

Chapter 6

VP word order variation and verbal clusters in Late Modern Swedish

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Some Germanic languages (e.g. German) have a VP structure where multiple verbs behave as an inseparable unit, i.e. a verbal cluster, and some (e.g. English) do not. This seems to be at least partially connected to OV versus VO word order. In this article, I use the Basic Branching Constraint (e.g. Haider 2013) and Late Modern Swedish data to argue that clustering is universal if a main verb (V) precedes an auxiliary (Aux), but a language-specific property at most if Aux precedes V. VP word order in the history of Swedish indicates that there is no immediate connection between OV and clustering; on the contrary, as OV disappeared, evidence for cluster breaking clearly dropped in frequency.

Keywords: verbal clusters, OV word order, word order variation, Late Modern Swedish, the Basic Branching Constraint

1 Introduction

Varieties within the Germanic language family differ with regard to the possibility of having intervening syntactic material between two verbs. As shown in (1a), English rather freely accepts adverbials surfacing between two verbs, while in German (see 1b), intervening constituents are ruled out.¹ The difference seems to be connected to the linear order of verbs and objects. According to Haider (2010: 17–19, 33–35, 287–293), verbs in an OV language (e.g. German) form unbreakable verbal clusters that do not allow intervening material, while clustering is not an option in VO languages (e.g. English).

¹Throughout the article, relevant verbs in the language examples are put in italics.



- (1) a. English
The new law certainly *may possibly have indeed been* badly
formulated
- b. German
dass das neue Gesetz wohl wirklich schlecht *formuliert*(*)
that the new law possibly indeed badly *formulated*
worden(*) *sein*(*) *mag*
been be may
'that presumably the new law indeed may have been badly
formulated' (from Haider 2010: 17)

Present-day Swedish is a VO language, so we expect its grammar to allow intervening constituents. Older Swedish, however, did not show a strict linear order for verbs and objects. It is then reasonable to expect the possibility of intervening constituents to be more constrained in older Swedish than in its present-day counterpart.

The literature on cluster-related word order in Swedish is sparse, but we do find some rather surprising claims. Both Falk (1993: 171–172) and Petzell (2011: 157) state that older Swedish allowed constituents to surface between VP-internal verbs, but that this is no longer possible in present-day Swedish. It is also striking that we simultaneously find evidence for OV and for non-clustering in older Swedish. See the examples in (2a–b), where the object intervenes between two verbs; (2a) is from the 14th century, and (2b) from the 17th century.²

- (2) a. at enghin skal *gita* tik *lækt*
that nobody shall be.able you healed
'that nobody will be able to heal you' (MB1B, OS, p. 331)
- b. som iag af honom *ha'r* många vackre meddelningar *ehrhållit*
as I from him have many beautiful messages obtained
'as I've received many beautiful messages from him' (Columbus, EMS,
p. 26)

Examples like these indicate that the correlation between OV–VO word order and verbal clusters is not as straightforward as Haider (2010) suggests. In this article, I investigate the evidence for non-clustering in the history of Swedish by

²Throughout the article, I use abbreviations (listed in the Appendix) to refer to older Swedish texts. When referring to texts from the corpus of Swedish drama dialogue (see §4.1), a combination of numbers and letters is used. First symbol = period; second symbol = drama; third symbol = act; fourth and fifth symbol = scene.

looking at cases where an arbitrary constituent intervenes between an auxiliary and a main verb. My main focus is on the period when OV word order finally disappeared, Late Modern Swedish. Given Haider's (2010) assumptions, we expect to find growing evidence for non-clustering as OV becomes less frequent, but as we will see, this is not really the case.

Behind Haider's (2010) proposal of a connection between verbal clusters and OV word order lies an even bigger idea: that all human grammars only contain right-branching structures. This is called the *Basic Branching Constraint* (Haider 2010, 2013), or the BBC for short. The implications of the BBC and the meaning of right-branching will be explained and illustrated below. This article seeks to demonstrate, in light of the BBC, how VP word order variation in Late Modern Swedish – compared to other periods in Swedish language history and Germanic languages in general – may be of interest for a general theory of phrase structure in human languages.

This article is organized as follows: In §2, I introduce the Basic Branching Constraint and compare it to another proposed restriction on phrase structure in human languages, the *Final-over-Final Condition* (Biberauer et al. 2014, Sheehan et al. 2017). §3 provides some background to clause structure and VP word order in Swedish and other Germanic languages. In §4, I present an empirical investigation of VP word order in Late Modern Swedish, and briefly compare the findings to data from earlier periods. In §5, the Swedish data is put in a comparative perspective and interpreted in the light of the Basic Branching Constraint. §6 summarizes the findings.

2 Verbal clusters and the Basic Branching Constraint

Clustering verbs is a particular way of structuring a VP. If verbs form a cluster, they are considered a syntactic constituent that includes multiple verbal heads, which roughly corresponds to the structure $[_{VP} V^{\circ} V^{\circ}]$. This is in contrast to an auxiliary taking a VP as its complement, which creates embedded VPs. It is important to note that while verbal clusters exclude intervening material, the converse does not hold: the fact that two verbs are adjacent does not necessarily mean that they form a cluster (see e.g. Sheehan 2017: 101).³

Verbal clusters are an important concept for understanding how the Basic Branching Constraint can explain limits on word order variation in languages

³Thus, a cluster analysis is in some sense unverifiable, due to the lack of positive evidence. It is certainly falsifiable, however, since the analysis straightforwardly predicts that no non-verbal material should intervene between verbs that form a cluster.

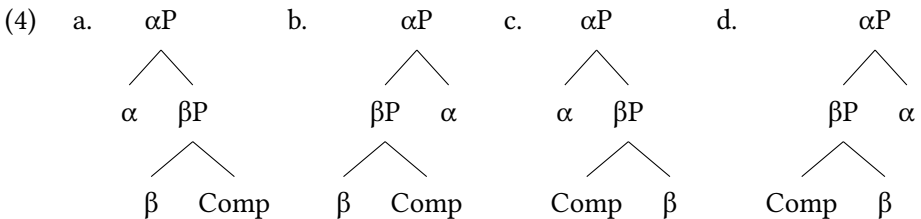
of the world, as we are about to see. I begin this section by introducing the BBC and some of its implications (§2.1). In §2.2, I discuss whether or not verbal clusters (or what appear to be verbal clusters) can be seen as a side effect of the Final-over-Final Condition.

2.1 The Basic Branching Constraint

A version of the Basic Branching Constraint first saw the light of day in Haider (1992). More recently, Haider (2013: 3) defines the BBC as in (3) below (emphasis in the original):

- (3) The Basic Branching Constraint (BBC)
 The structural build-up (*merger*) of phrases (and their functional extensions) is universally *right branching*

The key to understanding the BBC, as stated above, is the concept of *right-branching*. A structure is right-branching if merger of phrases occurs to the left, i.e. if a phrase that enters the structure precedes the already existing structure (see Haider 2013: 3–4). The order of a lexical head (e.g. V° , N°) and a complement is not subject to this restriction, but both head-complement and complement-head order are possible. To illustrate this, let us assume that α is a (non-lexical) head in the phrase αP , taking βP as its complement. βP consists of a (lexical) head β and a complement. In (4a), α is merged to the left of a head-initial βP , which leads to a right-branching structure. In (4b), α is merged to the right of a head-initial βP , which leads to a left-branching structure. (4c–d) show that the same applies if βP is head-final, with Comp- β word order instead of β -Comp.



Given the BBC and the structures in (4a–d), we are not far from seeing why verbs in an OV language like German must form verbal clusters. Let us first state that an auxiliary Aux corresponds to α in (4), and a main verb V corresponds to β , provided that auxiliaries are functional extensions of a lexical VP (see Haider 2013: 68–73). This means that the German word order V-Aux cannot instantiate

an auxiliary that takes a VP as its complement, according to the BBC; this would correspond to a left-branching structure (see 4b, 4d). Instead, V and Aux adjoin to each other and form a verbal cluster.

An immediate consequence of a cluster structure is that no syntactic material should be able to intervene between two verbs if both remain in a non-derived position. This is true for German. Usually, verbal complements and adjuncts precede all verbs. If a constituent is extraposed, as PPs can be, for example, they must follow both the main verb and auxiliaries. This is shown in (5a–b). As seen in (5b), the PP cannot be placed between V and Aux.

(5) German

- a. dass er nicht *gesprochen haben kann* mit ihr
 that he not spoken have can with her
 ‘that he cannot have spoken with her’
- b. *dass er nicht *gesprochen* mit ihr *haben kann*
 that he not spoken with her have can (Haider 2010: 18)

This leads Haider (2003, 2010: 17–18, 335–343, 2013: 90–93, 132–135) to assume that a VP in an OV language is usually structured as in (6a), where X can be a complement or an adjunct to the verb. The word order X-V-Aux is not an example of an auxiliary taking a VP complement to its left, but of X being in a left-hand sister position to the cluster. The analysis is also extended to OV languages where Aux can precede V, with X-Aux-V as the VP-internal word order, like Dutch (see Haider 2010: 341–343, 2013: 133). The only difference between (6a) and (6b) is the cluster-internal ordering of V and Aux.

- (6) a. [_{VP} X [_{V°} V+Aux]] X-V-Aux – V and Aux form a verbal cluster
 b. [_{VP} X [_{V°} Aux+V]] X-Aux-V – Aux and V form a verbal cluster

Haider’s position raises at least two types of questions. First, we must ask to what extent there is empirical evidence for a one-to-one correlation between OV word order and verbal clusters in the languages of the world. This question will be discussed throughout the article, mostly with reference to older Swedish and the other Germanic languages, but also including some typological observations in §5.

Secondly, we should clarify what the BBC requires when it comes to verbal clusters, and what might be unexpected given Haider’s (2010, 2013) analysis, but not necessarily impossible. In this case, it is obvious that the word orders V-X-Aux and Aux-X-V have different status. V-X-Aux is an inherently left-branching

structure if V and X are inside a complement to Aux. The word order Aux-X-V would typically correspond to a right-branching, BBC-compatible structure, since the extended verbal projection has its complement to the right. This important difference is shown in (7a–b).

