as the question to what extent the variation is motivated by information structure. In addition to a (re-)examination of the Old Saxon *Hēliand*, the paper also presents novel corpus data from Middle Low German. The results presented in section 4 show that, in terms of OV/VO variation, Middle Low German is a continuation of Old Saxon. The frequency at which objects appear in postverbal position is stable, and the effects of information structure and length remain equally strong. Given objects surface consistently in OV word order, but new objects appear more freely in VO word order. In addition, longer constituents are more likely to surface postverbally.

The results were evaluated in the light of existing proposals on the derivation of West Germanic OV/VO variation. While these observations may at first glance invite an analysis in terms of extraposition from an OV base, the paper argues explicitly against such an approach: extraposition in multi-verb clauses derives the ungrammatical V-O-Aux word order. In the alternative analysis that is developed, all word orders are derived by leftward movement from a VO base. It was argued that all objects move to Spec,*v*P. Once the *v*P is completed and sent to the interfaces, the Spell Out position of the object is determined. If the object is given, it is spelled out in a high position, and if the object is new or heavy it is spelled out in a lower position. This account straightforwardly derives all word order patterns, including scrambling patterns.

REFERENCES

- Baayen, Harald. 2008. *Analyzing Linguistic Data. A Practical Introduction to Statistics Using R*. Cambridge: Cambridge University Press.
- Baltin, Mark. 2006. Extraposition. In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell Companion to Syntax*, vol. 1, 237–271. Malden: Blackwell.
- Behaghel, Otto. 1932. *Deutsche Syntax. Eine geschichtliche Darstellung*. Heidelberg: Carl Winter.
- Biberauer, Theresa, Anders Holmberg & Ian Roberts. 2014. A Syntactic Universal and Its Consequences. *Linguistic Inquiry* 45(2). 169–225.
- Biberauer, Theresa & Ian Roberts. 2005. Changing EPP-parameters in the history of English: accounting for variation and change. *English Language and Linguistics* 9(1). 5–46.
- Biberauer, Theresa & Ian Roberts. 2008. Cascading parameter changes: Internally-driven change in Middle and Early Modern English. In Thórhallur Eythórsson (ed.), *Grammatical Change and Linguistic Theory: The Rosendal papers*, 79–113. Amsterdam: John Benjamins.
- Bies, Ann E. 1996. *Syntax and discourse factors in Early New High German: evidence for verb-final word order*: University of Pennsylvania dissertation.
- Birner, Betty J. 2006. Inferential relations and noncanonical word order. In Betty J. Birner & Gregory L. Ward (eds.), *Drawing the Boundaries of Meaning: Neo-Gricean studies in pragmatics and semantics in honor of Laurence R. Horn*, vol. Studies in language companion series 80, 31–51. Amsterdam: John Benjamins.
- Blom, Corrien. 2002. Word order in Middle Dutch: The interpretation of different types of data. In Hans Broekhuis & Paula Fikkert (eds.), *Linguistics in the netherlands*, vol. 19, 13–24. Amsterdam: John Benjamins.
- Booth, Hannah, Anne Breitbarth, Aaron Ecay & Melissa Farasyn. 2020. A Penn-style treebank of Middle Low German. In Nicoletta Calzonari et al (ed.), *Proceedings of the 12th Conference on Language Resources and Evaluation (LREC 2020)*, 766–775. Retrieved from <http://www.lrec-conf.org/proceedings/lrec2020/index.html>.
- Breitbarth, Anne. 2013. Indefinites, negation and Jespersen’s Cycle in the history of Low German. *Diachronica* 30. 171–201.
- Breitbarth, Anne. 2014. *The History of Low German Negation*. Oxford: Oxford University Press.
- Broekhuis, Hans. 2008. *Derivations and evaluations. Object shift in the Germanic languages*. Berlin: De Gruyter Mouton.
- Burridge, Kate. 1993. *Syntactic Change in Germanic. Aspects of language change in Germanic with particular reference to Middle Dutch*. Amsterdam: John

