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ON THE INTERACTION BETWEEN SYNTAX AND MORPHOLOGY: NEW EVIDENCE FROM THE LOSS OF VERB MOVEMENT IN ENGLISH*

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1. INTRODUCTION

This paper is concerned with a long-standing issue in the literature, namely the cross-linguistic variation in the distribution of lexical verbs with respect to adverbs and negation, and more specifically its relation to morphological variation. One example of the syntactic variation we are interested in is the well-known contrast between English and French (cf. Emonds 1978, Pollock 1989 and much subsequent work) illustrated in (1) and (2):

- (1) a. John often reads (*often) this newspaper. (Adv-V – *V-Adv)
b. Jean (*souvent) **lit** souvent ce journal. (*Adv-V – V-Adv)
- (2) a. John does not **read** this newspaper. (Neg-V)
b. Jean ne **lit** pas ce journal. (V-Neg)

In English, main verbs follow certain adverbs and negation (1a, 2a) whereas they precede these elements in French (1b, 2b). The opposite word orders are ruled out in each language.

The distribution of lexical verbs with respect to adverbs and negation is not only of interest synchronically, but also diachronically, since English used to have French-style word orders, as illustrated by the following Middle English examples:¹

- (3) a. Bott I **sawe** *noght* synne. (CMJULNOR, 60.289)
b. * But I **saw** *not* sin.
But I **did** *not* see sin.
c. ... he **sawe** *never* so grete a knight ... (CMMALORY, 180.2433)
d. *... he **saw** *never* so great a knight ...
... he never **saw** so great a knight ...

These examples show that in Middle English (ME), the finite verb precedes negation and some adverbs (3a/c), two options that are ungrammatical in Present-Day English (PDE), as negative constructions with *not* require the use of *do*-support (3b) and *never* has to precede the lexical verb (3d).

In terms of analysis, the standard view for the cross-linguistic variation illustrated in (1) and (2) is that adverbs and negation are merged at the VP-edge, and that the verb moves to the inflectional domain in French (V-to-I movement), but not in English. This holds for PDE, but data like (3) suggest that English underwent a diachronic change in the distribution of lexical

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¹ All data in this paper are based on the *Penn Corpora of Historical English* (Kroch and Taylor 2000, Kroch, Santorini and Diertani 2004, Kroch Santorini, and Diertani 2010) and *The Parsed Corpus of Early English Correspondence* (Taylor, Nurmi, Warner, Pintzuk, and Nevalainen 2006).

verbs with respect to negation and adverbs. They also suggest that the emergence of *do*-support is related to the changes involving negation. A standard assumption in the literature (cf. e.g. Roberts 1985, Kroch 1989, Pollock 1989 etc.) regarding these facts is that English lost V-to-I movement (henceforth V-movement²), a change sometimes situated around the end of the 16th century (cf. Roberts 1985, Kroch 1989), even though its complete loss may be much later, i.e. by the 19th century (cf. Warner 1997). As for the rise of *do*-support, it is generally taken to be a consequence of the loss of V-movement.

The developments in the history of English have played an important role in the wider context of the discussion of cross-linguistic variation with respect to V-movement and the possible reasons for this parametric variation, in particular the alleged correlation between V-movement and richness of verbal agreement, that is, the observation that languages with rich verbal agreement generally have V-movement, whereas those that have impoverished agreement do not have verb movement (The Rich Agreement Hypothesis; e.g. Vikner 1997, Rohrbacher 1999 etc.).

Although observations concerning the history of English have featured prominently in the discussion of the cross-linguistic variation with respect to V-movement, the empirical basis of the discussions has remained incomplete. Thanks to the detailed quantitative study of the rise of *do*-support by Ellegård (1953), we have a relatively good picture of the change illustrated in (3a/b), but there is little empirical work on the development of the distribution of adverbs with respect to verbs as shown in (3c/d). To fill this empirical gap, we will start this paper by examining the distribution of lexical verbs with respect to adverbs in the history of English from the Middle English period to the Late Modern one. We will then explore the consequences of our findings for the hypothesis that V-movement is related to richness of agreement, and we will show that theories postulating such a correlation are problematic in view of our data.

