

# The Rich Agreement Hypothesis and Early Modern Danish embedded-clause word order

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This article attempts to shed light on the issue of a possible link between the loss of ‘rich’ subject-verb agreement and the loss of verb raising in embedded clauses in earlier stages of the Mainland Scandinavian languages. Different versions of this so-called ‘Rich Agreement Hypothesis’ are compared in light of new diachronic data from the history of Danish. Examples of word order variation with and without verb raising over sentential adverbials were collected from a corpus of twelve sets of texts written in the Early Modern Danish period (ca. 1500–1700). Empirical results indicate that distinctions in person agreement in the verbal inflectional paradigm disappeared nearly 250 years before a significant decline in the frequency of verb raising. In order to explain a possible trigger for this change, the article closely examines the impact of structurally ambiguous word order and syntactic – not morphological – clues during acquisition.

**Keywords** Early Modern Danish, Rich Agreement Hypothesis, rich verbal inflection, Stylistic Fronting, syntactic change, V-to-I movement, verb raising

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## 1. INTRODUCTION

Since early generative analyses of verb movement such as Emonds (1978), Travis (1984), Pollock (1989), and Chomsky (1991), the standard approach to cross-linguistic differences in the position of the finite verb relative to sentential adverbs has been that the verb moves to a higher position in sentence structure in some languages than in others. This approach accounted for parametric variation between certain Germanic languages with so-called ‘verb raising’ (V<sup>o</sup>-to-I<sup>o</sup> movement) to the inflectional node I(nfl), such as Yiddish and Icelandic, and others like the modern Mainland Scandinavian languages that lack verb movement in embedded-clause structures.<sup>1</sup> As Falk (1993:165) suggests, this proposal also accounts for the variation between Old Swedish, as in (1a), and Modern Swedish embedded clauses, as in (1b):<sup>2</sup>

- (1) a. [C<sup>o</sup> æn [I<sub>P</sub> min guḅ [I<sup>o</sup> **brytar**<sub>i</sub> [V<sub>P</sub> eigh [V<sup>o</sup> t<sub>i</sub> [niḅar þin guḅ]]]]]]]  
b. [C<sup>o</sup> om [I<sub>P</sub> min gud [I<sup>o</sup>[e] [V<sub>P</sub> inte [V<sup>o</sup> **bryther** ner din gud]]]]]  
*if my god (breaks) not breaks down your god*  
‘if my god does not break down your god’

Following a suggestion by Kosmeijer (1986) that there is a link between  $V^\circ$ -to- $I^\circ$  movement and rich verbal inflection in the Scandinavian languages, Platzack (1988), Falk (1993), and Rohrbacher (1994, 1999) have proposed that the triggering mechanism for the loss of the word order pattern in (1a) in Swedish is the loss of distinctions in the verbal agreement paradigm.<sup>3</sup> Assuming that parameters are set based on the acquisition of overt morphological forms, and that  $V^\circ$ -to- $I^\circ$  movement directly correlates with the presence of rich verbal inflection, they claim that the breakdown in subject-verb agreement in 15th- and 16th -century Swedish preceded and caused the loss of verb raising.<sup>4</sup>

Basing their conclusions on diachronic studies of English and Swedish and on the variation among standard modern Germanic VO languages and dialects, Rohrbacher (1994, 1999) and Vikner (1997) have attempted to describe more accurately the alleged correlation between word order and agreement by determining exactly how rich a language's verbal agreement paradigm must be in order to trigger verb raising. Although these paradigm-based analyses have slightly different formulations of morphological richness, they all assume that the acquisition of inflectional forms and the acquisition of word order are interconnected. In his study on verb raising in Germanic VO-languages, Bobaljik (2000:3) describes this view as a 'strict version' of the 'The Rich Agreement Hypothesis' (RAH):

(2) *Rich Agreement Hypothesis* (strict version)

'Rich' agreement causes  $V^\circ$ -to- $I^\circ$  movement.

As Bobaljik (2000:3) notes, this proposal represents a strong view on the correlation between agreement and verb raising from which follow two corollaries. First of all, the hypothesis in (2) entails that there should be no language with  $V^\circ$ -to- $I^\circ$  movement that has 'poor morphology'. Secondly, the loss of rich agreement should immediately cause the loss of verb raising in the history of a language.

Most recently, an alternative version of the Rich Agreement Hypothesis has been proposed by Bobaljik & Thráinsson (1998) and Bobaljik (2000):

(3) *Rich Agreement Hypothesis* (weak version)

If a language has sufficiently rich morphology then it has verb raising.

Unlike the strict version of the RAH, the generalization in (3) predicts only a one-way relationship between rich inflection and  $V^\circ$ -to- $I^\circ$  movement. It does not claim that 'poor morphology' corresponds to a lack of verb raising or that the loss of rich morphology, or deflection, will bring about the loss of verb movement to  $I^\circ$ .

Proponents of these two views raise critical questions for diachronic syntactic research of the Mainland Scandinavian languages. In this article, I demonstrate that data from the history of Danish shed new light on two questions concerning this syntactic change and provide evidence in favor of the weak version of the RAH. First of all, what is the sequence of changes to the verbal inflectional paradigm and to the

frequency of verb raising? By examining the chronology of deflection and syntactic changes in the Early Modern Danish period (ca. 1500–1700), we can better determine whether the breakdown in the verbal paradigm is a cause or a side-effect of changes in word order or whether both changes proceed independently of each other. Secondly, are there other possible causes for variation and change in embedded-clause word order other than verbal deflection? New data from the history of Danish indicate that changes in embedded-clause word order are best explained without reference to changes in the verbal paradigm.

An investigation of Early Modern Danish has several advantages. In particular, a study of Danish is interesting for comparison with previous analyses that have dealt exclusively with the history of Swedish. Although Rohrbacher (1994, 1999) and Vikner (1997) briefly mention the importance of new Danish evidence which might prove or disprove the RAH, both scholars set aside the task of investigating that corpus for future research. Moreover, because changes in the inflectional system took place earlier in Danish than in Swedish, we can investigate more closely the ‘lag effect’ described by Bobaljik (2000) that suggests that syntactic change occurs much later than inflectional change.

In this paper, I discuss the two issues outlined above, citing data gathered from twelve texts from the Early Modern Danish period (1500–1700). The findings of my study of embedded-clause word order indicate that this period exhibits a great deal of syntactic variation, not only in the language of the speech community, but also among individual authors. I claim that the high frequency of ambiguous word order patterns and the lack of other syntactic evidence, and not the breakdown in inflectional paradigms, is responsible for the decline of  $V^\circ$ -to- $I^\circ$  movement in Danish. In addition, I point out that the weak version of the RAH fares better than the strict version in light of the Danish data. In particular, I show that verb raising in Danish gradually decreases in frequency in the late 16th century and remains optional at the end of the 17th century, over 250 years AFTER the depletion of the verbal paradigm.

The paper is organized as follows: section 2 is an overview of text selection and data collection; section 3 is a presentation of the results of the quantitative analysis; in section 4, I interpret the data in light of the RAH while in section 5, I present an alternative explanation for the loss of verb raising and discuss the role of syntactic clues in parameter (re)setting. In section 6, I summarize the findings and comment on their significance to general issues of syntactic change.

## 2. TEXT SELECTION AND DATA COLLECTION

### 2.1 Text selection

The source material for this study is limited to dateable, prose texts that were originally written in Danish in the 16th and 17th centuries.<sup>5</sup> One reason I focused

only on texts written after 1500 is that the corpus from Middle Danish (ca. 1350–1500) largely consists of translations of Latin scientific treatises and religious texts, or rhymed chronicles.<sup>6</sup> Although I have included only originally Danish texts, it was necessary to take precautions with some of the official, legal documents such as the diplomatic letters in *Repertorium Diplomaticum Regni Danicie Mediævalis* (*RD*) and in *Danske Kirkelove* (*Kirk1* and *Kirk2*) by excluding repetitive, formulaic expressions and by taking into account the provenance and date of each letter. In Table 1, I have provided a chronological list of the texts and their dates of composition.