- (7) a. $[[VP_1 [VP_2 V X]] Aux]$ Left-branching
b. $[VP_1 Aux [VP_2 X V]]$ Right-branching

To sum up, the BBC excludes the right-branching structure $[[V X] Aux]$ and forces a cluster analysis if a main verb precedes an auxiliary. V-Aux is certainly associated with OV word order, since both are examples of head finality, but in the light of the BBC, it is the V-Aux word order itself that necessitates the verbal cluster. Aux-V, on the other hand, is associated with VO word order, but regardless of the order of verb and object, a cluster analysis is not a structural necessity.

2.2 A note on the BBC and the FOFC

The BBC is a hypothesis which makes clear and falsifiable predictions about syntactic structure in human languages (see Haider 2013). If correct, it is part of universal grammar. Despite its merits, the BBC does not seem to have been extensively investigated by anyone but Haider himself. A possible reason for this is that there is another, arguably more well-known, proposal about phrase structure configurations in human languages, which makes several predictions overlapping those of the BBC, namely the *Final-over-Final Condition* (FOFC), first introduced by Holmberg (2000).

Biberauer et al. (2014: 171) informally state the FOFC as in (8):

- (8) The Final-over-Final Condition (FOFC)
A head-final phrase αP cannot immediately dominate a head-initial phrase βP , where α and β are heads in the same extended projection.

To illustrate the implications of the FOFC, let us repeat the phrase structure configurations in (4a–d) above; see (9a–d). In (9a), the head-initial phrase αP dominates the head-initial phrase βP , a configuration accepted by the FOFC. In (9b), the head-initial βP is dominated by a head-final αP ; this is the Final-over-Initial structure that the FOFC is formulated to exclude from human grammars. The structures in (9c–d) are not excluded, since a head-initial phrase can dominate a head-final phrase (9c), and a head-final phrase can dominate another head-final phrase (9d).

- | | | | |
|-----|----|---|----------------------|
| (9) | a. | $[\alpha_P \alpha [\beta_P \beta \text{Comp}]]$ | Initial-over-Initial |
| | b. | * $[\alpha_P [\beta_P \beta \text{Comp}] \alpha]$ | *Final-over-Initial |
| | c. | $[\alpha_P \alpha [\beta_P \text{Comp} \beta]]$ | Initial-over-Final |
| | d. | $[\alpha_P [\beta_P \text{Comp} \beta] \alpha]$ | Final-over-Final |

Like the BBC, the FOFC excludes V-X-Aux, given that V is β , X is Comp, and α is Aux. The difference primarily concerns what could be a possible structure for the word order X-V-Aux. The FOFC does not exclude the left-branching/Final-over-Final structure in (9d), but the BBC does. Consequently, the FOFC does not force a cluster analysis of V-Aux (i.e. [X [V+Aux]]), and the adjacency requirement of V and Aux becomes more of an epiphenomenon. Haider (2013: 132–133) claims that the BBC is empirically superior to the FOFC, when it comes to predicting possible word orders with verbs and complements/adjuncts in Germanic languages. According to Haider (2013: 133), the FOFC predicts the existence of the structure in (10), where an adjunct but not a complement may intervene between V and Aux.

- (10) $[\text{VP}_1 [\text{VP}_2 \text{Comp V Adjunct}] \text{Aux}]$

That the FOFC would tolerate the structure in (10) could be true, but only if the constraint is formulated exclusively with regard to complementation and not adjunction. It is certainly true that proponents of the FOFC have focused on the former rather than the latter (Sheehan 2017: 97), but Sheehan (2017) explicitly suggests that the FOFC is a constraint that involves both types of merger. Thus, if the FOFC is formulated with respect to both complementation and adjunction, the FOFC and the BBC make identical empirical predictions regarding possible orders of V, Aux, and X.

Despite overlapping empirical predictions, I consider the BBC to be a more straightforward constraint than the FOFC for deriving the limitations of VP word order in Germanic languages.⁴ My reasoning goes as follows: The ban on V-X-Aux follows directly from the properties of the BBC as a universal constraint on phrase structure configurations. The same cannot be said of the FOFC. Rather, the FOFC is an independently formulated constraint that needs to be interpreted within a more general model of phrase structure (see Haider 2013: 132–135, Biberauer et al. 2014: 205–215). In Biberauer et al. (2014), the FOFC is implemented

⁴This is not to say that the BBC and the FOFC generally make identical predictions, despite a significant overlap. For an overview of the various cross-linguistic implications of the BBC and the FOFC, see Haider (2013: 10–17, 65–94) and Biberauer et al. (2014: 173–205), respectively.

within Kayne's (1994) *Linear Correspondence Axiom*.⁵ Since the LCA postulates that all phrases in all languages have an underlying Spec-Head-Comp structure, the FOFC becomes a restriction on movement within a model that could easily derive the V-X-Aux word order. What the BBC handles in one step, the FOFC handles in two. For the FOFC to be justified as an independent constraint, it needs to be shown why it is more empirically adequate than the BBC, and not just equally adequate.

3 Clause structure and VP word order variation in Germanic languages

In this section, I provide some background to clause structure and VP word order variation in the Germanic languages. This description serves two purposes. First, it gives a basic empirical introduction to the subject of the article. Secondly, it clarifies in what syntactic environments we should look when trying to discriminate between possible verbal clusters and multiple embedded VPs. §3.1 deals with the basic clause structure in the Germanic language family, §3.2 with VP word order in Swedish, and §3.3 with VP word order in the West Germanic OV languages. In §3.4, I give an intermediate summary before the empirical investigation of VP word order in Late Modern Swedish.

3.1 Clause structure in Germanic languages

A basic property of Germanic clause structure, shared by all varieties except English, is the requirement for V2 word order. In a declarative main clause, the finite verb must be spelled out as the second constituent. Since den Besten (1983), the standard generative analysis of V2 has been that a finite verb moves from its base position in V° to the head of the highest functional projection of the clause: C° . The first constituent of the clause is found in spec-CP, and this position can be occupied by several phrasal types (e.g. NP, PP, AP, AdvP, or VP) with different syntactic functions. In (11a–b), the V2 property is exemplified with parallel present-day Swedish and German sentences.

- | | | |
|------|----------------------------|-------------------------------------|
| (11) | a. Present-day Swedish | b. German |
| | Igår brann huset. | Gestern brannte das Haus. |
| | Yesterday burned house.DEF | Yesterday burned the house |
| | | ‘Yesterday, the house was on fire.’ |

⁵For other implementations of the FOFC, see the overview in Holmberg (2017).

Verb movement to C° is confined to finite verbs in main clauses and a restricted set of (finite) embedded clauses, while other verbs seem to stay in V°. For Swedish, this can be shown by negating a clause, assuming that negation must be (externally) merged above the base position of all verbs (see e.g. Zeijlstra 2013). As seen in (12a–b), a negation precedes the non-finite verb in a main clause, and the finite verb in an embedded clause.

(12) Present-day Swedish

- | | |
|---|---|
| <p>a. Du får inte läsa boken.
 You may not read book.DEF
 ‘You may not read the book.’
 [CP Du får_v inte [VP t_v läsa
 boken]]</p> | <p>b. om du inte läser boken
 if you not read book.DEF
 ‘if you don’t read the book’
 [CP om du inte [VP läser
 boken]]</p> |
|---|---|

The placement of negation and similar sentence adverbials can always be used to determine the position of a verb in present-day Swedish, since they must precede V°. Other adjuncts (e.g. adverbials of time, manner and place) optionally precede a verb, while complements are strictly post-verbal (disregarding well-established instances of leftward movement, like topicalization). In the OV language German, other categories than sentence adverbials can be used as a diagnostic tool to decide whether a verb is in C° or in V°, including objects. As seen in (13a–b), objects precede non-finite verbs in main clauses and finite verbs in embedded clauses.⁶

(13) German

- | | |
|--|--|
| <p>a. Du kannst das Buch lesen.
 You may the book read
 ‘You may read the book.’
 [CP Du kannst_v [VP das Buch lesen t_v]]</p> | <p>b. wenn du das Buch liest
 if you the book read
 [CP wenn du [VP das Buch liest]]
 ‘if you read the book’</p> |
|--|--|

⁶The properties of Swedish are representative of present-day North Germanic languages, and the properties of German are representative of continental West Germanic languages, but two notable exceptions should be mentioned. Icelandic requires a finite verb to move in embedded clauses as well, to a functional projection between VP and CP (IP/AgrP/TP). Yiddish also displays movement in embedded clauses, and is a West Germanic language with both OV and VO word order. For further information and discussion, see e.g. Vikner (2001: 3–18).

An immediate consequence of Germanic V-to-C movement is that we cannot use main clauses with only a finite auxiliary to study the existence of verbal clusters. In the Swedish example in (14a), we cannot know whether the auxiliary has moved from a position to the left or the right of the adverb, if both possibilities can be shown to exist. The ambiguity is illustrated in (14b).

(14) Present-day Swedish

- a. Huvudvärk kan snabbt försvinna.
Headache can quickly disappear
'A headache can quickly disappear.'
- b. [_{CP} Huvudvärk kan_v [_{VP} snabbt t_v försvinna]]
[_{CP} Huvudvärk kan_v [_{VP} t_v snabbt försvinna]]

To study VP-internal word order variation in the Germanic V2 languages, we must turn to environments where an auxiliary is realized VP-internally. Roughly, this means clauses with at least one non-finite auxiliary, or embedded clauses with a finite auxiliary (if we regard auxiliaries as part of (the extended) VP, as I do throughout the article; see §2.1).⁷ In the remaining parts of §3, I turn to these syntactic environments.

3.2 VP word order in Swedish

As mentioned in the introduction, not much has been said about the grammaticality of adverbials intervening between an auxiliary and a main verb in present-day Swedish. Petzell (2011: 157) has claimed, however, that the sentence in (15a), where an adverbial PP intervenes between VP-internal verbs, is ungrammatical. (15b) is fine, on the other hand, with the adverbial preceding both verbs.⁸

⁷I will not discuss the possibility that embedded clauses in West Germanic are instances of I°-final structures. For conceptual criticism and empirical evidence against such a view, see Haider (2010: 54–68).