- Benjamins.
- Catasso, Nicholas, Marco Coniglio, Chiara De Bastiani & Eric Fuß. 2021. He then said...: (Understudied) deviations from V2 in early Germanic. *Journal of Historical Syntax* 5(17). 1–39.
- Coupé, Griet. 2015. *Syntactic extension. The historical development of Dutch verb clusters*: Radboud University dissertation.
- Coupé, Griet & Ans van Kemenade. 2009. Grammaticalization of the modals in English and Dutch: uncontingent change. In Paola Crisma & Giuseppe Longobardi (eds.), *Historical Syntax and Linguistic Theory*, 250–270. Oxford: Oxford University Press.
- Coussé, Evie. 2009. Focus, complexiteit en extrapositie. Over de veranderende woordvolgorde in het Nederlands. *Neerlandistiek.nl* 9(4). 1–32.
- De Bastiani, Chiara. 2019. *An interface based account for the grammaticalization of the VO word order in the history of English*: Università Ca' Foscari Venezia dissertation.
- Erickson, Jon. 1997. Some observations on word order in Old Saxon. In Christa Dürscheid, Karl Heinz Ramers & Monika Schwarz (eds.), *Sprache in Fokus*, 95–105. Tübingen: Max Niemeyer.
- Fischer, Olga, Ans van Kemenade, Willem Koopman & Wim van der Wurff. 2000. *The syntax of Early English*. Cambridge: Cambridge University Press.
- Fortmann, Christian & Werner Frey. 1997. Konzeptuelle Struktur und Grundabfolge der Argumente. In Franz-Josef d'Avis & Uli Lutz (eds.), *Zur Satzstruktur im Deutschen*, 143–170. Tübingen: University of Tübingen.
- Frey, Werner. 2004. A medial topic position for German. *Linguistische Berichte* 198. 153–190.
- Fuß, Eric. 2008. *Word order and language change. On the interplay between syntax and morphology*: Goethe-University Frankfurt dissertation.
- Gries, Stefan Th. 2015. The most under-used statistical method in corpus linguistics: multi-level (and mixed-effects) models. *Corpora* 10(1). 95–125.
- Haerberli, Eric & Liliane Haegeman. 1999. Negative concord and verb projection raising in Old English and West Flemish. In Ingrid Tieken-Boon van Ostade, Gunnel Tottie & Wim van der Wurff (eds.), *Negation in the History of English*, 101–120. Berlin: De Gruyter Mouton.
- Haegeman, Liliane. 1992. *Theory and description in generative syntax. A case study in West Flemish*. Cambridge: Cambridge University Press.
- Haegeman, Liliane & Henk van Riemsdijk. 1986. Verb projection raising, scope, and the typology of rules affecting verbs. *Linguistic Inquiry* 17. 417–466.
- Haider, Hubert. 2000. OV is more basic than VO. In Peter Svenonius (ed.), *The derivation of VO and VO*, 45–67. Amsterdam: John Benjamins.

- Haider, Hubert. 2005. How to turn German into Icelandic - and derive the OV-VO contrasts. *Journal of Comparative Germanic Linguistics* 8. 1–53.
- Haider, Hubert. 2010. *The syntax of German*. Cambridge: Cambridge University Press.
- Haider, Hubert. 2013. *Symmetry breaking in syntax*. Cambridge: Cambridge University Press.
- Harbert, Wayne. 2006. *The Germanic Languages*. Cambridge: Cambridge University Press.
- Hinterhölzl, Roland. 2015. An interface account of word-order variation in Old High German. In Theresa Biberauer & George Walkden (eds.), *Syntax over Time: Lexical, Morphological, and Information-Structural Interactions*, 299–317. Oxford: Oxford University Press.
- Jäger, Agnes. 2018. On the history of the IPP construction in German. In Agnes Jäger, Gisella Ferraresi & Helmut Weiß (eds.), *Clause structure and word order in the history of German*, 302–323. Oxford: Oxford University Press.
- Karttunen, Lauri. 1976. Discourse referents. In James D. McCawley (ed.), *Notes from the linguistic underground*, 363–385. New York: Academic Press.
- Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.
- Komen, Erwin. 2011a. *Cesax*. Nijmegen: Radboud University.
- Komen, Erwin. 2011b. *Corpusstudio*. Nijmegen: Radboud University.
- Komen, Erwin. 2013. *Finding focus: a study of the historical development of focus in English*: Radboud University Nijmegen dissertation.
- Koster, Jan. 2000. Extraposition as Parallel Construal. Ms. Reprint Edition.
- Kroch, Anthony S. & Ann Taylor. 2000. Verb-object order in early Middle English. In Susan Pintzuk, George Tsoulas & Anthony Warner (eds.), *Diachronic syntax: models and mechanisms*, 132–163. Oxford: Oxford University Press.
- Lenerz, Jürgen. 1977. *Zur Abfolge nominaler Satzglieder im Deutschen*. Tübingen: Narr.
- Lightfoot, David W. 1979. *Principles of diachronic syntax*. Cambridge: Cambridge University Press.
- Linde, Sonja. 2009. Aspects of word order and information structure in Old Saxon. In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information Structure and Language Change: New Approaches to Word Order Variation in Germanic*, 367–389. Berlin: Mouton de Gruyter.
- Meinunger, André. 2000. *Syntactic aspects of topic and comment*. Amsterdam: John Benjamins.
- Musan, Renate. 2002. Informationsstrukturelle Dimensionen im Deutschen. Zur Variation der Wortstellung. *Zeitschrift für Germanistische Linguistik*