Period	Text	Text description	Date of composition
Period 1: 1500–1550			
	<i>RD</i>	Diplomatic letters from <i>Repertorium Diplomaticum</i>	1505–1511
	<i>Kirk1</i>	Excerpts from <i>Danske Kirkelove</i>	1536–1539
	<i>Pall</i>	Sermons by Peder Palladius	1543
Period 2: 1550–1600			
	<i>Trolle</i>	Personal letters of Herluf Trolle	1558–1564
	<i>Gjøe</i>	Personal letters of Kristoffer Gjøe	1563–1566
	<i>Krabbe</i>	Personal letters of Else Krabbe	1556–1573
	<i>Hemm</i>	Sermons of Niels Hemmingsøn	1565–1574
Period 3: 1600–1650			
	<i>Huitfeldt</i>	A history of Christian II	1603
	<i>Christian</i>	Personal letters of King Christian IV	1601–1625
Period 4: 1650–1700			
	<i>Kirk2</i>	Excerpts from <i>Danske Kirkelove</i>	1651–1662
	<i>Christina</i>	Memoirs of Leonora Christina	1674
	<i>Monrad</i>	Memoirs of Johan Monrad	1689

Table 1. Early Modern Danish texts, abbreviations, and dates of composition.

## 2.2 Data collection

In my analysis of embedded-clause word order, I collected examples of clauses that exhibit one of the following two word order patterns:

- (4) att wii **kunde** icke komme diid till dennom (Trolle 204:10)  
*that we could not come thither to them*  
 ‘that we could not come thither to them’
- (5) at hun icke **kunde** leffue offuer en dag (Hemm 36:11)  
*that she not could live over a day*  
 ‘that she could not survive another day’

In example (4), sentential negation (in italics) marks the left edge of the higher VP, and the finite verb (in bold type) undergoes verb raising. In example (5), the finite verb remains in the VP in post-adverbial position. I characterize these two patterns as the ‘old embedded-clause word order’ with verb raising and the ‘modern embedded-clause word order’ with the finite verb *in situ*.<sup>7</sup>

An examination of Danish texts from the 16th and 17th centuries faces several difficulties in data collection, and it is necessary to take into consideration a number of types of ambiguous examples. For instance, embedded clauses introduced by the conjunction *at* ‘that’ are problematic. Consider the following sentence:

- (6) du kunde icke komme hid och sige at ieg **maa** *icke* komme til min  
*you could not come hither and say that I may not come to my*  
 sognekirke idag (Pall 42:5)  
*parish church today*  
 ‘you weren’t able to come here and say that I ought not go to my parish  
 church today’

*At*-clauses may exhibit main-clause word order with the verb in second position when they are complements to so-called ‘bridge verbs’, like *sige* ‘say’ in (6).<sup>8</sup> This type of word order variation is also possible in the modern Mainland Scandinavian languages, as in the following Modern Danish examples of *at*-clauses with the bridge verb *tro* ‘believe’ in the main clause (from Vikner 1995:143):

- (7) a. Peder troede at Helge *gerne* **ville** læse den her bog.  
*Peter believed that Helge readily would read this here book*  
 ‘Peter believed that Helge really wanted to read this book.’  
 b. Peder troede at Helge **ville** *gerne* læse den her bog.

The normal embedded-clause word order in Modern Danish is exhibited in (7a), where the verb remains *in situ*. Example (7b), however, shows that this type of word order is not obligatory: the finite verb may move to a higher position in a clause that is a complement to a bridge verb. I assume, following Vikner (1995), that examples like (7b) exhibit V<sup>o</sup>-to-I<sup>o</sup>-to-C<sup>o</sup> movement, not independent V<sup>o</sup>-to-I<sup>o</sup> movement.

Although access to native speakers allows us to determine accurately which verbs belong to the bridge- and non-bridge-verb categories in the modern language, it is not possible to separate the two groups in earlier Danish with any certainty: *at*-clauses with the verb to the left of sentential negation may be instances of verb raising or equivalents of the main-clause word order in sentences like (7). In general, the inclusion of *at*-clauses may unnecessarily skew the data in an analysis of Early Modern Danish.

Embedded questions, relative clauses, and other embedded clauses with the old word order that are not introduced by the complementizer *at* pose no such problems. Consider the following examples with other types of conjunctions (underlined):

- (8) om vy for ickē de suar (Krabbe 91:19)  
*if we get not the answers*  
 ‘if we do not get the answers’
- (9) naar hennes øl oc mad kunne ickæ til reckæ (RD 101:27)  
*when her ale and food could not suffice*  
 ‘when her ale and food aren’t sufficient’
- (10) som Jomfru Helle Lyche waar alltijd hoß (Monrad 110:14)  
*who Miss Helle Lyche was always at*  
 ‘whose home Miss Helle Lyche was always at’

One of the complications with the exclusion of all *at*-clauses is that they are by far the most common embedded clause in the corpus. Of the 129 examples with the old embedded-clause word order in the twelve sets of Early Modern Danish texts in this study, only 39 (30%) include conjunctions like those in (8) through (10). Falk describes this predicament in the following way: ‘if we should ignore all *att*-clauses, the possibility of finding more than a handful of examples in each text would be very small’ (1993:177). However, as the next section shows, there is no significant difference between the datasets with and without *at*-clauses, indicating no empirical reason to leave out this substantial number of embedded clauses in the first place.

A large set of examples with the verb apparently *in situ*, namely, embedded clauses with pronominal subjects, causes additional problems in data collection. It is difficult to determine whether such examples are early attestations of the modern word order, or whether they involve so-called Stylistic Fronting (SF) of adverbials and cliticization of the pronominal subject to the complementizer.<sup>9</sup> Consider the following examples in which a pronominal subject is written together with the complementizer in the manuscripts:

- (11) adttuu jicke glemmer adt fly thet salt (Gjøe 35:6)  
*that-you-CLITIC not forget to give that salt*  
 ‘that you don’t forget to give that salt’
- (12) attj altid kunde retteligen bruge dem (Pall 38:16)  
*that-you-CLITIC always could rightfully use them*  
 ‘that you all could always use them legally’

Following Platzack (1988) and Falk (1993), I assume that examples (11) and (12) are not unambiguous examples of the modern embedded-clause word order. Although it is

not certain that these clauses involve cliticization, creating the subject-gap necessary for Stylistic Fronting, we cannot rule out this possibility in light of the orthographic evidence of cliticization.

If we exclude all embedded clauses with pronominal subjects from the investigation, we are left with a significantly smaller dataset. In particular, 232/336 examples (69%) of embedded clauses with the modern word order would be discarded. As with the *at*-clauses, however, there is no significance of difference between the large and small datasets with respect to word order: the percentage frequency of the new embedded-clause word order is nearly the same, regardless of whether or not clauses with pronominal subjects are included. Because there are only a few examples like (11) and (12), in which cliticization is clearly evident in the manuscripts, and because the empirical consequences of including clauses with pronominal subjects are minimal, I have chosen to include them in the main analysis of variation below and to exclude them only for comparison in a shorter section of the analysis on modern embedded-clause word order.

Finally, it is necessary to leave out examples in which the finite verb is in clause-final position. As pointed out in studies on Old Swedish and Early Modern Swedish by Platzack (1988) and Falk (1993), many earlier Scandinavian embedded clauses exhibit the following word order pattern (here, in Early Modern Danish):

- (13) *at han vor naadige Herres Dom ej undgælde vilde* (RD 195:28)  
*that he our gracious Lord's judgement not suffer wanted*  
 'that he didn't want to suffer the judgment of our gracious Lord'

There have been a number of studies of verb-final word order in Scandinavian (e.g., Wenning 1930, Haugen 1976) that argue that I-final clauses are the result of influence from German or Latin. Regardless of their origin, such clauses are exceptional and are not considered to be examples of the modern embedded-clause word order in the present study.