⁸It is actually noteworthy that, as shown in example (15b), pre-verbal adjunct PPs are acceptable in present-day Swedish, and not only pre-verbal adverbs/adverbial phrases. There are claims in the literature that a head of an adjunct modifying a head-initial phrase must be (linearly) phrase-final, if the adjunct precedes the head of the phrase it modifies (see e.g. Haider (forthcoming) for recent discussion). This would exclude the word order PP-V if the VP is head-initial, as are present-day Swedish VPs. The restriction does seem to hold, however, for attributive adjectives modifying a noun; see (i).

- (i) * En snabbare än dig person (Present-day Swedish)
a faster than you person
Intended reading: 'a faster person than you'

(15) Present-day Swedish⁹

- a. * att han inte hade under eftermiddagen cyklat två mil
 that he not had during afternoon.DEF bicycled two miles
 ‘that he hadn’t bicycled two (Swedish) miles during the afternoon’
- b. att han under eftermiddagen hade cyklat två mil
 that he during afternoon.DEF had bicycled two miles

The ungrammaticality of the word order in (15a) is not, however, as straightforward as Petzell (2011) would have it. Telemann et al. (1999/3: 488) note that an adverbial of manner can separate two VP-internal verbs; the examples in (16a–b) illustrate this possibility.

(16) Present-day Swedish

- a. [d]e som inte har medvetet upplevat 1930- och
 those that not have consciously experienced 1930- and
 1940-talen
 1940-number.PL.DEF
 ‘those who haven’t consciously experienced the 1930s and the 1940s’
- b. genom att låta kritiskt granska förslagen
 by to let critically examine proposal.PL.DEF
 ‘by letting the proposals be critically examined’ (Telemann et al. 1999/3: 488)

Thus, Aux-X-V, where X is an adverbial, seems to be an option in present-day Swedish, at least marginally and for some speakers. This conforms with my intuition as a native speaker of (Central) Swedish: Aux-X-V is a possible but sometimes not entirely natural word order. At the same time, it is clear that not much is known about possible restrictions on the word order. A detailed study of Aux-X-V is beyond the scope of this article, but in §4.3, I make some more observations regarding the word order in present-day Swedish.

It is not difficult to confirm that Aux-X-V exists in older Swedish. The examples in (17a–d), all from texts written around 1500, indicate that Aux-X-V is possible for adjuncts (17a–b) – adverbs as well as PPs – for NP objects (17c) and for PP complements (17d). Their existence has been noted by Falk (1993: 171–172), for

⁹The judgement of the sentence in (15a) reflects Petzell’s (2011) view and not my own. Personally, I find this sentence acceptable, albeit a bit awkward. In contrast to Petzell (2011: 157), I have added a negation between the subject and the finite verb to disambiguate from embedded V-to-C (see further §4.1).

example, but I know of no investigation that focuses on the distribution of Aux-X-V in older Swedish.

(17) Old Swedish

- a. Thiänaren sagdhe sik thz *haffwa* offta *giort*
Servant.DEF said REFL it have often done
'The servant said that he had often done it' (LinLeg, p. 306)
- b. at han skulde *haffwa* i thino farahws *giort* skada
that he should have in your sheep.house done harm
'that he should have done harm in your sheep house' (SpecV, p. 486)
- c. at wij skuldom *haffua* priis *fongit*
that we should have price got
'that we should have got a price' (Di, p. 200)
- d. at wi skullom *haffwa* om jomfrunnar *taladh*
that we should have about virgin.PL.DEF spoken
'that we should have spoken about the virgins' (SpecV, p. 334)

In other words, the possibility for non-verbal material to intervene between verbs seems to have been quite unrestricted in older Swedish. One might suspect that this would mean that we might also find examples of the V-X-Aux word order, contrary to what the BBC predicts. To the best of my knowledge, though, no one has ever made such a claim. Petzell (2011: 155, 158–160), who studies different types of OV word order in older Swedish, notes that out of four possible combinations of an auxiliary, a main verb, and an argument (including NP objects and predicatives), with the argument preceding at least one of the verbs, only three can be found: Arg-Aux-V, Aux-Arg-V and Arg-V-Aux, but not V-Arg-Aux. He does not specify whether or not this restriction holds for adjuncts as well as for arguments, but as we will see in §4, this is likely to be the case.

3.3 VP word order in West Germanic languages

As already shown in §§1 and 2, German does not accept constituents between a main verb and an auxiliary if the verbs remain in VP. The same restriction seems to apply to Dutch (Haider 2010: 290–291, see also Wurmbrand 2004). As shown in (18a–b), a constituent cannot intervene between an auxiliary and a main verb (18a), or between two VP-internal auxiliaries (18b). Importantly, this is true regardless of the number and order of verbal elements. Both examples have Aux-V word order, and in (18b) the selecting auxiliary precedes the selected one.

(18) Dutch

- a. * dat hij graag *wilde* kraanvogels *fotograferen*
 that he gladly wanted cranes photograph
 Intended reading: ‘that he gladly wanted to photograph cranes’
- b. * dat hij *zal* naar huis *willen gaan*
 that he will to home want go
 Intended reading: ‘that he’ll want to go home’ (from Haider 2010: 291)

There are nevertheless combinations of three verbs in standard German that show that this restriction is not as clear-cut as the Dutch data might suggest. In what are known as IPP constructions,¹⁰ the unmarked order is not V-Aux2-Aux1, as is usually the case, but Aux1-V-Aux2.¹¹ Here, constituents can be placed between the finite auxiliary and the two non-finite verbs, as seen in (19). In (19a), an object and a PP are found between the auxiliaries, and (19b) has an adverb in the corresponding position. Thus, if a VP-internal auxiliary takes a VP complement on its right-hand side, the adjacency requirement of VP-internal verbs disappears (see Sheehan 2017: 97–102, see also Haider 2003, 2013: 132–135).

(19) German

- a. dass er für ihn nicht *hatte* die Firma am Leben *halten*
 that he for him not have.PST the company at.DEF life keep.INF
wollen
 want.INF
 ‘that he had not wanted to keep the company alive for him’ (from Haider 2013, 128)
- b. dass er das Buch *hätte* genau *durchsehen* *sollen*
 that he the book have.PST carefully through.seen.INF shall.INF
 ‘that he should have looked through the book carefully’ (from Sheehan 2017: 101)

Furthermore, dialects of both German and Dutch show that verbal complexes with two VP-internal verbs can indeed have intervening constituents, if the auxiliary precedes the main verb (see e.g. Sapp 2011: 124–129). This is illustrated in

¹⁰IPP = *Infinitivus Pro Participio* (infinitival instead of participle) – an auxiliary *haben* taking another auxiliary in infinitival form instead of a participle (see e.g. Wurmbrand 2004: 46–48).

¹¹As is common practice, Aux1 denotes the highest auxiliary, which has all other verbs inside its complement; Aux2 denotes the second highest, and so on. For further discussion and information on the relative order of verbs in different West Germanic varieties, see e.g. Wurmbrand (2004), Sapp (2011), Culicover (2014).

(20a–c), with objects intervening between the verbs. (20a) is representative of the German spoken, for example, in Vienna (Haider 2013: 128), (20b) is Swiss German, and (20c) West Flemish.

- (20) a. Dialectal German
Man hätte *müssen* die Polizei *verständigen*
One have.PST must.INF the police call.INF
'People were forced to call the police' (from Haider 2013: 128)
- b. Swiss German
das si am Grendel *wöt* sine verlore chause *zruggeh*
that she to.DEF Grendel wanted his lost claw return
'that she wanted to return his lost claw to Grendel' (from Haider 2013: 128)
- c. West Flemish
da Jan vuor Marie *wil* da boek *kuopen*
that Jan for Marie wants that book buy
'that Jan wants to buy the book for Marie' (from Haegeman 1992: 181)

To conclude, West Germanic OV languages conform to what has already been indicated for older Swedish. Verbs must be adjacent if a verb that is selected by another verb precedes the selecting verb. Typically, though not exclusively, this applies to a main verb selected by an auxiliary. Even though standard Dutch is also in line with this generalization, it is something of an exception; intervening material with either V-Aux or Aux-V word order is not accepted.

3.4 Intermediate summary

It has now been established that Aux-X-V is a possible word order in several Germanic varieties, with both OV and VO clause structure. If we disregard word orders where X is preceded by both Aux and V, then Aux-X-V seems to be in competition with X-Aux-V and X-V-Aux. The word order V-X-Aux does not exist in West Germanic varieties and possibly not in older Swedish either. However, not much is known about the diachronic development of Aux-X-V in older Swedish. This is the focus of the upcoming section. As mentioned, I focus on Late Modern Swedish, i.e. the time when OV word order finally disappeared from older Swedish texts (see Platzack 1983, Petzell 2011, Sangfelt 2019). The development leading up to Late Modern Swedish is nevertheless of interest, and I therefore make some observations about Early Modern Swedish, using data from Sangfelt (2019).

4 The development of Aux-X-V word order in the history of Swedish

In this section, I analyse the development of Aux-X-V word order in the history of Swedish. I begin by presenting the data sources and discussing how Aux-X-V should be more narrowly defined (§4.1). I then present the development of Aux-X-V in Late Modern Swedish (§4.2) and go on to look at Early Modern and present-day Swedish (§4.3). In §4.4, I summarize and discuss the findings.

4.1 Defining the Aux-X-V word order in Late Modern Swedish data sources

To study the diachronic development of Aux-X-V word order, I use the corpus of Swedish drama dialogue (see Melander Marttala & Strömquist 2001 for a description of the corpus). The drama corpus is a suitable source of data with regard to the aim of this article for at least two reasons. First, the corpus contains language use from a genre that should reflect relatively closely the spoken language in Central Sweden during the 18th and 19th centuries. As the name indicates, the texts mostly consist of dialogue. Extensive use of archaic and/or formulaic patterns, not representative of the grammar of the time, is therefore not expected (see e.g. Fischer 2007: 12–14).