- 30(2). 198–221.
- Mähl, Stefan. 2014. *Mehrgliedrige Verbalcomplexe im Mittelniederdeutschen. Ein Beitrag zu einer historischen Syntax des Deutschen*. Köln: Böhlau.
- Peters, Robert. 1973. Mittelniederdeutsche Sprache. In Jan Goossens (ed.), *Niederdeutsch. Sprache und Literatur: Eine Einführung*, vol. 1, Neumünster: Karl Wachholtz Verlag.
- Peters, Robert. 2003. Variation und Ausgleich in den Mittelniederdeutschen Schreibsprachen. In Michèle Goyens & Werner Verbeke (eds.), *The dawn of the written vernacular in Western Europe*, 427–440. Leuven: Leuven University Press.
- Petrova, Svetlana. 2009. Information structure and word order variation in the Old High German Tatian. In Roland Hinterhölzl & Svetlana Petrova (eds.), *Information Structure and Language Change: New Approaches to Word Order Variation in Germanic*, 251–279. Berlin: Mouton de Gruyter.
- Petrova, Svetlana. 2012a. The impact of focusing and defocusing on word order: Changes at the periphery in Old English and Old High German. In Terttu Nevalainen & Elizabeth Closs Traugott (eds.), *The Oxford Handbook of the History of English*, 846–858. Oxford: Oxford University Press.
- Petrova, Svetlana. 2012b. Multiple XP-fronting in Middle Low German root clauses. *Journal of Comparative Germanic Linguistics* 15(2). 157–188.
- Petrova, Svetlana. 2015. Free word order in Germanic: Insights from object order in Middle Low German. *Linguistische Berichte* 244. 355–382.
- Petrova, Svetlana & Augustin Speyer. 2011. Focus Movement and Focus Interpretation in Old English. *Lingua* 121(11). 1751–1795.
- Pintzuk, Susan. 1999. *Phrase structures in competition: Variation and change in Old English word order*. New York: Garland Publishing.
- Randall, Beth, Ann Taylor & Anthony S. Kroch. 2005. Corpussearch2. Computer program. <http://corpussearch.sourceforge.net/credits.html>.
- Rauch, Irmengard. 1992. *The Old Saxon language: grammar, epic narrative, linguistic interference*. New York: Peter Lang Publishing.
- Rauth, Phillip. 2021. Diachronic object scrambling in German ditransitives. Paper presented at 35th Comparative Germanic Syntax Workshop, University of Trento.
- Reis, Marga. 1987. Die Stellung der Verbargumente im Deutschen - Stilübungen zum Grammatik: Pragmatik-Verhältnis. In Inger Rosengren (ed.), *Sprache und Pragmatik. Lunder Symposium 1986*, 139–177. Stockholm: Almqvist & Wiksell International.
- ReN-Team. 2017. Referenzkorpus Mittelniederdeutsch/Niederrheinisch (1200-1650). Hamburger Zentrum für Sprachkorpora.
- Ries, John. 1880. *Die Stellung von Subject und Prädicatsverbum im Hêliand, nebst*