### 3. QUANTITATIVE ANALYSIS

In accordance with the principles for text selection and data collection as discussed above, I calculated the frequency of the old embedded-clause word order in each of the twelve sets of texts from the 16th and 17th centuries. The results are presented in Table 2.

The data indicate that the frequency of old embedded-clause word order with verb raising decreases gradually throughout the entire period of investigation. A logistic regression analysis by VARBRUL confirms this conclusion.<sup>10</sup> The statistical

Text	N (of old word order)	% of old word order	Probabilistic weight: Text
<i>RD</i> (1505–1511)	5/14	36%	.67
<i>Kirk1</i> (1536–1539)	5/34	15%	.38
<i>Pall</i> (1543)	42/68	62%	.85
<i>Trolle</i> (1558–1564)	23/73	32%	.62
<i>Gjøe</i> (1563–1566)	7/20	35%	.66
<i>Krabbe</i> (1573)	5/13	38%	.69
<i>Hemm</i> (1574)	5/17	29%	.60
<i>Huitfeldt</i> (1603)	6/56	11%	.30
<i>Christian</i> (1625)	7/50	14%	.37
<i>Kirk2</i> (1651–1662)	2/29	7%	.21
<i>Christina</i> (1674)	3/53	6%	.18
<i>Monrad</i> (1689)	8/28	29%	.59
<b>TOTALS</b>	118/455	26%	

Table 2. Old embedded-clause word order in Early Modern Danish.

program selected the independent variable ‘Text’ for the model that best describes the variable use of the old embedded-clause word order pattern in Early Modern Danish. Table 2 shows that all texts written before 1600, except *Kirk1* (1536–1539), favor the old embedded-clause word order with a probabilistic weight between .60 and .85.<sup>11</sup> For most texts from the 16th century, the factor group ‘Text’ has a slightly favorable effect on the occurrence of the old embedded-clause word order (ca. .65), while in *Pall*, this variable has a strongly favorable effect (.85). On the other hand, for all the texts from the 17th century, except *Monrad*, this factor group has a disfavorable effect on the old embedded-clause word order. Texts such as *Huitfeldt* (.30) and *Christina* (.18) strongly disfavor old embedded-clause word order. Three sets of texts, *Kirk1*, *Pall*, and *Monrad*, stand out from the others because of their unusually high or low frequency of verb raising in embedded clauses. In general, however, texts from the 16th century exhibit an overall higher frequency of verb raising than texts from the 17th century. Table 2 indicates that the new embedded-clause word order became more frequent around 1600, and by the late 1600s, it is the dominant word order in most texts. This trend is more noticeable if the data for all texts are combined into four 50-year periods, as in Table 3.<sup>12</sup>

Although the frequency data for each period in Table 3 are slightly skewed by the unusually high or low frequency in some texts, two general trends are noticeable. First, there is a steady decrease in frequency over the first three periods, particularly



	N (of old word order)	% of old word order	Probabilistic weight: Period
Period 1: 1500–1550	52/116	45%	.73
Period 2: 1550–1600	40/123	33%	.62
Period 3: 1600–1650	13/106	12%	.33
Period 4: 1650–1700	13/110	12%	.29

**Table 3.** The frequency of old embedded-clause word order in Danish (sorted by 50-year periods).

between Periods 2 and 3. Chi-square tests confirm this conclusion: the  $p$ -value for the significance of difference between Period 2 and Period 3 is .00029, indicating that the probability that the drop in frequency is due to random chance is highly unlikely. The results of the VARBRUL-analysis confirm that the independent variable ‘Period’ has a favorable effect on the occurrence of verb raising in the first two periods when the probabilistic weight is .73 and .62.<sup>13</sup> The last two periods disfavor verb raising at a weight of .33 and .29, respectively. Secondly, the frequency of verb raising does not continue to decrease significantly during Period 4. Instead, the old embedded-clause word order remains a grammatical option in the late 17th century. In the last three texts, written between 1650 and 1689, the frequency of verb raising is still as high as 12%.

As pointed out in section 2.2, there are a number of examples in Early Modern Danish that call these results into question. In particular, *at*-clauses with the old word order and clauses with pronominal subjects in the new word order are structurally ambiguous. However, if both groups of dubious examples are excluded, the results of the analysis of ‘revised’ data are nearly the same as before, as illustrated in Table 4.

As Table 4 illustrates, there are far fewer examples in the revised dataset. However, the percentage frequency of the old embedded-clause word order and the general trends in the data are very similar in both analyses. Although the revisions in data have a significant effect on the frequency-data for some texts, like *Gjøe*, *Hemm*, and *Krabbe*, they have little impact on the overall frequency for the majority of texts. In most cases, the difference is between 2% and 4%.

The data of the revised analysis corroborate the previous results that indicate an overall decrease in frequency between 1500 and 1700. This conclusion is verified when data from all the texts are grouped together by period, as in Table 5.

To sum up: data from the investigation of twelve sets of texts from the Early Modern Danish period provide evidence that there is variation and change in embedded-clause word order between 1500 and 1700. Texts from the 16th century

Text	N (of old word order)	% of old word order	N (of old word order; revised)	% of old word order (revised)
<i>RD</i>	5/14	36%	2/6	33%
<i>Kirk1</i>	5/34	15%	3/16	19%
<i>Pall</i>	42/68	62%	11/16	69%
<i>Trolle</i>	23/73	32%	4/15	27%
<i>Gjøe</i>	7/20	35%	2/4	50%
<i>Krabbe</i>	5/13	38%	1/2	50%
<i>Hemm</i>	5/17	29%	0/3	0%
<i>Huitfeldt</i>	6/56	11%	2/20	10%
<i>Christian</i>	7/50	14%	4/25	16%
<i>Kirk2</i>	2/29	7%	1/15	7%
<i>Christina</i>	3/53	6%	1/10	10%
<i>Monrad</i>	8/28	29%	3/8	38%
<b>TOTALS</b>	118/455	26%	34/151	23%

**Table 4.** Frequency of old embedded-clause word order (with revised dataset that excludes *at*-clauses and clauses with pronominal subjects).

	N (of old word order)	% of old word order	n (of old word order; revised)	% of old word order (revised)
Period 1: 1500–1550	52/116	45%	16/38	42%
Period 2: 1550–1600	40/123	33%	7/24	29%
Period 3: 1600–1650	13/106	12%	6/45	13%
Period 4: 1650–1700	13/110	12%	5/33	15%

**Table 5.** Old embedded-clause word order in Early Modern Danish with revised data.

exhibit a higher frequency of verb raising than texts from the 17th century, although the old embedded-clause word order continues to be optional as late as 1700. The most dramatic decrease in the frequency of verb raising occurs around 1600, at the onset of Period 3. Although there is a substantial set of ambiguous examples in the corpus, it was shown that the analysis of a revised dataset provided the same results as the initial analysis: the frequency of verb raising declines gradually during the 16th and 17th centuries, but the old embedded-clause word order remains a grammatical possibility as late as 1689.

#### 4. EARLY MODERN DANISH: THE RICH AGREEMENT HYPOTHESIS

As has been pointed out by Bobaljik (2000:16), the strict version of the Rich Agreement Hypothesis proposed by Rohrbacher (1994, 1999) and Vikner (1997) leaves a number of issues unresolved in its attempt to account for dialect variation in the modern Mainland Scandinavian languages. Although Rohrbacher (1994, 1999) and Vikner (1997) disagree on the exact formulation for ‘richness’, they both claim that rich verbal agreement morphology and verb raising are directly related to each other in a two-way entailment. Their formulations of richness are provided below:

- (14) A language has V-to-I movement if and only if in at least one number of one tense of the regular verb paradigms, the person features [1st] and [2nd] are both distinctively marked. (Rohrbacher 1999:116)
- (15) An SVO-language has V-to-I movement if and only if person morphology is found in all tenses. (Vikner 1997:207)

A Modern Swedish dialect spoken in Kronoby, Finland, and a Norwegian dialect spoken in Tromsø have been particularly problematic for these paradigm-based accounts of the RAH. As examples (16) and (17) illustrate, Kronoby-Swedish and Tromsø-Norwegian both exhibit verb raising ((16) is from Bobaljik (2000:16), (17) from Iversen (1918:83)).