Secondly, the corpus is well suited to diachronic research, because it is divided into six periods of 25 years each. The first three periods each contain five dramas, derived from texts written during the years 1725–1750, 1775–1800, and 1825–1850. The corpus is digitized but not syntactically annotated, and the extraction has therefore been carried out manually.

The investigation aims to study the frequency and development of Aux-X-V, i.e. cases where an arbitrary constituent intervenes between a VP-internal auxiliary and a main verb. We therefore need to know what verbs count as auxiliaries, how we can determine that an auxiliary has not left its VP-internal position, and how we can estimate the frequency of the word order. With respect to what verbs are included among the auxiliaries, I follow Delsing (1999: 162–163). This implies that the category “auxiliary” is lexically specified, and includes the verbs in (21).¹²

¹²The decision to follow Delsing (1999) could be questioned, since his reasoning is empirically grounded on Old Swedish and Early Modern Swedish data. However, relevant examples with other potential auxiliaries, like *behöva* ‘need’ and *börja* ‘start’, are very scarce in the corpus. Hence, the decision only has minor effects on the quantitative results. It should also be noted that Delsing (1999) includes the verbs *gita* ‘be able to’, *äggha* ‘be obliged to’, *mona* ‘intend to, be going to’, and *pläggha* ‘tend to’, but these verbs are not used as auxiliaries in Late Modern Swedish.

- (21) *hava* ‘have’, *kunna* ‘can, be able to’, *vilja* ‘want’, *skola* ‘shall, be going to’,
få ‘may, get’, *magha* ‘may, be able to’, *måste* ‘must, have to’

The question of when an auxiliary has not left its VP-internal position has already been given a partial answer in §3.1. As stated there, main clauses with only a finite auxiliary are of no interest, since the auxiliary has moved to C°. If, however, a main clause also contains a non-finite auxiliary, we will be able to determine whether or not a non-verbal constituent is situated above or below the base position of the said auxiliary. Thus, in (22a), it is clear that the position of the PP adverbial *på skämt* (‘as a joke’) between the auxiliary and the main verb is not due to verb movement. Similarly, in (22b), the adverb *omöjeligen* (‘impossibly’) is unambiguously in a position above the base position of the non-finite auxiliary.

- (22) a. Herr Magistern måtte *vilja* på skämt *försöka* mig
Mr. teacher.DEF must want on joke examine me
‘Mr. teacher must want to examine me as a joke’ (2D108)
- b. Jag skulle omöjeligen *kunna* *inbilla* mig det
I would impossibly be.able imagine REFL it
‘I couldn’t possibly imagine that’ (1A503)

The assumption that non-finite auxiliaries remain in situ in main clauses can be extended to all types of clauses, finite as well as non-finite. It should be noted that the movement of non-finite verbs to a functional head is not universally prohibited. In Icelandic, for example, the highest non-finite verb precedes a clausal negation in control infinitives with the infinitive marker *að* (Thráinsson 2007: 417–421) (see 23a), indicating verb movement to a functional position. A few examples of this type of word order can in fact be found in Old Swedish texts from the 13th and 14th centuries, but it seems to have disappeared long before the Late Modern Swedish period (see Delsing 1999: 161, Falk 2010, Kalm 2016: 141). Consequently, I assume that the position of the adverbial *så lätt* (‘so easily’) in (23b) is not due to movement of the auxiliary. The same assumption applies to control infinitives without an infinitive marker and to ECM infinitives.

- (23) a. Icelandic
María lofaði að lesa ekki bókina
Mary promised to read not book.DEF
‘Mary promised not to read the book’ (from Thráinsson 2007: 421)

- b. Rosorna på hennes kinder äro för friska, för att kunna så lätt
 Rose.PL.DEF on her cheeks are too healthy for to be.able so easily
förblekna
 pale
 ‘The roses on her cheeks are too sweet to be able to pale so easily’
 (3C707)

A rather delicate question that remains is how to handle embedded clauses with a finite auxiliary and a non-finite main verb. As stated in §3, a finite verb typically stays in V° in embedded environments in present-day Swedish. This means that today, an embedded clause with a constituent between a finite auxiliary and a non-finite main verb is a candidate for a proper instance of Aux-X-V word order.

The situation in older Swedish is different, however. Old Swedish embedded clauses are usually assumed to display obligatory movement of a finite verb to a functional projection above VP but below CP, here called IP. This is indicated by the fact that a finite verb tends to precede a negation in all types of embedded clauses (see Platzack 1988, Falk 1993, Håkansson 2013). This sort of verb movement was, however, lost during the history of Swedish. According to Platzack (1988), the last instances of V-to-I movement are found in the first half of the 17th century (see also Falk 1993: 174–177). If this is correct, V-to-I should not affect the relative position of an auxiliary and a non-verbal constituent in my data sources.

Determining when V-to-I takes place is sometimes difficult, since finite verbs preceding negation could be the result of so-called embedded V-to-C (or embedded V2). In present-day Swedish, such main clause word order is grammatical in embedded but assertion-friendly environments, and typically appears in an embedded clause introduced by the complementizer *att* (‘that’) (see e.g. Petersson 2014).¹³ The question of what types of clauses allowed embedded V-to-C in older Swedish has not been fully investigated (but see Falk 1993: 168–177).¹⁴ It is thus impossible to distinguish between V-to-I, embedded V-to-C, and Aux-X-V in a large number of embedded clauses with a finite auxiliary and a non-finite main verb in the history of Swedish. This includes Late Modern Swedish, at least to some extent.

¹³Gärtner (2016: 4) characterizes an environment as assertion-friendly when the content “counts as something the speaker commits to and as meant to enrich the common ground”.

¹⁴We should not assume a priori that embedded V-to-C has the same characteristics in present-day and older Swedish; there are North Germanic languages, for example Icelandic and Faroese, that seem to show less restrictive V-to-C, as pointed out by e.g. Gärtner (2016).

To bypass this problem, I have excluded embedded clauses with a finite auxiliary and a non-finite main verb if the finite auxiliary is the first constituent after the subject of the embedded clause. The embedded clause in (24a) is therefore seen as ambiguous between embedded V-to-C (or, less likely, V-to-I) and Aux-X-V proper. By contrast, the embedded clause in (24b) is not ambiguous, since a constituent in addition to the subject precedes the finite auxiliary, indicating that verb movement has not taken place.

- (24) a. Tänk om gamla Gref Hurtig ... *skulle* nu *komma* ur sin graf
Think if old count Hurtig would now come out his grave
'What if old count Hurtig were now to step out of his grave' (1B103)
- b. at I intet *skolen* et ögnablick *wara* ifrån henne
that you not shall a moment be from her
'that you won't be away from her for a single moment' (1A307)

To sum up, Aux-X-V word order includes (i) clauses where a constituent is placed between a non-finite auxiliary and a non-finite main verb, and (ii) embedded clauses where a constituent is placed between a finite auxiliary and a non-finite main verb if the auxiliary is preceded by a constituent that indicates that verb movement has not taken place.

The last thing to be settled is how to estimate the frequency of Aux-X-V. There are of course several possible options regarding how to do this. The one I have chosen, and arguably the most adequate, is to compare Aux-X-V with the word orders where X precedes both the auxiliary and the main verb: X-Aux-V and X-V-Aux. This largely means comparing Aux-X-V with X-Aux-V, as V-Aux was already rather infrequent at the beginning of the Late Modern Swedish period and disappeared along with OV word order (see Platzack 1983, Petzell 2011, Sangfelt 2019).

To be counted as X-Aux-V (or X-V-Aux), X has to be spelled out in a position below C°. This excludes main clauses like (25a), where X has been fronted to spec-CP. I also exclude embedded clauses where only one constituent, excluding the subject, precedes a finite auxiliary and a non-finite main verb; see (25b). If the constituent had followed the finite auxiliary, it would not have been considered an unambiguous example of Aux-X-V, due to the possibility of embedded V-to-C.

- (25) a. den människan har jag aldrig *kunnat* *fördra*
this human.DEF have I never been.able tolerate
'I've never been able to tolerate this person' (2D305)

- b. När Gubben detta fick höra
 when old.man.DEF this got hear
 ‘when the old man got to hear this’ (1D301)

The category X roughly includes three types of constituents: objects, predicatives, and different types of adverbials, including adverbial-like complements. The category “adverbial” is the most heterogeneous and necessitates a comment. Sentence adverbial, including negation, are usually thought to be base-generated in a position above the finite verb, as explained in §3. If correct, this means that sentence adverbials are not expected to occur in Aux-X-V proper.

Despite this, I have included all kinds of adverbials in the category X for two reasons. Firstly, this is a way of testing the adequacy of the definition of Aux-X-V word order and the basic assumptions about clause structure in this article, since we expect sentence adverbials not to occur in this position. Secondly, we can avoid the problem of consistently identifying sentence adverbials vs. other adverbials, which is not always easy in historical texts.

In the presentation of the data, I distinguish the numbers for negation, a frequent and easy-to-identify sentence adverbial. Other adverbials have been coded for size, making a distinction between single adverbs and multiple-word adverbials (MW adverbials). MW adverbials mostly consist of PPs, but some instances of adverbial phrases and NP adverbials are also placed in this subcategory.

4.2 Aux-X-V in Late Modern Swedish

Table 1 shows the development of Aux-X-V word order in Late Modern Swedish, both in absolute numbers and in percentages. The percentages are calculated by dividing the absolute number of instances of Aux-X-V by all instances of Aux-X-V, X-Aux-V and X-V-Aux word order combined. Consequently, Table 1 shows how often we get Aux-X-V word order, when X precedes the non-finite main verb, as explained in §4.1.