The paper is organised as follows. In section 2, we will provide quantitative evidence for the changes in adverb placement with respect to finite main verbs in the history of English. In section 3, we will compare the results obtained in section 2 to data involving sentential negation, i.e. the type of data that has generally been used as the primary source of evidence for the analysis of the loss of V-movement in English, and we will show that the two types of diagnostics for the loss of verb movement do not yield identical results. Section 4 focuses on two prominent approaches postulating a correlation between V-movement and syntax, and we will evaluate these analyses in the light of our findings on the loss of V-movement in English. Section 5 concludes the paper.

2. ADVERB PLACEMENT FROM MIDDLE ENGLISH TO LATE MODERN ENGLISH

2.1. Adverbs and finite main verbs: General overview

Given the standard assumption that V-movement allows verbs to move past adverbs, the loss of V-movement should be manifest in the development of the distribution of finite lexical verbs with respect to adverbs. More precisely, as the verb starts losing the ability to move outside the VP, there should be a decrease in the frequency of ‘subject-verb-adverb’ (SVAdv) orders and hence an increase in ‘subject-adverb-verb’ (SAdvV) orders over time.

² As the label of the actual landing site of a verb varies across different analyses (I, T, Agr etc.), we will use the neutral term V-movement here. However, we restrict this term to phenomena involving movement to the inflectional domain and leave verb movement to C aside here (cf. Swedish as an illustration for the fact that the two types of verb movement are not necessarily directly linked as Swedish has maintained V-to-C movement despite having lost V-to-I).

We examine this prediction by analysing data from four parsed corpora: *The Penn-Helsinki Parsed Corpus of Middle English 2* (PPCME2; 1150-1500), *The Parsed Corpus of Early English Correspondence* (PCEEC; c.1410-1695), *The Penn-Helsinki Parsed Corpus of Early Modern English* (PPCEME; 1500-1700), and *The Penn Parsed Corpus of Modern British English* (PPCMBE; 1700-1910).³ These corpora contain prose text samples from a variety of authors and genres. Only affirmative clauses with an overt subject, a finite main verb and a one-word AdvP are counted. All clause types are included. The particles *away*, *back* and *forth*, tagged as adverbs in the corpora, are not included in the counts. The data are subdivided into historical periods following the divisions proposed by Ellegård (1953) in his study of the rise of *do*-support for 1420 to 1700 (periods 4 to 12 in the tables below).⁴ Periods 1 to 3 and 13 to 15 correspond to the periods used in the *Penn Corpora of Historical English* (M1 to M3 for ME and three 70-year periods for Late Modern English).

Table 1 below provides quantitative evidence concerning the general developments in adverb placement with respect to the finite main verb from 1150 to 1914.

TABLE 1 *The distribution of adverb and finite main verb from Middle to Late Modern English in PPCME2, PPCEME, PCEEC, and PPCMBE*

Periods	SAdvV	SVAdv	Total
1. 1150-1250	299 (38.2%)	483 (61.8%)	782
2. 1250-1350	25 (13.5%)	160 (86.5%)	185
3. 1350-1420	164 (9.9%)	1486 (90.1%)	1650
4. 1420-1475	161 (8.5%)	1744 (91.5%)	1905
5. 1475-1500	123 (16.5%)	622 (83.5%)	745
6. 1500-1525	211 (37.3%)	355 (62.7%)	566
7. 1525-1550	432 (33.9%)	844 (66.1%)	1276
8. 1550-1575	370 (34.9%)	690 (65.1%)	1060
9. 1575-1600	460 (34.0%)	891 (66.0%)	1351
10. 1600-1625	641 (40.9%)	925 (59.1%)	1566
11. 1625-1650	466 (39.8%)	705 (60.2%)	1171
12. 1650-1700	1259 (43.8%)	1618 (56.2%)	2877
13. 1700-1770	571 (54.4%)	478 (45.6%)	1049
14. 1770-1840	662 (56.5%)	510 (43.5%)	1172
15. 1840-1914	504 (54.2%)	426 (45.8%)	930

On the basis of the data in Table 1, the following general observations can be made. Early Middle English (EME), the earliest period in our overview (1150-1250), exhibits a relatively high frequency of SAdvV order. This can be argued to be a late consequence of the Old English (OE) verb-final syntax. As is well-known (cf. e.g. van Kemenade 1987), OE has a clause type asymmetry that is reminiscent of the modern West Germanic languages in that the finite verb tends to occur towards the left of the clause in main clauses (frequent V2 orders) whereas it tends to occur towards the end of the clause in subordinate clauses (frequent verb-

³ In our analysis of the PPCEME, we exclude all texts that are also contained in the PCEEC. Cf. http://www-users.york.ac.uk/~lang22/PCEEC-manual/corpus_description/overlap.htm for a list of these overlap files. Furthermore, we restricted our searches in the PPCME2 to texts that can be assigned clearly to one of the periods we use. We therefore excluded all texts whose composition date and manuscript date belong to different periods (i.e. all PPCME2 files with the extensions mx1, m23, m24, m34, mx4).