- (16) He va bra et an **tsöfft** int bootsen. (Kronoby-Swedish)  
*it was good that he bought not book-the*  
 ‘It was good that he didn’t buy the book.’
- (17) Vi va bare tre stökka, før det at han Nilsen **kom** ikkje.  
 (Tromsø-Norwegian)  
*we were only three pieces for that that he Nilsen came not*  
 ‘There were only three of us, because Nilsen didn’t come.’

Neither one of these dialects has distinctions in number and person in either the present or the past tense, even though they both exhibit verb raising in embedded clauses. Thus, the strict version of the RAH cannot account for the presence of verb raising in such languages with an impoverished verbal paradigm. As a result, both Vikner (1997) and Rohrbacher (1999) have left the issue unresolved.

The state of affairs in Early Modern Danish is identical to that of these dialects: Danish exhibits ‘poor morphology’, according to the formulations of richness in (14) and (15), during the same time in which it has V<sup>o</sup>-to-I<sup>o</sup> movement. Changes in the verbal paradigm between Middle Danish (ca. 1300) and Early Modern Danish (ca. 1500) can be represented as in (18).<sup>14</sup>

(18) *Verbal Agreement Paradigm – present and past tense, indicative*

	Middle Danish (1300)	Early Modern Danish (1500)
1st pres sg	-e(r)	
2nd pres sg	-er	-er
3rd pres sg	-er	
1st pres pl	-e /-um	
2nd pres pl	-e	-e
3rd pres pl	-e	
1st past sg		
2nd past sg	-e	-e
3rd past sg		
1st past pl		
2nd past pl	-e	-e
3rd past pl		

As the paradigm indicates, there are some optional or alternative endings in Middle Danish, especially in the first person (singular and plural) present tense forms. However, as Bertelsen (1905:43, 95–97, 171–172), Haugen (1976:208–209), and Vikner (1997:206) note, any distinctions in person agreement disappeared by 1350. A typical paradigm for the verb *dømæ* ‘to judge’ in 1350 would be as in (19) (from Bertelsen 1905:95–97).

(19) *Middle Danish (ca. 1350): dømæ ‘to judge’*

	Present tense	Past tense
1st pers sg	dømær	dømdæ
2nd pers sg	dømær	dømdæ
3rd pers sg	dømær	dømdæ
1st pers pl	dømæ	dømdæ
2nd pers pl	dømæ	dømdæ
3rd pers pl	dømæ	dømdæ

Although there is scholarly disagreement on the loss of distinctions in NUMBER in the present tense, it is clear that distinctions in PERSON had completely disappeared in the 14th century.<sup>15</sup> For the paradigm-based accounts of Rohrbacher (1994, 1999) and Vikner (1997), the distinction between singular and plural is not necessary for their definitions of ‘rich’ morphology. The widespread syncretism in the Early Modern

Danish inflectional paradigm for PERSON agreement is, however, problematic for both of the statements in (14) and (15).

The paradigm in (19), from 14th-century Middle Danish, causes even more significant complications for Rohrbacher's and Vikner's analyses when we consider that the simplified paradigm from 1350 implies that verb raising should have been lost almost 250 years earlier in Danish. This 'lag effect', as Bobaljik (2000:16) puts it, poses serious problems for the strict version of the RAH: 'the acceptance of a "lag" would force the conclusion that for approximately 200 years, whole generations of Scandinavians were born, lived and died speaking something that was not, technically speaking, a language'. On the other hand, Rohrbacher (1999:117) counters this argument by claiming that the lag effect is a result of conservative tendencies in the written language. As the data in section 3 show, however, all texts in the corpus written between 1500 and 1700 show some amount of verb raising, regardless of the text-type, subject matter, or style. If the frequency of the old embedded-clause word order in a text corresponds to how 'conservative' the written language of that text is, then we would not expect texts closer to the spoken language, like Trolle's personal letters, to exhibit a higher frequency of verb raising than diplomatic letters like *Kirk1* or *Kirk2*. In addition, one could use Rohrbacher's same argument against him: if archaic word order patterns in the 16th and 17th centuries are the result of conservative tendencies in writing, then any remaining inflectional endings in the earliest Danish documents from the 14th century are also remnants of the conservative written language. This would imply that agreement was lost even earlier in Danish, providing evidence that the lag between morphological and syntactic change is even greater than 250 years.

The weak version of the RAH, on the other hand, has no problems explaining the lag effect in the history of Danish. As Bobaljik (2000) notes, Middle Danish and Early Modern Danish have essentially the same array of inflectional markers as some modern dialects such as the modern Norwegian dialect from Hallingdalen: they exhibit number agreement in the present tense yet lack person agreement in all tenses (Bobaljik 2000:16).<sup>16</sup> As Bobaljik & Thráinsson (1998) point out, these facts do not compromise the weak version of the RAH, because it does not stipulate a two-way entailment between verb raising and inflection. According to Bobaljik & Thráinsson (1998) and Bobaljik (2000), a language can have obligatory or even optional verb raising at the same time that it lacks 'rich' verbal inflection.

## 5. AMBIGUOUS WORD ORDER AS A FACTOR IN THE DECLINE OF VERB RAISING

As many scholars have pointed out, the strict version of the RAH would conveniently allow us to explain aspects of grammatical change and parameter (re)setting while

neatly tying together a cluster of morphological and syntactic changes in various languages. Unfortunately, the diachronic data do not lend support this simple, elegant explanation, forcing us to look elsewhere for a possible ‘triggering mechanism’ for the decline and loss of verb raising in Mainland Scandinavian.

Instead of asking the question, ‘what is the trigger for the loss of verb raising in Danish or Swedish’, we can formulate this question in the following way: ‘what contributing factors may have introduced the possibility of embedded-clause word order without verb raising?’ Basing my conclusions on this study of Early Modern Danish embedded clauses and on a similar investigation of Old Swedish in Sundquist (2002), I propose that one of the contributing factors to the high frequency of clauses with the verb *in situ* is the presence of ambiguous word order. In particular, I suggest that sentences with the order [relative pronoun – adverbial – finite verb] are ambiguous and could be interpreted structurally as a clause without verb raising or as SF with a fronted adverbial. In the case of Early Modern Danish, the frequency of SF during the 16th and 17th centuries and the high frequency of [adverbial – finite verb] order provided language-acquirers with the possibility that clauses could be interpreted with the verb *in situ*.

Consider the following Early Modern Danish examples, which could be construed as Stylistic Fronting with negation and other adverbials:

- (20) som **icke** kan skriffuiss paa denne gang (Christian 44:16)  
*which not can written-be at this time*  
 ‘which cannot be written at this time’
- (21) som **alltid** handlede med min fader (Monrad 13:1)  
*who always traded with my father*  
 ‘who always traded with my father’

In both clauses, the adverb occurs in a position immediately left-adjacent to the finite verb. Thus, the order [adverb – finite verb] is identical to the new embedded-clause word order pattern with the finite verb *in situ*. Platzack takes note of the structural ambiguity caused by examples like (20) and (21) and provides the following two interpretations of a similar example from Old Swedish (1988:226):

- (22) a. [huar [sum [ei<sub>i</sub> **halder**<sub>j</sub> [VP e<sub>i</sub> [VP e<sub>j</sub> kunungx dom]]]]]  
 b. [huar [sum [IP [NP e] [Ie] [VP **ei** [VP **halder** kunungx dom]]]]]  
*who (not) (observe) not observe king's judgement*  
 ‘he who does not observe the king’s decrees’

The landing-site and type of movement of the adverbial in SF in (22a) are not of concern in the present discussion. Of more significance is the fact that a language-acquiring child would be confronted with conflicting evidence about the position of the finite verb.