- einem Anhang metrischer Excuse*. Strassburg: Trübner.
- Sapp, Christopher. 2014. Extraposition in Middle and New High German. *Journal of Comparative Germanic Linguistics* 17. 129–156.
- Sapp, Christopher. 2016. Word Order Patterns in the Old High German Right Periphery and their Indo-European Origins. *Diachronica* 33(3). 367–411.
- Schlachter, Eva. 2012. *Syntax und Informationsstruktur im Althochdeutschen. Untersuchungen am Beispiel der Isidor-Gruppe*. Heidelberg: Winter.
- Somers, Katerina & Shannon Dubenion-Smith. 2014. The intersection between syntax and meter in the Old Saxon Heliand. *Amsterdamer Beiträge zur älteren Germanistik* 72(1). 83–134.
- Struckmeier, Volker. 2017. Against information structure heads: A relational analysis of German scrambling. *Glossa: a journal of general linguistics* 2(1). 1–29.
- Struik, Tara & Ans van Kemenade. 2020. On the givenness of OV word order: a (re)examination of OV/VO variation in Old English. *English Language and Linguistics* 24(1). 1–22.
- Struik, Tara & Ans van Kemenade. In press. Information structure and OV word order in Old and Middle English: a phase-based approach. *Journal of Comparative Germanic Linguistics*.
- Struik, Tara & Gert-Jan Schoenmakers. 2021. When information structure exploits syntax: The relation between the loss of VO and scrambling in Dutch. Ms. Radboud University.
- Taylor, Ann & Susan Pintzuk. 2012. Rethinking the OV/VO alternation in Old English: The effect of complexity, grammatical weight and information status. In Terttu Nevalainen & Elizabeth Closs (ed.), *The Oxford Handbook of the History of English*, 835–845. Oxford: Oxford University Press.
- Vikner, Sten. 2001. Verb movement variation in Germanic and Optimality Theory. Ms. Universität Tübingen.
- Wackernagel, Jacob. 1892. Über ein Gesetz der indogermanischen Wortstellung. *Indogermanische Forschungen Zeitschrift für indogermanische Sprach- und Altertumskunde* 1. 333–436.
- Walkden, George. 2014. Object position and Heavy NP Shift in Old Saxon and beyond. In Kristin Bech & Kristine Gunn Eide (eds.), *Information structure and syntactic change in Germanic and Romance languages*, 313–340. Amsterdam: John Benjamins.
- Walkden, George. 2015. The HeliPaD, version 0.9. <http://www.chlg.ac.uk/helipad/>.
- Walkden, George. 2016. The HeliPaD: a parsed corpus of Old Saxon. *International Journal of Corpus Linguistics* 21(4). 559–571.
- Wallenberg, Joel C. 2009. *Antisymmetry and the Conservation of C-Command*:

- Scrambling and Phrase Structure in Synchronic and Diachronic Perspective*. Philadelphia, Pennsylvania: University of Pennsylvania dissertation.
- Wallenberg, Joel C. 2015. Antisymmetry and Heavy NP Shift Across Germanic. In Theresa Biberauer & George Walkden (eds.), *Syntax Over Time: Lexical, Morphological, and Information-Structural Interactions*, 336–349. Oxford: Oxford University Press.
- Warner, Anthony. 1993. *English auxiliaries: structure and history*. Cambridge: Cambridge University Press.
- Weiß, Helmut. 2018. The Wackernagel complex and pronoun raising. In Agnes Jäger, Gisella Ferraresi & Helmut Weiß (eds.), *Clause structure and word order in the history of German*, 132–154. Oxford: Oxford University Press.
- Wurmbrand, Susi. 2006. Verb clusters, verb raising and restructuring. In Martin Everaert & Henk van Riemsdijk (eds.), *The Blackwell companion to syntax*, 229–343. Oxford: Blackwell.
- Zubin, David A. & Klaus-Michael Köpcke. 1985. Cognitive constraints on the order of subject and object in German. *Studies in Language* 9. 77–107.

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