⁴ The only difference compared to Ellegård concerns period 7 (1525-1550), which is further subdivided by him into 1525-1535 and 1535-1550. For our data, there were no grounds to treat this period differently from the others.

final orders). Although true verb-final word order has become rare by EME, it has been argued by Haeberli and Ingham (2007) that there is a residue of the OE clause type asymmetry in EME that can be detected in the frequency with which certain elements such as adverbs occur preverbally in a position between the subject and the finite verb, this frequency being considerably higher in subordinate clauses than in main clauses. This clause type asymmetry can also be found in the data used for Table 1. Among the 299 examples of SAdvV order, 223 occur in a subordinate clause and only 76 in a main clause. The rate of SAdvV order is 21.8% (76/348) in main clauses and 51.6% (223/432) in subordinate clauses. Given that a highly significant clause type asymmetry can still be observed in EME,⁵ it seems plausible to link it to the OE situation and therefore to consider the high frequency of SAdvV order as a late effect of OE syntax (cf. Haeberli and Ingham 2007 for a structural analysis linking the EME clause type asymmetry to the OE one).

After the EME period, once the final effects of the OE verb-final syntax are lost, the frequency of SAdvV order rapidly decreases to its lowest level around 10% in periods 3 and 4 (1350-1475). SAdvV order is thus a clear minority word order in clauses containing a subject, a finite main verb and an adverb in the 14th and much of the 15th century.

By the end of the 15th century, however, the trend after the EME period is inverted and we can observe two statistically very significant increases in the occurrence of the SAdvV order in period 5 (1475-1500, 16.5%) and in period 6 (1500-1525, 37.3%).⁶ The 125 years following this initial rise of SAdvV order are then characterized by a certain variability but overall stagnation.

The final developments in the use of SAdvV order occur in periods 12 (1650-1700) and 13 (1700-1770) with two significant increases (43.8% and 54.4% respectively).⁷ From period 13 onwards, we find stability with frequencies around 55% up to the 20th century.

In summary, the quantitative data from our corpora show that after a low point in the use of SAdvV order in the 14th and 15th centuries, SAdvV orders increase in two phases, the first one starting at the end of the 15th century and the second one starting at the end of the 17th century.

From a theoretical point of view, the results in Table 1 above could be interpreted as meaning that the major phase of decline of V-movement in the history of English is situated between 1475 and 1525 as the absence of V-movement leads to an increasing number of clauses with SAdvV order. The results further suggest that there is a second decline from 1650 to 1770. Although plausible, these conclusions may be too hasty, however. In PDE, SVAdv order is still very productive, but this order is generally not considered as being the result of V-movement. Rather, it is analyzed as an option in adverb placement involving e.g. right adjunction in the traditional account.⁸ The decline in SVAdv order could therefore simply be a decline in usage of this adverb placement option, rather than a decline in V-movement. To evaluate the development of V-movement more conclusively, we have to consider word orders in which the adverb is postverbal but the position of the verb with respect to the adverb can plausibly be accounted for only in terms of V-movement. This is what we will do in the next subsection.

⁵ Chi-square = 72.31, $p < 0.001$.

⁶ Period 4 vs. period 5: chi-square = 36.34, $p < 0.001$. Period 5 vs. period 6: chi-square = 73.07, $p < 0.001$.

⁷ Period 11 vs. period 12: chi-square = 5.35, $p < 0.025$. Period 12 vs. period 13: chi-square = 35.18; $p < 0.001$.

⁸ For simplicity's sake, we will refer to non-Kaynian clause structures in which constituents can be right-adjoined. We do not think that this has any substantial bearing on the points discussed here.