Text and date	N (examples with SF)	% of SF
<i>RD</i> (1505–1511)	11/20	55%
<i>Kirk1</i> (1536–1539)	27/64	42%
<i>Pall</i> (1543)	14/34	41%
<i>Trolle</i> (1558–1564)	12/42	29%
<i>Gjøe</i> (1563–1566)	2/11	18%
<i>Krabbe</i> (1573)	5/9	56%
<i>Hemm</i> (1574)	8/28	29%
<i>Huitfeldt</i> (1603)	25/56	45%
<i>Christian</i> (1625)	26/51	51%
<i>Kirk2</i> (1651–1662)	15/27	56%
<i>Christina</i> (1674)	9/29	31%
<i>Monrad</i> (1689)	16/55	29%
TOTALS	170/426	40%

**Table 6. Stylistic fronting in Early Modern Danish.**

As the data from my analysis of Early Modern Danish in Table 6 demonstrate, if we assume that adverbials may be fronted, as in (24a), SF was frequent during the 16th and 17th centuries.<sup>17</sup>

The figures in Table 6 indicate that not only was SF common throughout the 16th and 17th centuries, it was even more frequent in some of the later texts than in some of the earlier texts. Texts from the middle of the 16th century, such as *Gjøe* and *Trolle*, exhibit SF at a rate of 18% and 29%, respectively, while late 17th-century texts like *Christina* or *Kirk2* exhibit SF-rates as high as 31% and 56%. In fact, SF continues to occur at an average rate of 36% (40/111) in the three texts from the latter half of the 17th century.

The majority of SF-examples in Table 6 are like (20) and (21) and contain adverbials. Of the 170 examples with SF, 90 of them (53%) contain sentential adverbials. These results corroborate findings in previous investigations of Old Swedish and Middle Swedish by Pettersson (1988) and Sundquist (2002): SF is a relatively frequently-used construction, especially if we include adverbials. If we exclude the ambiguous examples, it is clear that, although the dataset is smaller, SF is still a common and grammatical possibility throughout the Early Modern Danish period; see Table 7.

As Table 7 indicates, there are no definite trends in the data that point to a loss of SF or an increase or decrease in frequency between 1500 and 1700. Of significance for this study is that SF is still a grammatical possibility up until the end of the period under investigation.<sup>18</sup>

Text and date	N (of examples with SF without adverbials)	% of SF (without adverbials)
<i>RD</i> (1505–1510)	7/16	44%
<i>Kirk1</i> (1536–1539)	11/48	23%
<i>Pall</i> (1543)	5/25	20%
<i>Trolle</i> (1558–1564)	8/38	21%
<i>Gjøe</i> (1563–1566)	1/10	10%
<i>Krabbe</i> (1573)	4/8	50%
<i>Hemm</i> (1574)	4/24	17%
<i>Huitfeldt</i> (1603)	14/45	31%
<i>Christian</i> (1625)	15/40	38%
<i>Kirk2</i> (1651–1662)	3/15	20%
<i>Christina</i> (1674)	5/25	20%
<i>Monrad</i> (1689)	3/42	7%
TOTALS	86/342	25%

**Table 7. Frequency of SF (excluding adverbials).**

Regardless of whether we consider examples with the order [adverbial – finite verb] to be SF or not, the fact remains that there is a high percentage of ambiguous word order patterns in the PLD. Pettersson (1988) comes to a similar conclusion in her analysis of SF in Old Swedish, although she has different theoretical motivations for her argument. She suggests (p. 178) that SF of adverbials is the ‘ancestor’ of modern embedded-clause word order. Her conclusion is based on the alleged ‘functionality’ of the word order pattern [adverb – finite verb]: because embedded and main-clause word order was identical in the earliest Old Swedish texts, the inverted word order pattern, [adverb – finite verb], in SF became associated with subordination in order to distinguish main clauses from embedded clauses. I agree with Platzack (1988) in his critique of Pettersson; it is doubtful that the order [adverb – finite verb] acted as any kind of marker for subordination, since not all embedded clauses contain adverbials. However, I disagree with Platzack’s (1988:226) argument against Pettersson that SF with adverbials cannot be construed as an example of the new embedded-clause word order. He points out that SF of adverbials and normal embedded clauses are fundamentally different, and that, while SF only occurs in sentences with a subject-gap, all other types of embedded clauses contain an overt subject. Even though this point is factually correct, it fails to address the more important issue of the relative ordering of the finite verb and sentential adverb. Regardless of the presence or absence of an overt subject, examples of this word order present the language-acquiring child with conflicting evidence on the position of the finite verb. In addition, it is important



to consider the frequency with which SF occurs at this stage of the language and, in particular, the frequency with which adverbials may be fronted.

From the data excerpted from texts written around 1500, it is clear that this type of evidence had already begun to affect the frequency of the new embedded-clause word order before the Early Modern Danish period, and it continued to affect the relative frequency of the modern word order as late as 1700. The number of clauses with the verb *in situ* increased gradually during the same period in which the frequency of [adverbial – finite verb] order in clauses with a subject-gap was still high. We know from Falk's (1993) extensive study of Early Modern Swedish that the frequency of SF was also high in texts from the middle of the 15th century (1993:182), when the frequency of verb raising begins to decline.<sup>19</sup> Throughout the Old and Middle Swedish period (1200–1450), several generations of language learners would have been exposed to a significant number of ambiguous examples with preverbal adverbials.

One problem with the contention that SF of adverbials affected the frequency of V°-to-I° movement in Danish and Swedish is that it wrongly predicts that Icelandic would have lost verb raising. Unlike its Mainland Scandinavian counterparts, Modern Icelandic exhibits obligatory verb raising in embedded clauses (from Vikner 1995:139):

- (23) a. Ég spurði [CP af hverju [IP Helgi hefði [VP oft lesið þessa bók]]]  
*I asked why Helgi had often read this book*  
 b. \*Ég spurði [CP af hverju [IP Helgi [VP oft hefði lesið þessa bók]]]  
*I asked why Helgi often had read this book*  
 'I asked why Helgi had often read this book.'

In addition, SF of various categories is still possible in Modern Icelandic (from Jónsson 1991 and Holmberg 2000):

- (24) a. Þetta er versta bók som skrifuð hefur verið.  
*this is worst book that written has been*  
 b. Sá sem fyrstur er að skora mark fær sérstök verðlaun  
*he that first is to score goal gets special prize*

As the following two examples illustrate, the list of possible categories that may undergo SF in Icelandic includes sentential adverbs (from Jónsson 1991):

- (25) a. Þetta er tilboð sem er ekki hægt að hafna  
*this is offer that is not possible to reject*  
 b. Þetta er tilboð sem ekki er \_\_\_\_\_ hægt að hafna

As in Old Swedish, it is unclear whether the verb remains *in situ* in the VP in (25b) or whether it raises along with the fronted adverb. Assuming that this type

of ambiguity introduces the possibility of the modern Mainland Scandinavian word order in Icelandic, we might expect that these clauses would trigger word order variation in other embedded clauses.

As data on adverbial and relative clauses indicate, Icelandic does exhibit a limited form of optional verb raising. Consider the following examples and the various positions of the finite verb relative to the adverb (from Sigurðsson 1989:44):

- (26) a. þegar María **keypti** loksins bókina  
           *when Mary bought finally book-the*  
       b. þegar María loksins **keypti** bókina  
           *when Mary finally bought book-the*
- (27) a. Það er nú það sem ég **veit** ekki.  
           *that is now it that I know not*  
       b. Það er nú það sem ég *ekki* **veit**.  
           *that is now it that I not know*  
           ‘Now that is (exactly) what I don’t know.’