Table 1: The development of Aux-X-V word order in Late Modern Swedish

Period	Aux-X-V	Total	Aux-X-V %
1725–1750	33	450	7
1775–1800	5	134	4
1825–1850	2	128	2

As is clear from Table 1, most examples of Aux-X-V word order are found during the first period. Of a total of 40 instances of Aux-X-V, 33 come from texts written during the time span 1725–1750. However, this is partly due to sample size, it seems – period 1 contains more than three times as many instances of pre-verbal constituents in general, compared to periods 2 and 3. When this is controlled for, the percentages suggest that there is a rather minor decrease in frequency of Aux-X-V during the period of Late Modern Swedish. The numbers drop from 7% to 4% and then to 2% between periods 1 and 3.

It should also be said that the differences in sample size might lead to questions about how representative the data for periods 2 and 3 are. Consequently, I will interpret the minor decrease in frequency with caution. As a matter of fact, one could argue that the sparse occurrence of Aux-X-V in all periods seems to be a more substantial finding – the word order was obviously rather infrequent already by the beginning of Late Modern Swedish.

As described in §4.1, the category X can be divided into five types of constituents: negation, object, predicative, adverb, and multiple-word (MW) adverbial. The numbers for each subcategory are shown in Table 2, again divided into three periods.

Table 2: The development of Aux-X-V word order for five types of constituents. (Percentages based on less than 25 instances are given in parentheses.)

Constituent type		1725–1750	1775–1800	1825–1850
Neg	Total	0/108	0/46	0/36
	%	0	0	0
Obj	Total	5/11	0	0
	%	(45)	–	–
Pred	Total	0/5	1/6	0/3
	%	(0)	(17)	(0)
Adverb	Total	15/197	1/49	1/61
	%	8	2	2
MWadv	Total	13/129	3/33	1/27
	%	10	9	4

Negation clearly stands out from the other categories; it is the only one not represented in Aux-X-V word order. As pointed out in §4.1, this is to be expected, given the assumption that sentential negation is base-generated above the highest verb of a clause. In other words, the absence of negation in Aux-X-V word

order is in line with the basic assumptions of clause structure and the criteria used to identify Aux-X-V proper.

Objects are the only type of constituent not represented in all three periods, counting both Aux-X-V and word orders where X precedes Aux and V. In period 1, a rather high proportion of objects show Aux-X-V word order (5/11), although the absolute number is small. In periods 2 and 3, none of the sentences included contains a pre-verbal object. However, the disappearance of pre-verbal objects has nothing to do with the differences between Aux-X-V, X-Aux-V, and X-V-Aux, but presumably instead has to do with the general loss of OV word order. In periods 2 and 3, I find no examples at all in the corpus of objects that precede their main verb, even outside the more narrowly defined word orders Aux-X-V, X-Aux-V, and X-V-Aux.¹⁵ The possibility of having pre-verbal objects thus seems to have disappeared between 1750 and 1775 in the history of Swedish, at least in the rather informal genre of drama dialogue.

The numbers for the predicative subcategory do not lend themselves to a thorough diachronic analysis. Of a total of only 14 examples in all periods, one is found with Aux-X-V word order. While it seems reasonable to include predicatives among the syntactic categories that are allowed in Aux-X-V, the data are too limited to draw further conclusions.¹⁶

Finally, we turn to the development of adverbials. Both adverbs and MW adverbials are well represented in the corpus in comparison with objects and predicatives. The two adverbial categories also show a similar decrease in frequency over time, falling from around 10% to under 5% over the course of the three periods.

As pointed out in §4.1, the two adverbial categories are internally heterogeneous, since they include different types of adjuncts, sentence adverbials, and complement-like adverbials. Notably, there are no potential examples of a sentence adverbial within the Aux-X-V word order in my data. Sentence adverbial in general thus pattern with negation, which is to be expected if they too are externally merged above the highest verb of the clause. Otherwise, it is difficult to establish any restrictions on what types of adverbials can occur in the Aux-X-V word order. Instances of Aux-X-V include, for example, adverbials of manner

¹⁵I exclude word orders that are still possible in present-day Swedish, like fronted objects in spec-CP.

¹⁶Just like objects, resultative predicatives and predicatives that occur with a copula are not allowed to precede a verb in present-day Swedish. It might thus seem surprising that there are predicatives preceding a verb in all three periods. However, all the examples in question are instances of adjunct predicatives (see the example in (i)), which are allowed to precede a verb in present-day Swedish.

(i) at okänd *få* sluta mina dagar här i denna skogspark
to unknown get end my days here in this forest.park
'to have to die unknown here in this forest park' (2E101)

(see (23b) above, repeated in (26a)), place (26b), time (see (24b) above, repeated in (26c)) and complement-like adverbials (26d). Among the MW adverbials, we find adverbial phrases (26a), prepositional phrases (26b), and NP adverbials (26c).

- (26) a. Rosorna på hennes kinder äro för friska, för att kunna så
Rose.DEF.PL on her cheeks are too healthy for to be.able so
lätt förblekna
easily pale
'The roses on her cheeks are too sweet to be able to pale so easily'
(3C707)
- b. när winet likwäl skulle wid tullen eller
when wine.DEF nevertheless would at customs.DEF or
uplastningen proberas
unloading.DEF be.investigated
'when the wine would nevertheless be investigated at the customs or
at the unloading' (1E101)
- c. at I intet skolen et ögnablick wara ifrån henne
that you not shall a moment be from her
'that you won't be away from her for a single moment' (1A307)
- d. at I ej länge få derutinnan framhärda
that you not long may in.this.thing persevere
'that you don't need to persevere for a long time in this matter'
(1B502)

To sum up, setting aside sentence adverbials, most types of adverbials appear to have been permitted as X in Aux-X-V configurations in Late Modern Swedish, despite the rarity of this word order compared to X-Aux-V.

4.3 Earlier periods and present-day Swedish

Since Aux-X-V existed before the beginning of Late Modern Swedish, and to some extent still exists today, some notes about its development beyond the 18th and 19th centuries are in order. As concluded in §3.2, there are no previous studies explicitly focusing on Aux-X-V word order in the history of Swedish, and this applies to all historical stages of the language. Some relevant data are nevertheless found in Sangfelt (2019), who presents numbers for Aux-X-V in Early Modern Swedish, where X is either an object or a prepositional phrase.¹⁷

¹⁷As in the present study, Sangfelt (2019) compares Aux-X-V to X-Aux-V and X-V-Aux. In contrast to the present study, the relevant data are exclusively taken from clauses that contain a non-finite auxiliary.

A comparison of the data in Sangfelt (2019) with the results from the present study indicates that the Aux-X-V word order is somewhat more frequent before the beginning of Late Modern Swedish, at least with regard to prepositional phrases. PPs show percentages between 15 and 20% of Aux-X-V in Early Modern Swedish (Sangfelt 2019: 119). The percentage is also slightly higher at the beginning of the era than later on. As we saw in the previous section, the percentages for multiple-word adverbials, roughly equivalent to PPs, fall from 10% to 2% during the Late Modern Swedish period. In other words, the data suggest that there was a slow but steady decline of Aux-X-V throughout the Modern Swedish period.

Regarding objects, the percentages fluctuate between 24 and 42 in Early Modern Swedish (see Sangfelt 2019: 116), which is somewhat more frequent than the corresponding numbers for PPs. It is possible that the discrepancy in frequency between objects and PPs/MW adverbials is preserved as long as pre-verbal objects are grammatically acceptable, with 5 out of 11 pre-verbal objects in Late Modern Swedish showing the Aux-X-V word order.

In the last of the three Late Modern Swedish periods in the present study, Aux-X-V apparently became a rather infrequent word order, only possible with certain types of adverbials. This may be quite like the situation in present-day Swedish. In §3.2, I concluded that Aux-X-V appears to be a marginal but existing word order possibility in present-day Swedish, if X is an adverbial. To confirm my own intuitions and the observations in Telemann et al. (1999/3: 488–489), I conducted minor searches for Aux-X-V by using the Swedish corpus infrastructure Korp (Borin et al. 2012).¹⁸ The results clearly indicate that Aux-X-V is quite easily found in present-day language use, at least in these large corpora. If nothing else, this is true where X is an adverbial of time or manner.¹⁹ Two examples are given in (27a–b), one with an adverb of manner (27a) and one with an adverb of time (27b).

¹⁸Korp is available here: <https://spraakbanken.gu.se/korp/>

¹⁹In passing, we should also note that we find focusing adverbs, typically *bara* ‘only’, between an auxiliary and a main verb. Out of the first 50 instances of Aux-X-V word order found in Korp (subcorpus *sociala medier* ‘social media’), 13 examples contain *bara* as the adverb. This arguably constitutes evidence that verbs do not form a cluster in present-day Swedish, but I am not sure to what extent this type of sentence should be compared with other instances of Aux-X-V. As discussed in Brandtler & Håkansson (2017), such adverbs can also be placed in front of a finite main verb (giving rise to a focused interpretation of the finite verb), which at least superficially breaks the V2 requirement of present-day Swedish.

- (i) Han bara grät av glädje när han fick se dem.
 He only cried of joy when he got see them
 ‘He just *wept* for joy when he got to see them.’ (from Brandtler & Håkansson 2017: 12)

(27) Present-day Swedish

- a. För mig som alltid bloggar via ipad och iPhone så är det rätt
For me that always blog through ipad and iPhone so is it quite
jobbigt att inte kunna enkelt slänga in ett inlägg
annoying to not be.able easily throw in a post
'For me who always blogs using an iPad or iPhone, it's quite
annoying not to be able to post easily' (Bloggmix 2015)
- b. 99 % av morgonnyheterna är DÅLIGA – skulle man inte kunna
99 % of morning.news.DEF.PL are bad would one not be.able
alltid börja med en bra nyhet
always start with a good piece.of.news
'99% of the morning news is BAD – if only you were able to always
start with a good piece of news' (Bloggmix 2011)

It goes without saying that these data are not sufficient to fully understand the mechanisms governing Aux-X-V in present-day Swedish. We could nevertheless hypothesize that not much has happened since the middle of the 19th century; Aux-X-V is an existing but uncommon word order pattern, and appears to have been so since the end of the Late Modern Swedish period.