2.2. Adverbs and finite main verbs: Clauses with objects

Given the standard assumption that V merges with its direct object, V and O are adjacent in languages that do not have V-movement whereas this adjacency can be broken if the verb can leave its base position. Thus, what clearly distinguishes languages that have V-movement from those that do not is not whether adverbs can be postverbal but whether postverbal adverbs productively intervene between a verb and a direct object (cf. French (1b) vs. English (1a)). From the point of view of language change, this means that a language that loses V-to-I movement loses the possibility for adverbs to intervene between a finite main verb and its object. Given this observation, we will focus our attention on a subset of the data in Table 1, namely clauses with one nominal object, and we will examine how verb-object non-adjacency (SVAdvO) developed as compared to the adjacent orders SAdvVO and SVOAdv. For the purposes of our analysis, we exclude two types of objects: (a) personal pronouns as the occurrence of object shift with pronouns (cf. Roberts 1995) may interfere with the productivity of SVAdvO order in ME and Early Modern English (EModE) already; (b) objects consisting of more than three words as SVAdvO orders with long objects might be derived through “heavy NP shift”, an option that, under the traditional analysis, derives SVAdvO in PDE in terms of rightward movement of the object rather than through V-movement. Our findings for the four corpora examined are given in Table 2.

TABLE 2 *The distribution of adverb, finite main verb, and short nominal direct object from Middle to Late Modern English in PPCME2, PPCEME, PCEEC, and PPCMBE*

Periods	SAdvVO	SVAdvO	SVOAdv	Total
1. 1150-1250	20 (22.0%)	42 (46.1%)	29 (31.9%)	91
2. 1250-1350	5 (19.2%)	15 (57.7%)	6 (23.1%)	26
3. 1350-1420	29 (12.1%)	129 (53.7%)	82 (34.2%)	240
4. 1420-1475	23 (12.1%)	77 (40.5%)	90 (47.4%)	190
5. 1475-1500	8 (11.3%)	17 (23.9%)	46 (64.8%)	71
6. 1500-1525	24 (34.8%)	15 (21.7%)	30 (43.5%)	69
7. 1525-1550	53 (34.2%)	30 (19.3%)	72 (46.5%)	155
8. 1550-1575	61 (43.0%)	21 (14.8%)	60 (42.2%)	142
9. 1575-1600	94 (50.6%)	22 (11.8%)	70 (37.6%)	186
10. 1600-1625	94 (44.6%)	25 (11.8%)	92 (43.6%)	211
11. 1625-1650	66 (39.5%)	20 (12.0%)	81 (48.5%)	167
12. 1650-1700	163 (42.1%)	36 (9.3%)	188 (48.6%)	387
13. 1700-1770	106 (60.9%)	15 (8.6%)	53 (30.5%)	174
14. 1770-1840	132 (69.5%)	8 (4.2%)	50 (26.3%)	190
15. 1840-1914	88 (60.3%)	15 (10.3%)	43 (29.4%)	146

Table 2 shows that, in periods 3 to 8, the frequency of the order SVAdvO declines from 53.7% in period 3 to 14.8% in period 8, with two statistically significant decreases in periods 3 to 4 ($p < 0.01$) and periods 4 to 5 ($p < 0.025$). This decline cannot be due simply to an increase in right adjunction of adverbs because the frequency of SVOAdv in periods 4 to 12 is stable (with a single exception in period 5) while the frequency of SVAdvO is reduced to a fourth. After the middle of the 16th century, the frequency of SVAdvO does not change substantially any more, with only one statistically significant decrease in period 14 followed by a significant increase. The only further major frequency development that we can observe in Table 2 takes place at the end of the 17th century with a statistically significant increase of SAdvVO order from the period 1650-1700 to the period 1700-1770. The level reached in

period 13 is then maintained until the 20th century. In this case, preverbal adverb placement is increased at the expense of SVOAdv order, which suggests that we are dealing with a development here that is not directly related to V-movement.

From the point of view of V-movement, these developments can be interpreted as follows. First, the decline of V-movement with SVAdvO as its surface manifestation starts in the middle of the 15th century and is by and large completed at the beginning of the 16th. Overall, the main phase of decline is between 1475 and 1525. Secondly, contrary to what the data in section 2.1 suggested, there is no clear evidence for a further decline in V-movement after 1700 (but for an increase in SAdvVO order at the expense of SVOAdv). These conclusions are confirmed by data involving some specific adverbs such as *never*, *humbly*, and *heartily* (cf. Haeberli and Ihsane 2014 for further details).