Sigurðsson (1989:44) describes the word order in (26b) and (27b) in the following way: ‘the construction is rather informal, but it seems to be on the increase in the language’. He notes that this type of variation occurs only in relative and adverbial clauses. Thus, it seems that word order variation has entered into the language only recently in Icelandic in some exceptional cases. The question remains, however, why such a change did not take place earlier and in more contexts in the history of Icelandic as it did in the history of Swedish and Danish.

Much of the scholarship on  $V^\circ$ -to- $I^\circ$  movement in the Scandinavian languages focuses on the input available to language-acquiring children and on what type of evidence they would need to determine that a language like Icelandic has verb raising. Vikner (1995) points out that only non-V2 clauses with a medial adverbial or negation provide such evidence in Icelandic syntax. He also notes (p. 161), however, that such examples are relatively rare. In addition, as (26) and (27) illustrate, Icelandic exhibits variation in some embedded clauses, like relative or adverbial clauses. The apparent absence of robust evidence in syntax has led scholars like Platzack (1988), Falk (1993), Rohrbacher (1994, 1999), and Vikner (1997) to the conclusion that acquisition of  $V^\circ$ -to- $I^\circ$  movement is not dependent on evidence from word order itself. Rohrbacher states this view in the following way: ‘Direct observation of word order patterns in the input is neither strictly speaking linguistic nor is it accessible to the LAD [Language Acquisition Device], but it is instead part of general cognitive processes (i.e. the periphery . . .)’ (1994:157). Thus, Rohrbacher’s (1994, 1999) proposal implies that the acquisition of verb raising is contingent solely on the acquisition of the verbal inflectional paradigm.<sup>20</sup> As the data from Early Modern Danish demonstrate, however, this approach faces several problems in light of diachronic data.

I have suggested in this section that the acquisition of  $V^\circ$ -to- $I^\circ$  movement is related to the presence of unambiguous syntactic clues. In particular, I proposed that examples with the order [adverbial – finite verb] provide conflicting evidence during the acquisition process. The view that word order itself may act as a trigger for the acquisition of verb raising has also been proposed by Thráinsson (1996), Bobaljik & Thráinsson (1998) and Bobaljik (2000). They suggest that the presence of verb raising provides direct evidence that a language has a complex Split-IP structure that could accommodate verb movement. However, verb movement is not the only syntactic property that provides this type of evidence. Bobaljik & Thráinsson (1998:67) list the following properties as morpho-syntactic triggers for and direct consequences of a Split-IP:

- (28) a. the availability of two subject positions between CP and VP  
 b. the possibility of transitive expletive constructions  
 c. the availability of a VP-external derived object position  
 d. obligatory raising of the verb to Infl in non-V2 environments  
 e. the possibility of multiple inflectional morphemes on the verb stem

Germanic VO-languages with a Split-IP, such as Yiddish and Icelandic, exhibit all four syntactic features in (28a–d) and also the morphological feature in (28e), while languages with an Unsplit-IP, like the modern Mainland Scandinavian languages and English, exhibit none of these properties. According to Bobaljik & Thráinsson (1998), children will set the parameter for a Split-IP upon proper identification of any one of these five properties.

Thus, the assumptions in Bobaljik & Thráinsson (1998) provide an explanation for why Icelandic has retained  $V^\circ$ -to- $I^\circ$  movement. Despite counter-evidence from clauses with SF of adverbials and relative clauses with the verb *in situ*, children set the parameter for a Split-IP in Icelandic. Besides evidence from embedded clauses, there are four other syntactic clues and one morphological clue available to them in the input.

I follow this line of argumentation in this diachronic study of Early Modern Danish, assuming that the acquisition of the parameter-setting responsible for verb raising is dependent on the acquisition of additional syntactic properties besides rich verbal morphology. Following Bobaljik (2000), I assume that language-acquirers may set the necessary parameter for verb raising based on their observation of unambiguous word order patterns – not morphology. Ambiguous word order, as exhibited by clauses with SF of adverbials, posed complications for acquisition of verb raising in Early Modern Danish, forcing language-acquirers to scan the available data on other word order properties in (28) indicative of the more complex IP-structure. In the absence of any of these clues in syntax, they deduced that Danish had a simple IP-structure without verb movement. Additional research on the distribution and frequency of transitive expletive constructions and the possibility

of multiple subject positions in Early Modern Danish would verify these conclusions. The hypothesis proposed here is that the syntactic properties indicative of a Split-IP, as proposed by Bobaljik & Thráinsson (1998), would undergo changes in tandem during periods of change in earlier Danish. As the evidence on embedded clauses indicates, we can assume that by the end of the 17th century, Early Modern Danish most likely exhibited none of the properties in (28).<sup>21</sup>

## 6. CONCLUSION

I have presented in this paper an analysis of word order variation in embedded clauses in the Early Modern Danish period, focusing on texts written between 1500 and 1700. The results of the quantitative analysis of the frequency of old and new embedded-clause word order patterns indicate that there are no empirical reasons to assume that the loss of distinctions in the verbal paradigm brought about the ultimate LOSS of verb raising in Danish, as proponents of the strong version of the RAH have suggested (e.g., Vikner 1997 and Rohrbacher 1999). An interval of approximately 250 years separates the breakdown in verbal agreement inflection and any significant decline in the frequency of the old embedded-clause word order. Even in the late 17th century, some texts exhibit word order patterns with verb raising at a rate of 12%. Although there is no ultimate loss of  $V^{\circ}$ -to- $I^{\circ}$  movement between 1500 and 1700, the data provide evidence of structured variation that manifests itself in a gradual increase in the frequency of modern Mainland Scandinavian word order patterns. This development is not parallel to changes in inflection in Danish. A so-called ‘rich’ agreement paradigm in Old and Middle Danish, particularly inflectional distinctions in PERSON agreement, broke down several centuries before verb raising became very infrequent. On the other hand, the weaker version of the RAH, proposed by Bobaljik & Thráinsson (1998) and Bobaljik (2000) is not compromised by the Early Modern Danish data. Because this view makes no claims concerning the loss of subject-verb agreement morphology, it adequately describes the relationship between verb raising and inflection.

In the section 5, I discussed a possible reason for word order variation in the 16th century and 17th century. I proposed that examples of the order [adverbial – finite verb] with a subject-gap were ambiguous, creating conflicting evidence for the position of the finite verb in embedded clauses. These sentences could be interpreted as examples with SF of adverbials and verb raising or early attestations of the modern embedded-clause word order. The ambiguity and high frequency of this pattern forced language-acquirers to seek out other syntactic evidence for the position of the finite verb in their input. In the remaining portion of section 5, I discussed how this proposal supports the view that the acquisition of any parameter for verb raising is dependent on syntactic clues in the PLD. In particular, I note the advantages of the approach to acquisition of verb raising proposed by Bobaljik & Thráinsson

(1998) and Bobaljik (2000). This broader view of verb movement and other syntactic phenomena allows us to account for a number of cross-linguistic facts in the modern Germanic languages and maintain the proposal here that other changes in word order and structural ambiguity, and not the loss of inflection, brought about the decline and loss of verb raising.

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## NOTES

1. Discussion in this article is limited to embedded clauses because V2-effects make it impossible to identify independent V<sup>o</sup>-to-I<sup>o</sup> movement in main clauses in Germanic V2 languages.
2. Throughout this article, I assume that sentential adverbials and negation mark the left-periphery of the VP and serve as a diagnostic for determining the position of the finite verb.
3. Verb raising in the modern and older Scandinavian languages has been the topic of many analyses over the last two decades. For a general overview of scholarship on the topics of verb raising and verbal agreement inflection, including discussion of diachronic analyses, see Vikner (1997) or Sprouse (1998). Bobaljik (2000) provides a recent summary of opposing views on verb raising in Modern Scandinavian.
4. See Sundquist (2002) for an overview of the changes in subject-verb agreement paradigms in both Swedish and Danish.
5. For a complete list of the texts, their abbreviations, and any additional information on the editions and manuscripts used in this chapter, see section A of the references. In addition, for more detailed discussion of issues of text selection, see Sundquist (2002).
6. See Skautrup (1947) or Rossel (1992) for an overview of source material from the Late Middle Danish and Early Modern Danish periods.
7. I have limited my analysis to examples with sentential adverbials like negation or *aldri* 'never' or *alltid* 'always'. To avoid problematic examples in which an adverbial may be adjoined to the lower VP, I have not included clauses with non-sentential adverbials.
8. Vikner (1995:71) provides the following, non-exhaustive list of bridge verbs in Danish: *antydde* 'hint', *angive* 'indicate', *svare* 'answer', *påstå* 'claim', *berette* 'report', *betone* 'emphasize', *beslutte* 'decide', *tro* 'believe', *synes* 'think', *håbe* 'hope', *mene* 'mean', *sige* 'say', *føle* 'feel', *vide* 'know'.