4.4 Intermediate conclusions and discussion

Since the beginning of Early Modern Swedish, the Aux-X-V word order seems to have decreased in frequency. Over time, we find word order restrictions that are diachronically stable, and other things that have changed. It appears to be invariant that sentence adverbials are excluded in Aux-X-V, which is not surprising if X needs to be merged below the edge of VP for the word order to be generated. One thing that has changed concerns the ability of objects, and presumably complements in general, to occur in Aux-X-V. If X is a pre-verbal object, Aux-X-V is rather frequently used in Early Modern Swedish and at the beginning of Late Modern Swedish, but from the end of the 18th century and onwards, objects are nonexistent in Aux-X-V. However, this is not ultimately related to the properties of Aux-X-V per se, but to a general loss of OV word order. Given the data in this article, it actually seems difficult to detect any kind of abrupt grammatical change exclusively related to Aux-X-V word order in the history of Swedish. The decline of Aux-X-V can be described as very slow, and the word order is still present to a certain extent in present-day Swedish.

Regarding the connection between inseparable verbal clusters and OV word order (see Haider 2010: 17–19, 33–35), the data from older Swedish do not really

support such a conclusion. Whether or not an object precedes its main verb does not seem to be a crucial factor when it comes to allowing non-verbal material to intervene between VP-internal verbs.

Furthermore, the diachronic development of older Swedish would be rather curious if there were such a straightforward correlation. Aux-X-V became somewhat less frequent when OV decreased in frequency during Early Modern Swedish, and even more infrequent when OV disappeared completely during Late Modern Swedish. There are certainly ways of getting around this if we want to maintain the idea that OV forces verbs to cluster (see Haider 2010: 290–292, 2013: 132–135), but, as will be argued in §5, data from the history of Swedish indicate that such an account is conceptually undesirable.

One possible restriction on intervening syntactic material between verbs remains to be commented on. As emphasized in §3.2, Petzell (2011: 155, 159) claims that the word order V-Obj-Aux is not found in the history of Swedish. This is the case despite the fact that both V-Aux and VO are readily attested word orders, but is in line with restrictions put forward by the BBC (and, for that matter, by the FOFC; see §2). Petzell (2011) does not, however, specify whether this generalization can be extended to V-X-Aux as a whole, with X including not only objects, but all types of non-verbal constituents. The Late Modern Swedish data are admittedly far from ideal for answering this question. In fact, only two sentences in the data sample show V-Aux word order. These are given in (28a–b).

- (28) a. at jag det så *hafwa wil*
 that I it so have want
 ‘that I want it that way’ (1A201)
- b. hwarmed I för en bort-faren Wänn skul, eder emot
 whereby you for an away-traveled friend sake REFL against
 Konungen *förbrutit hafwen*
 king.DEF committed.crime have
 ‘whereby you have committed a crime against the king, for the sake
 of a friend that has traveled away’ (1A507)

As seen in (28a–b), all non-verbal constituents occur to the left of the verbs, so V and Aux remain adjacent. The reason why V-X-Aux is not found could of course be the highly limited number of sentences, but the additional data in Sangfelt (2019) suggest that the absence of intervening constituents is not due to the small number of sentences. The data collected in Sangfelt (2019: 133) contain 487 instances of a main verb preceding an auxiliary in older Swedish texts written between the 13th and 18th centuries. Despite the large number of clauses and the

broad time span, V-X-Aux is unattested. In other words, in clauses with V-Aux word order, V and Aux are always adjacent. One should acknowledge that the evidence invoked here is negative by its nature, and that the ungrammaticality of V-X-Aux does not follow as a logical consequence from these data. Nevertheless, this now appears to be a well-supported hypothesis. In the remainder of the article, I will assume that Petzell's (2011) conclusion with regard to objects can be generalized to all non-verbal constituents, in full agreement with the BBC.

5 VP structure and verbal clusters in Late Modern Swedish and beyond

A prohibition on V-X-Aux might seem like a rather idiosyncratic word order restriction in older Swedish and the other Germanic languages. However, the restriction is far from language-specific, as I will show in this section. In §5.1, I comment on comparative data that indicate that there is indeed something that bans V-X-Aux in the languages of the world. In §5.2, I discuss the existence or non-existence of Aux-X-V in some of the world's languages, and whether or not X-Aux-V can contain instances of verbal clusters. In §5.3, I present my conclusion on verbal clusters in the history of Swedish, and discuss its relevance for our understanding of verbal clusters in languages worldwide.

5.1 *V-X-Aux in the languages of the world

In §2, I stated that the absence of V-X-Aux in the Germanic languages was to be expected, given the limits on syntactic representations that follow from the Basic Branching Constraint. In the discussion so far, the empirical evidence exclusively comes from the Germanic language family. In the following, it will however be clear that this is not an idiosyncratic property of the Germanic languages, but a possible language universal in need of explanation.

Biberauer et al. (2014) observe that it is extremely difficult to find languages where an object intervenes between a main verb and an auxiliary, if the word order is V-Aux and not Aux-V. Languages that are perfectly designed to test this generalization would be languages where VO varies with OV, and Aux-V with V-Aux. Two non-Indo-European languages that meet this criterion are Basque and Finnish; in certain syntactic environments, both varieties exhibit what looks like free variation in the position of Aux, V, and objects. Despite this, V-Obj-Aux is not a grammatical possibility, as shown by the examples in (29a–b).

- (29) a. Basque
 * Jon-ek esan Miren-i egia dio.
 Jon-ERG said Miren-DAT truth AUX
 Intended reading: ‘John has told Miren the truth’
- b. Finnish
 * Milloin Jussi kirjoittanut romaanin olisi?
 when Jussi written novel would.have
 Intended reading: ‘When would Jussi have written a novel?’ (from
 Biberauer et al. 2014: 177)

The discussion in Biberauer et al. (2014) focuses on complementation, which leaves open the question of whether or not we could find instances of adjuncts that interrupt a V-Aux sequence (see §2.2). For verbal clusters to be obligatory with V-Aux word order (and for the BBC to be correct), it must equally be the case that adjuncts cannot intervene between V and Aux. This question is discussed by Sheehan (2017). At a first glance, the ban on V-Adv-Aux does not seem quite as straightforward as that on V-Obj-Aux. As a minor pattern, the linear string V-Adv-Aux can be found, for example, in Hindi and Turkish with a small class of adverbs. Looking more closely, however, Sheehan (2017) concludes that these are only apparent counterexamples to a general prohibition on elements intervening in a proper V-Aux sequence. Rather than being instances of $[[_{VP} V X] Aux]$, they are instances where the adverb is a projecting head, and where AdvP contains the main verb as an embedded subpart (see Sheehan 2017: 102–120).

The structure $[[_{AdvP} V Adv] Aux]$ is not an example of a right-branching structure, if the AdvP is an adjunct of the higher VP/AuxP (see Haider 2013). Therefore, I will assume that universal grammar forces a cluster analysis upon V-Aux, in accordance with the BBC.

5.2 The structure of Aux-X-V and X-Aux-V in the languages of the world

In §§3 and 4, we saw that there are cases where Aux-X-V is combined with OV word order. This is an interesting conclusion, since it could be expected from Haider (2010) that verbal clusters are a direct consequence of OV word order. Let us first note, however, that Haider is well aware of the fact that there are German VPs where an element can intervene between two verbs (see e.g. Haider 2013: 128, 134), as I also noted in §3. Despite this, Haider argues that all verbs start out as clusters, but that an auxiliary can leave its base position and target a verbal head above the lowest VP (Haider 2010: 290–291, 2013: 134). The basic idea

is schematically illustrated in (30a). The alternative would be to assume that the structure involves no movement, but only an auxiliary taking the lower VP as its right-hand complement, as in (30b). Note that both (30a) and (30b) are compatible with the BBC; the complex VP is clearly right-branching.

- (30) a. [_{VP1} Aux_i [_{VP2} X [V+t_i]]] Movement of Aux from the verbal cluster
 b. [_{VP1} Aux [_{VP2} X V]] A VP inside another VP

From Haider's discussion, it does not seem at all clear to me why one would assume the structure in (30a) rather than the one in (30b). I also note that sentence adverbials, which are the category usually employed to discriminate between verb movement and V-in-situ, never intervene between Aux and V, as we saw in §4. If we accept the premise that the movement analysis bears the onus of proof rather than the base-generation analysis, then (30b) is actually preferable, as far as I can tell. Be that as it may, both analyses capture the general conclusion that Aux-X-V can never be (just) a verbal cluster, and there is no doubt that it can be found with both OV and VO clause structure (see Haider 2010: 291).

As is the case with Aux-X-V, X-Aux-V is clearly a word order that occurs in both OV and VO languages. In varieties (or grammars) where X-Aux-V varies with Aux-X-V, it is hard to see any reasons why X-Aux-V should be analysed as a cluster variant. In (31a–b), I show two authentic dialectal German examples (West Central, according to Sapp 2011: 125) where a constituent intervenes between a finite auxiliary and a main verb. As seen in the examples, there are also constituents that intervene between the subject and the auxiliary: in (31a) an NP adverbial and in (31b) an adverb (see also examples (20b–c) in §3.3). Hence, we see that X-Aux-V order does not rely on the adjacency of the verbs or, by extension, on a cluster analysis.

- (31) dialectal German
- a. dass er jeden Augenblick *musste* hinter eine Hecke *laufen*
 that he any moment must behind a hedge run
 'that he had to run behind a hedge at any moment'
- b. dass sie da *müssen* einen ordentlichen Korb *kochen*
 that they there must a decent basket cook
 'that they have to cook a decent basketful of food' (from Sapp 2011: 126)

The situation in a language like Dutch could be analysed differently, however (see §3.3). If we look at Dutch data in isolation, there is no doubt that a cluster

analysis would explain why Aux and V must be adjacent regardless of order. Among the West Germanic varieties, Dutch seems to be the odd one out, though (see e.g. Haegeman 1992, Sapp 2011: 124–129). I will refrain from commenting on how common or uncommon this property is in a typological perspective, but I note that Persian seems to be an OV language that behaves very much like Dutch. As reported by Sheehan (2017: 100), most Persian auxiliaries occur with V-Aux word order. The future auxiliary *xâhad* ‘will’ is an exception, however, since it always precedes a main verb. Despite this, an adverb can interrupt neither a V-Aux (32a) nor an Aux-V sequence (32b). This is expected if Persian verbs cluster obligatorily, regardless of linear order.