9. See Maling (1980) for the first generative account of SF in modern Icelandic. SF is traditionally seen as movement of various categories to an empty subject-like position in finite clauses, usually in subject relative clauses, but also in embedded subject questions and complement clauses with a subject gap; see Jónsson (1991), Holmberg & Platzack (1995), Holmberg (2000), and Delsing (2001) for more recent analyses. Although Maling (1980) and Holmberg & Platzack (1995:116) describe SF as head-movement of adverbs, adjectives, particles, or past participles, Holmberg (2000) points out a number of examples in which PPs and object NPs also undergo SF.
10. See Pintzuk (1988) or Young & Bayley (1996) for discussion on the history of using the set of computer programs, VARBRUL, in statistical analysis. See Sundquist (2002) for a summary of how it may be applied to diachronic syntactic research.
11. Probabilistic weight is VARBRUL's measurement of a variable's effect. It appears as a number between 0.00 and 1.00; a factor weight of .50 has no effect on the choice of a dependent variant, while a weight above .50 has a favoring effect, and a weight below this threshold has a disfavoring effect.
12. The period under investigation (1500–1700) is subdivided into four 50-year periods, allowing us to assemble an adequate sample of representative examples for each period. To achieve continuity over all four periods, I set a minimum of 100 token embedded clauses for each 50-year period. As a result, there are fewer texts from some periods, yet the total number of sample sentences for each period is similar.
13. VARBRUL also analyzed the factor group 'Type of Subject', to determine whether the choice between pronominal and non-pronominal subjects significantly affects the frequency of verb raising. In only one text, *Hemm*, did pronominal subjects have a significant effect on verb raising. Such data provide evidence against the hypothesis that instances of the modern embedded-clause word order exhibit cliticization of pronominal subjects to conjunctions. For further discussion of the data associated with this factor group, see Sundquist (2002:303).
14. Naturally, this is an idealized paradigm that does not take in to account most regional differences. I have indicated some alternate inflectional endings with a slash (/), and I have placed parentheses around optional forms.
15. According to Skautrup (1947:2:355), the distinctions between plural and singular in the present tense remained intact up through the 16th century in the written language, although spoken dialects of Danish had lost these distinctions much earlier. Although the grammarian Peder Syv (1685) wants to preserve the older inflection in writing, Henrik Thomsen Gerner (1678) proposes to eradicate the more conservative plural forms in the written language to reflect more closely the spoken language (Skautrup 1947:2:355). As the texts from the 17th century indicate, the writing practices of various authors reflect the two different opinions: whereas Leonora Christina uses both plural and singular forms in 1674, Christian IV uses exclusively singular forms 50 years earlier. Thus, the paradigm in (18) was still sporadically used in 17th-century written language, although the distinctions in number most likely disappeared much earlier in the spoken language. Although distinctions in NUMBER in Danish are irrelevant in Vikner's and Röhrbacher's accounts, they are important to keep in mind for comparison with Falk's (1993) analysis of Early Modern Swedish.
16. Note that although Hallingmålet has a slightly impoverished paradigm like Early Modern Danish, it differs in that it lacks even optional verb raising. I wish only to point out

the similarities between the two languages with respect to verbal inflection. Venås (1977) gives the following present-tense paradigm for the dialect of Hallingdalen (høyre ‘to hear’):

1st sg	e høyre	1st pl	me høyræ
2nd sg	du høyre	2nd pl	de høyræ
3rd sg	hann høyre	3rd pl	dæi høyræ

17. In order to determine the frequency of SF, I excerpted examples of clauses with subject gaps in which a past participle, predicative adjective, PP, object-NP, verbal particle, or adverbial is fronted. To establish the frequency of SF, I collected examples in which any one of these constituents did not undergo fronting. I excluded any examples with the finite verb in final position, or examples in which, if any element could be fronted, the finite verb would be in clause-final position.
18. I assume that the fluctuation in frequency in Table 7 is independent of the date of composition and the type of text, indicating that the occurrence of SF is dependent more on the stylistic preferences of individual authors than on internal linguistic factors.
19. Falk determined that SF occurs in 88% of the examples from *Sagan om Didrik af Bern* (22/25). The rate is even higher in *Stælinna Thrøst* (92%, or 23/25). Both texts are from the latter half of the 15th century.
20. See Sprouse (1998) and Bobaljik (2000) for an overview of previous research in L1 and L2 acquisition studies that investigate the Rich Agreement Hypothesis.
21. Research from Jonas’ (1996) study of modern Faroese dialects has yielded promising results to support this hypothesis. She found that speakers that accept the old embedded-clause word order also accept the other syntactic constructions that are indicative of a Split-IP. Assuming that Faroese is similar to earlier Modern Danish, we have a testing-ground for hypotheses concerning syntactic change. In Sundquist (2002), I discuss a number of the syntactic similarities between Faroese and Early Modern Danish.

## REFERENCES

### A. Primary texts cited

(in alphabetical order according to text abbreviations)

*Christian* In C. F. Bricka & J. A. Fridericia (eds.), *Kong Christian den fjerdes egenhændige breve 1589–1625 I*. Copenhagen, 1969.

Letters investigated:

13 August 1601	18 August 1604	4 May 1610	22 July 1610
26 September 1610	30 January 1611	15 May 1611	5 April 1615
16 April 1616	14 December 1616	1 July 1617	5 May 1618
11 May 1618	11 August 1618	1 April 1619	13 April 1620
24 March 1620	21 April 1620	4 May 1620	22 June 1620
12 February 1621	24 February 1621	10 March 1621	12 June 1621
26 June 1621	4 July 1621	22 March 1622	6 October 1621
24 March 1622	10 March 1623	1 September 1623	8 September 1623
10 June 1624	31 May 1624	15 June 1624	4 March 1625

- Christina* In Sophus Birket Smith (ed.), *Leonoræ Christinæes jammers minde*. Copenhagen, 1885, 1–101.
- Gjøe* In Gustav Bang (ed.), *Breve til og fra Kristoffer Gjøe og Birgitte Bølle*. Copenhagen, 1898, letters 7, 10, 11, 12, 14, 15, 19, 20, 22, 24, 25, 32, 40, 43, 48.
- Hemm* In Gustav Ludvig Wad (ed.), *Breve til og fra Herluf Trolle og Birgitte Gjøe 1*. Copenhagen, 1893, xv–xxxviii.
- Huitfeldt* In G. Ilsøe (ed.), *Huitfeldt manuskripter*. Copenhagen, 1976, 3–100.
- Kirk1* In Holger Rørdam (ed.), *Danske kirkelove: samt udvalg af andre bestemmelser vedrørende Kirken, Skolen, og de fattiges Forsørgelse fra Reformationen indtil Christian V's Danske Lov 1*. Copenhagen, 1883, letters 2, 4, 5, 8, 9, 11, 12, 15, 16, 17, 18, 22, 24.
- Kirk2* In Holger Rørdam (ed.), *Danske kirkelove: samt udvalg af andre bestemmelser vedrørende Kirken, Skolen, og de fattiges Forsørgelse fra Reformationen indtil Christian V's Danske Lov 2*. Copenhagen, 1883, letters 360, 362, 364, 369, 371, 372, 374, 375, 376, 379, 381, 382, 383, 386, 389, 392, 394, 397, 408, 409, 414, 428, 429, 431, 436.
- Krabbe* In Gustav Ludvig Wad (ed.), *Breve til og fra Herluf Trolle og Birgitte Gjøe 2*. Copenhagen, 1893, letters 128, 151, 164, 165, 193.
- Monrad* In Sophus Birket Smith (ed.), *Johan Monrads selvbiografi (1638–1692)*. Copenhagen, 1888, 1–85.
- Pall* In Lis Jacobsen (ed.), *Peder Palladius' danske skrifter 1*. Copenhagen, 1925, 25–85.
- RD* In William Christensen (ed.), *Repertorium Diplomaticum Regni Danici Mediævalis*. Copenhagen, 1928–1934.