(32) Persian

- a. *ali gitâr *zade* hamishe *ast*
 Ali guitar played always is
 Intended reading: ‘Ali has always played the guitar’
- b. *ali gitâr *xâhad* hamishe *zad*
 Ali guitar will always play
 Intended reading: ‘Ali will always play the guitar’ (from Sheehan 2017: 100)

As I see it, the Persian and Dutch data give us two different options when it comes to analysing instances of X-Aux-V word order. The first possibility is a cluster analysis. This would immediately explain the adjacency requirement and capture the fact that the requirement holds regardless of VP-internal word order. In addition, this analysis would be in line with considerations of economy in some sense; we still have to assume that Dutch and Persian employ verbal clusters with V-Aux word order, in accordance with the BBC.

At the same time, it would also be possible to perceive the need for adjacency as some kind of language-specific principle, independent of verbal clusters. For one thing, we know that the cluster analysis is not forced by the principles of UG, since [_{VP1} Aux [_{VP2} V]] is a perfectly acceptable structure of a complex VP. A cluster analysis of Aux-V also runs the risk of leading to inconvenient questions about clustering in VO languages. Haider (2010: 343) is of the view that strict VO languages can never cluster, since the structure with embedded VPs is already a perfect right-branching structure if the object follows the main verb (see §2). But this is not to say that it must be possible for constituents to intervene between two VP-internal verbs in a VO language. If we were indeed to find VO languages with a general adjacency requirement for Aux and V (which is certainly conceivable within the BBC), a problem arises: what reason would there

be to assume a cluster structure for Aux-V sequences in Dutch, for example, if we find both OV and VO languages where Aux and V must always be adjacent (see Sheehan 2017: 99–101)?

A way forward in the discussion of X-Aux-V would be to carefully examine whether we can find VO languages that exhibit a complete ban on Aux-X-V, like the OV languages Dutch and Persian. However, such an investigation is beyond the scope of this article. The general conclusion drawn is that the BBC forces a cluster analysis on a V-Aux sequence to avoid left-branching structures within a complex VP. The question of the possibility for an Aux-V sequence to instantiate a verbal cluster is left partially open. This could be a way of accounting for VP properties in a language like Dutch, but so far, we lack decisive evidence in favour of such an analysis. Importantly though, this question has no effect on how we should understand the development of verbal clusters in the history of Swedish, as I will show in the following section.

5.3 Verbal clusters in the history of Swedish

In the history of Swedish, we find a great deal of word order flexibility within the VP up until the middle of the 18th century. When it comes to the categories Aux, V and X, it almost seems that they are allowed to occur in any order. Throughout the article, I have discussed instances of X-V-Aux, X-Aux-V, and Aux-X-V. I have not focused on the characteristic VO word order Aux-V-X, although, statistically speaking, this has been the main option since at least the middle of the 14th century (see Delsing 1999, Petzell 2011, Sangfelt 2019). The pattern V-Aux-X, where X is placed to the right of a verbal cluster, is a minor one, but it can be found with objects and adverbials basically as long as OV word order is possible (see Sangfelt 2019: 225–227).

One imaginable word order is missing, however, as predicted by the BBC: V-X-Aux is not found in the history of Swedish. This should be taken as rather strong evidence that the BBC is at work. Older Swedish (like Basque and Finnish) allows several types of constituents to intervene between an auxiliary and a main verb, and V-X is, furthermore, a very common linearization pattern, since older Swedish exhibits a mix between VO and OV word order. Despite having all the properties that should facilitate V-X-Aux, this order is, as noted, not found in older Swedish.

The lack of V-X-Aux in older Swedish and other languages has been analysed as an effect of V-Aux enforcing a cluster structure, where two (or more) verbal heads form a complex constituent. Thus, older Swedish employed verbal clusters

as long as V-Aux and OV word order were possible. Despite this, the main empirical conclusion in the present study is that evidence for non-clustering dropped in frequency over the history of Swedish. By the middle of the 19th century, Aux-X-V was without doubt a rarely attested word order. This is important, since it clearly shows that the idea of a bi-directional correlation between OV word order and clustering is misleading.

In the final parts of the paper, I have entertained the idea that we should differentiate between two types of languages or grammars with regard to clustering. On the one hand, we clearly find languages where clustering is exclusively related to V-Aux word order, and where embedded VPs are employed when Aux precedes V (or when a selecting auxiliary Aux1 precedes a selected auxiliary Aux2). All the evidence points to the conclusion that older Swedish belongs to this type, together with most other Germanic languages. On the other hand, we have languages like Dutch, where clustering could be seen as a property of the VP itself, since the adjacency requirement of Aux and V applies regardless of the order of the verbal elements. It remains to be shown, however, whether this property is best explained by a cluster analysis or is rather a consequence of some other, cluster-independent principle.

6 Conclusion

In this article, I have studied VP-internal word order variation and discussed the presence of verbal clusters in the history of Swedish. The main conclusion is that clustering is exclusively related to the order of the verbs; V-X-Aux has never been a possible word order in the history of Swedish. However, in the case of the reversed order of verbs (Aux-X-V), there is plentiful evidence for non-clustering; such examples are attested throughout the history of Swedish, where X can be an object, a predicative, or a non-sentential adverbial. The diachronic development furthermore suggests that there is no bi-directional correlation between verbal clusters and OV word order; Aux-X-V dropped in frequency despite the fact that VO became more common over the history of Swedish, and finally became the only available option in Late Modern Swedish.

The history of verbal clusters in Swedish is hardly guided by some idiosyncratic, language-specific principle. Rather, I have argued, it follows from a universal principle, which states that syntactic material is never allowed to intervene between verbs in a V-Aux sequence, while the same restriction does not hold within an Aux-V sequence. In as much as V-Aux word order is employed in head-final and not head-initial languages, the existence of verbal clusters is

of course not completely independent of OV and VO word order. Given the data from the history of Swedish and other languages, it is nevertheless clear that the picture is too complex to allow us to assert that OV structures have verbal clusters and VO structures do not.

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Abbreviations

BBC	Basic Branching Constraint	MW	Multiple-Word adverbials
EMS	Early Modern Swedish	OS	Old Swedish
FOFC	Final-Over-Final Condition	OV	Object-Verb word order
IPP	Infinitivus Pro Participio	V	Main verb
LCA	Linear Correspondence Axiom	VO	Verb-Object word order

Sources

Investigated texts from the corpus of Swedish drama dialogue

Period 1 (1725–1750)

- 1A: Lagerström, Magnus (b. 1691). *Le Tartuffe eller den skenhelige* [Le Tartuffe or the hypocrite]. Stockholm, 1731.
- 1B: Gyllenborg, Carl (b. 1679). *Swenska sprätthöken* [The Swedish dandy]. Stockholm, 1740. Available through LB.
- 1C: Dalin, Olof von (b. 1708). *Den afwundsiuke* [The jealous one]. Stockholm, 1739. Available through LB.
- 1D: Modée, Reinhold Gustaf (b. 1698). *Håkan Smulgråt* [Håkan Cheapskate]. Stockholm, 1739. Available through LB.
- 1E: Stagnell, Johan (b. 1711). *Den lyckelige banqueroutieren* [The happy bankrupter]. Stockholm, 1753. Available through LB.

Period 2 (1775–1800)

- 2A: Kexél, Olof (b. 1748). *Sterbhus-kammereraren Mulpus eller Caffé-huset i Stora Kyrkobrinken* [The chief accountant of the estate Mulpus or the coffee house in the main church hill]. Stockholm, 1776. Available through LB.
- 2B: Ristell, Adolf Fredrik. (b. 1744). *Några mil från Stockholm* [A few miles from Stockholm]. Manuscript from 1787. Edited by Gösta Langenfeldt & Bo Thörnqvist. Stockholm: Department of Scandinavian languages, 1974.
- 2C: Envallson, Carl (b. 1756). *Kusinerna eller Fruntimmers-sqvallret* [The cousins or the gossip of the women]. Stockholm, 1807. Available through LB.
- 2D: Enbom, Per (b. 1759). *Fabriks-flickan* [The factory girl]. Stockholm, 1796. Available through LB.
- 2E: Stridsberg, Carl (b. 1755). *Friman eller Den enslige och de resande fruntimren* [Friman or the loner and the travelling women]. Stockholm, 1798. Available through LB.

Period 3 (1825–1850)

- 3A: Wetterbergh, Carl Anton (b. 1804). *Pröfningen* [The test]. Stockholm, 1842. Available through LB.
- 3B: Blanche, August (b. 1811). *Hittebarnet* [The foundling]. Stockholm, 1848. Available through LB.
- 3C: Jolin, Johan (b. 1818). *Barnhusbarnen eller Verldens dom* [The children of the orphanage or the judgement of the world]. Stockholm, 1849. Available through LB.
- 3D: Ridderstad, Carl Fredrik (b. 1807). *Syskonen eller Hattarnas och Mössornas sista strid* [The siblings or the last battle of the hats and the caps]. Linköping, 1849. Available through LB.
- 3E: Blink, Carl and Malméen, Georges. 1850. *Tidens Strid eller Det Bästa Kapitalet* [The battle of time or the best capital]. Stockholm. Available through LB.

Other cited texts

Bloggmix [A selection of Swedish blogs] 1998–2017. Available through Korp.

Columbus: Columbus, Samuel (b. 1642). *Mål-Roo eller roo-mål* [Language amusement or amusing language]. Ca. 1675. Edited by Bengt Hesselman. (Nordiska texter och undersökningar 6.) Stockholm: Hugo Geeters förlag, 1935. Available through FTB/Korp.

Di: *Sagan om Didrik af Bern* [The story of Didrik of Bern]. Ca. 1450. Edited by Gunnar Olof Hyltén-Cavallius. (Samlingar utgivna av Svenska fornskriftsällskapet 10.) Stockholm: Norstedts, 1850–1854. Available through FTB/Korp.