#### Letters investigated in *RD 6*:

1 February 1505	2 February 1505	17 August 1505	14 November 1505
15 November 1505	12 September 1506	21 December 1506	19 March 1507
15 May 1507	9 July 1507	19 July 1507	22 July 1507
13 September 1507	20 January 1508	7 May 1508	8 May 1508
17 July 1508	24 July 1508	1 August 1508	2 August 1508
25 August 1508	9 October 1508	10 October 1508	16 December 1508
21 December 1508	28 December 1508	23 July 1508	3 January 1510
22 January 1510			

#### Letters investigated in *RD 7*:

21 January 1511	10 March 1511	28 March 1511	5 April 1511
25 April 1511	10 May 1511		

- Trolle* In Gustav Ludvig Wad (ed.), *Breve til og fra Herluf Trolle og Birgitte Gjøe 1*. Copenhagen, 1893, letters 1–5, 11, 12, 16, 19, 21, 27, 30, 35, 37, 46, 47, 50–52, 56–58, 63, 64, 66–71, 73, 77, 79, 80, 81, 84–88, 100, 101.

## B. Secondary sources

- Bertelsen, Henrik. 1905. *Dansk Sproghistorisk Læsebog. Første del: Oldtid og Middelalder (1400–1500)* [The history of Danish: A reader. Part I: Prehistory to the Middle Ages]. Copenhagen: Gyldendalske Boghandel/Nordisk Forlag.



- Bobaljik, Jonathan David. 2000. The Rich Agreement Hypothesis in review. Ms., Department of Linguistics, McGill University.
- Bobaljik, Jonathan David & Höskuldur Thráinsson. 1998. Two Heads Aren't Always Better than One. *Syntax* **1.1**, 37–71.
- Chomsky, Noam. 1991. Some Notes on Economy of Derivation and Representation. In Robert Freidin (ed.), *Principles and Parameters in Comparative Syntax*. Cambridge, MA: MIT Press, 417–454.
- Delsing, Lars-Olof. 2001. Stylistic Fronting, evidence from Old Scandinavian. *Working Papers in Scandinavian Syntax* **68**, 147–171.
- Emonds, Joseph. 1978. The verbal complex V'-V in French. *Linguistic Inquiry* **9.2**, 151–175.
- Falk, Cecilia. 1993. *Non-referential Subjects in the History of Swedish*. Ph.D. dissertation, Department of Scandinavian Languages, University of Lund.
- Haugen, Einar. 1976. *The Scandinavian Languages: An Introduction to Their History*. London: Faber and Faber.
- Holmberg, Anders. 2000. Scandinavian Stylistic Fronting: how any category can become an expletive. *Linguistic Inquiry* **31.4**, 445–483.
- Holmberg, Anders & Christer Platzack. 1995. *The Role of Inflection in Scandinavian Syntax*. Oxford: Oxford University Press.
- Iversen, Ragnvald. 1918. *Syntaksen i Tromsø Bymaal* [The syntax of the dialect of Tromsø]. Kristiania: Bymaals-Lagets Forlag.
- Jonas, Dianne. 1996. *Clause Structure and Verb Syntax in Scandinavian and English*. Ph.D. dissertation, Harvard University.
- Jónsson, Jóhannes Gíslí. 1991. Stylistic Fronting in Icelandic. *Working Papers in Scandinavian Syntax* **48**, 1–43.
- Kosmeijer, Wim. 1986. The status of the finite inflection in Icelandic and Swedish. *Working Papers in Scandinavian Syntax* **26**, 1–41.
- Larsson, Carl. 1931. *Ördföljdsstudier over det finita verbet i de nordiska fornspråken* [Studies of the syntax of the finite verb in the Early Nordic languages]. Uppsala: Lundequistska bokhandlen.
- Maling, Joan. 1980. Inversion in embedded clauses in Modern Icelandic. In Joan Maling & Annie Zaenen (eds.), *Modern Icelandic Syntax*. San Diego: Academic Press, 71–91.
- Pettersson, Gertrud. 1988. Bisatsledföljden i svenskan: eller verifrån kommer BIFF-regeln? [Studies on subordinate clause word order in Swedish: what is the origin of the BIFF-rule?] *Arkiv för nordisk filologi* **103**, 157–180.
- Pintzuk, Susan. 1988. VARBRUL Programs [computer program]. Philadelphia: University of Pennsylvania Department of Linguistics.
- Platzack, Christer. 1988. The emergence of a word order difference in Scandinavian subordinate clauses. In Denise Fekete & Zofia Laubitz (eds.), *McGill Working Papers in Linguistics: Special Issue on Comparative Germanic Syntax*. 215–238.
- Pollock, Jean-Yves. 1989. Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* **20.4**, 365–424.
- Rohrbacher, Bernhard. 1994. *The Germanic VO Languages and the Full Paradigm*. Ph.D. dissertation, Department of Linguistics, University of Massachusetts.
- Rohrbacher, Bernhard. 1999. *Morphology-Driven Syntax: A Theory of V to I raising and Pro-drop*. Amsterdam: John Benjamins.
- Rossel, Sven H. (ed.). 1992. *A History of Danish Literature*. Lincoln: University of Nebraska Press.

- Sigurðsson, Halldór Ármann. 1989. *Verbal Syntax and Case in Icelandic*. Ph.D. dissertation, University of Iceland.
- Skautrup, Peter. 1947. *Det danske sprogs historie 2* [A history of the Danish language]. Copenhagen: Gyldendalske Boghandel.
- Sprouse, Rex A. 1998. Some notes on the relationship between inflectional morphology and parameter setting in first and second language acquisition. In Maria-Luise Beck (ed.), *Morphology and its Interfaces in Second Language Knowledge*. Amsterdam: John Benjamins, 41–67.
- Sundquist, John D. 2002. *Morphosyntactic Change in the History of the Mainland Scandinavian Languages*. Ph.D. dissertation, Indiana University.
- Thráinsson, Höskuldur. 1996. On the non-universality of functional categories. In Werner Abraham (ed.), *Minimal Ideas*. Amsterdam: John Benjamins, 253–281.
- Travis, Lisa. 1984. *Parameters and Effects of Word Order Variation*. Ph.D. dissertation, MIT.
- Venås, Kjell. 1977. *Hallingmålet*. Oslo: Det norske samlaget.
- Vikner, Sten. 1995. *Verb Movement and Expletive Subjects*. Oxford: Oxford University Press.
- Vikner, Sten. 1997. V-to-I movement and inflection for person in all tenses. In Liliane Haegeman (ed.), *The New Comparative Syntax*. London: Longman, 189–211.
- Wenning, E. Alf. 1930. *Studier över ordföljden i fornsvenska* [Studies of word order in Early Swedish]. Lund: AB Lindstedts Univ.-bokhandel.
- Young, Richard & Robert Bayley. 1996. VARBRUL analysis for second language acquisition research. In Robert Preston & Dennis R. Bayley (eds.), *Second Language Acquisition and Linguistic Variation*. Amsterdam: John Benjamins, 253–306.