LinLeg: Linköpingslegendariet [The collection of legends from Linköping]. Ca. 1500. In *Ett fornsvenskt legendarium*. Edited by Georg Stephens. (Samlingar utgivna av Svenska fornskriftsällskapet 7:1–3). Stockholm: Norstedts, 1847–1874. Available through FTB/Korp.

MB1B: *Fem Moseböcker på svenska enligt Cod. Holm., A 1* [Five books of Moses in Swedish according to Cod. Holm., A1]. Ca. 1330. Edited by Olof Thorell. (Samlingar utgivna av Svenska Fornskriftsällskapet 60.) Uppsala: Almqvist & Wiksell, 1959. Available through FTB/Korp.

SpecV: *Speculum Virginum*. Ca. 1480. Edited by Robert Geete. (Samlingar utgivna av Svenska fornskriftsällskapet 31.) Stockholm: Norstedts, 1897–1898. Available through FTB/Korp.

Electronic corpora

FTB: Fornsvenska textbanken [The text bank of Old Swedish]: <https://project2.sol.lu.se/fornsvenska>

Korp: https://spraakbanken.gu.se/korp/?mode=all_hist

LB: The Swedish literature bank: <http://www.litteraturbanken.se>

References

Biberauer, Theresa, Anders Holmberg & Ian Roberts. 2014. A syntactic universal and its consequences. *Linguistic Inquiry* 45(2). 169–225. DOI: 10.1162/LING_a_00153.

- Borin, Lars, Markus Forsberg & Johan Roxendal. 2012. Korp: The corpus infrastructure of Språkbanken. In Nicoletta Calzolari (Conference Chair), Khalid Choukri, Thierry Declerck, Mehmet Uğur Doğan, Bente Maegaard, Joseph Mariani, Asuncion Moreno, Jan Odijk & Stelios Piperidis (eds.), *Proceedings of the eighth international conference on language resources and evaluation (LREC'12)*, 474–478. Istanbul, Turkey: European Language Resources Association (ELRA).
- Brandtler, Johan & David Håkansson. 2017. V2 eller V3? Om preverbal placering av adverbial i modern svenska [V2 or V3? On preverbal placement of adverbials in Present-Day Swedish]. *Norsk Lingvistisk Tidsskrift* 35(1). <http://ojs.novus.no/index.php/NLT/article/view/1396>.
- Culicover, Peter W. 2014. Constructions, complexity, and word order variation. In Frederick J. Newmeyer & Laurel B. Preston (eds.), *Measuring grammatical complexity*, 148–178. Oxford; New York: Oxford University Press. DOI: 10.1093/acprof:oso/9780199685301.003.0008.
- Delsing, Lars-Olof. 1999. Från OV-ordföljd till VO-ordföljd: En språkförändring med förhinder [From OV to VO word order: A linguistic change with obstacles]. *Arkiv för nordisk filologi* 114. 151–232.
- den Besten, Hans. 1983. On the interaction of root transformations and lexical deletive rules. In Werner Abraham (ed.), *Linguistik Aktuell/Linguistics Today*, vol. 3, 47. Amsterdam: John Benjamins. DOI: 10.1075/la.3.03bes.
- Falk, Cecilia. 1993. *Non-referential subjects in the history of Swedish*. Lund: Department of Scandinavian Languages, University of Lund. (Doctoral dissertation).
- Falk, Cecilia. 2010. Att analysera fornsvenska infinitivfraser: Vad är grammatiskt, vad är ogrammatiskt? [Analyzing Old Swedish infinitival phrases: What is grammatical, what is ungrammatical?] In Maj Reinhammar & Lennart Elmevik (eds.), *Studier i svenska språkets historia 11: Förhandlingar vid Elfte Sammankomsten för Svenska Språkets Historia i Uppsala 23–24 april 2010* (Acta Academiae Regiae Gustavi Adolphi 113), 31–48. Uppsala: Kungl. Gustav Adolfs Akademien för Svensk Folkkultur.
- Fischer, Olga. 2007. *Morphosyntactic change: Functional and formal perspectives* (Oxford surveys in syntax and morphology). Oxford; New York: Oxford University Press.
- Gärtner, Hans-Martin. 2016. A note on the Rich Agreement Hypothesis and varieties of “embedded V2”. *Working Papers in Scandinavian Syntax* 96. 1–13.
- Haegeman, Liliane M. V. 1992. *Theory and description in generative syntax: A case study in West Flemish*. Cambridge; New York: Cambridge University Press.
- Haider, Hubert. 1992. Branching and discharge. *Working Papers of the SFB 340* 23.

- Haider, Hubert. 2003. V-clustering and clause union: Causes and effects. In Pieter A. M. Seuren & Gerard Kempen (eds.), *Verb constructions in German and Dutch*, vol. 242 (Current Issues in Linguistic Theory), 91–126. Amsterdam: John Benjamins. DOI: 10.1075/cilt.242.04hai.
- Haider, Hubert. 2010. *The syntax of German* (Cambridge syntax guides). Cambridge; New York: Cambridge University Press.
- Haider, Hubert. 2013. *Symmetry breaking in syntax*. Cambridge; New York: Cambridge University Press.
- Haider, Hubert. Forthcoming. The left-left constraint: A structural constraint on adjuncts. In Ulrike Freywald & Horst Simon (eds.), *Headedness and/or grammatical anarchy*. Berlin: Language Science Press.
- Håkansson, David. 2013. A variationist approach to syntactic change: The case of subordinate clause word order in the history of Swedish. In Peter Auer, Javier Caro Reina & Göz Kaufmann (eds.), *Studies in language variation*, vol. 14, 129–144. Amsterdam: John Benjamins. DOI: 10.1075/silv.14.08hak.
- Holmberg, Anders. 2000. Deriving OV order in Finnish. In Peter Svenonius (ed.), *The derivation of VO and OV* (Linguistik Aktuell/Linguistics Today 31), 123–152. Amsterdam: John Benjamins. DOI: 10.1075/la.31.06hol.
- Holmberg, Anders. 2017. The Final-over-Final Condition and linearization in generative grammar. In Michelle Sheehan, Theresa Biberauer, Ian Roberts & Anders Holmberg (eds.), *The final-over-final condition: A syntactic universal*, 43–78. Cambridge, MA.: The MIT Press. DOI: 10.7551/mitpress/8687.003.0007.
- Kalm, Mikael. 2016. *Satsekvivalenta infinitivfraser i svenskan: En synkron och diakron undersökning [Control infinitives and ECM-Infinitives in Swedish: A synchronic and diachronic investigation]*. Uppsala: Uppsala University. (Doctoral dissertation).
- Kayne, Richard S. 1994. *The antisymmetry of syntax* (Linguistic inquiry monographs 25). Cambridge, MA: The MIT Press.
- Melander Marttala, Ulla & Siv Strömquist. 2001. *Korpusen Svensk dramadialog: Användarhandbok [The corpus Drama dialogue in Sweden: A manual]* (FUMS 202). Uppsala: Department of Scandinavian Languages, Uppsala University.
- Pettersson, David. 2014. *The highest force hypothesis: Subordination in Swedish*. Lund: Lund University. (Doctoral dissertation).
- Petzell, Erik M. 2011. OV-ordföljd i svenskans historia [OV word order in the history of Swedish]. *Arkiv för nordisk filologi* 126. 141–191.
- Platzack, Christer. 1983. Three syntactic changes in the grammar of written Swedish around 1700. In Erik Andersson, Mirja Saari & Peter Slotte (eds.), *Struktur och variation: Festskrift till Bengt Loman 7.8.1983* (Meddelanden från Stiftelsens för Åbo akademi forskningsinstitut 85), 43–63. Åbo: Åbo Academy.

- Platzack, Christer. 1988. The emergence of a word order difference in Scandinavian subordinate clauses. *McGill Working Papers in Linguistics* 6. 215–238.
- Sangfelt, Adrian. 2019. *Syntaktiska strukturer i tiden: OV- och bisatsledföljd i svenskans historia [Syntactic structures in time: OV and subordinate clause word order in the history of Swedish]*. Uppsala: Uppsala University. (Doctoral dissertation).
- Sapp, Christopher D. 2011. *The verbal complex in subordinate clauses from Medieval to Modern German* (Linguistik Aktuell/Linguistics Today 173). Amsterdam: John Benjamins. DOI: 10.1075/la.173.
- Sheehan, Michelle. 2017. The Final-over-Final Condition and adverbs. In Michelle Sheehan, Theresa Biberauer, Ian Roberts & Anders Holmberg (eds.), *The final-over-final condition: A syntactic universal*, 97–120. Cambridge, MA.: The MIT Press. DOI: 10.7551/mitpress/8687.003.0007.
- Sheehan, Michelle, Theresa Biberauer, Ian G. Roberts & Anders Holmberg (eds.). 2017. *The Final-Over-Final condition: A syntactic universal* (Linguistic inquiry monographs 76). Cambridge, MA: The MIT Press.
- Teleman, Ulf, Staffan Hellberg, Erik Andersson & Lisa Holm. 1999. *Svenska akademiens grammatik [The grammar of the Swedish Academy]*. 1st edn. Stockholm: Svenska Akademien.
- Thráinsson, Höskuldur. 2007. *The syntax of Icelandic*. Cambridge: Cambridge University Press.
- Vikner, Sten. 2001. *Verb movement variation in German and optimality theory*. Tübingen: University of Tübingen.
- Wurmbrand, Susi. 2004. West Germanic verb clusters: The empirical domain. In Katalin É. Kiss & Henk van Riemsdijk (eds.), *Verb clusters: A study of Hungarian, German and Dutch* (Linguistik Aktuell/Linguistics Today 69), 43–85. Amsterdam: John Benjamins. DOI: 10.1075/la.69.05wur.
- Zeijlstra, Hedde. 2013. Negation and negative polarity. In Marcel den Dikken (ed.), *The Cambridge handbook of generative syntax*, 793–826. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511804571.027.