2.3. Summary

Our analysis of the distribution of finite main verbs with respect to adverbs in the history of English showed that there are two major phases of decline of the SVAdv word order, one around 1500 and a second one around 1700. Given that, due to right-adjunction, SVAdv order is not an unambiguous indicator of V-movement, we then focused on the development of a word order that can be considered as a clear diagnostic of V-movement, i.e. SVAdvO order. This type of evidence suggests that the decline of V-movement past adverbs starts in the middle of the 15th century and is to a large extent completed by the middle of the 16th century. The second decline of SVAdv order therefore seems to be of a more superficial nature.

3. VERB MOVEMENT WITH NEGATION VS. VERB MOVEMENT WITH ADVERBS

In section 1, negation and adverbs have been treated as having the same status as diagnostics of V-movement. If the finite verb precedes negation, the verb has undergone movement (cf. French 2b). If the verb follows negation, no V-movement has taken place (cf. English 2a). So we would expect then, on the basis of our discussion in section 2 and the fact that *not* can never be found in a right-adjointed position in ME, that *Vnot* orders were predominant up to around 1475 and that their frequency then declines rapidly to reach a very low level by 1550.

Interestingly, this expectation is not borne out. Table 3 presents the results for the corpora used above for Tables 1 and 2 (cf. also Ellegård 1953:161).⁹

⁹ The data in Table 4 include all negative clauses in all the text samples contained in our corpora. Cf. Haeberli and Ihsane (2014) for data that exclude texts and verbs that are highly conservative with respect to the use of *Vnot* order (i.e. religious prose and verbs like *have* and *know* among others). Although this more restrictive way of tracing the development of negative clauses leads to lower frequencies of *Vnot* order from 1550 onwards, the general conclusions remain the same.

TABLE 3 *The syntax of not from Middle to Late Modern English in PPCME2, PPCEME, PCEEC and PPCMBE*

Periods	<i>SnotV</i>	<i>SVnot</i>	<i>Sdo-not</i>	Total
1. 1150-1250	19 (17.4%)	90 (82.6%)	0 (0.0%)	109
2. 1250-1350	4 (2.4%)	166 (97.6%)	0 (0.0%)	170
3. 1350-1420	5 (0.8%)	598 (99.0%)	1 (0.2%)	604
4. 1420-1475	3 (0.6%)	510 (97.9%)	8 (1.5%)	521
5. 1475-1500	0 (0.0%)	216 (99.5%)	1 (0.5%)	217
6. 1500-1525	3 (1.7%)	156 (89.7%)	15 (8.6%)	174
7. 1525-1550	9 (1.3%)	596 (89.1%)	64 (9.6%)	669
8. 1550-1575	4 (0.7%)	473 (79.5%)	118 (19.8%)	595
9. 1575-1600	8 (0.9%)	634 (72.1%)	237 (27.0%)	879
10. 1600-1625	2 (0.3%)	589 (79.9%)	146 (19.8%)	737
11. 1625-1650	0 (0.0%)	573 (76.2%)	179 (23.8%)	752
12. 1650-1700	11 (0.6%)	856 (48.7%)	892 (50.7%)	1759
13. 1700-1770	13 (2.9%)	114 (25.1%)	326 (72.0%)	453
14. 1770-1840	4 (0.8%)	90 (17.5%)	419 (81.7%)	513
15. 1840-1914	8 (2.2%)	31 (8.6%)	321 (89.2%)	360

The data in Table 3 show that from 1250 to 1500 *Vnot* is virtually the only way to express sentential negation with a finite main verb. *NotV* order and *do*-support are only used sporadically at that point.¹⁰ It is only from 1500 onwards that *Vnot* order starts declining. However, the decline is very slow, and we remain far from the expected low frequency of *Vnot* around 1550 as *Vnot* is still being used in about 80% of the negative clauses. *Vnot* even remains the clear majority option with frequencies generally above 70% until 1650. It is only in the second half of the 17th century that *Vnot* starts declining more rapidly. Within about a hundred years the use of *Vnot* drops by about 50%, from 76.2% in the period 1625-1650 to 25.1% in the period 1700-1770. So the major phase of decline is situated in the late 17th and early 18th centuries.

One further important aspect of the data in Table 3 concerns the word order *notV*. In a language that loses V-movement, *notV* might be expected to be the natural successor to the *Vnot* order. This is indeed the change that occurred in Swedish (cf. Falk 1993). In English, however, *notV* never seems to be a viable option after the EME period.

From the point of view of V-movement, the results in Table 3 lead to an entirely different scenario as compared to that obtained on the basis of the adverb data in section 2. Whereas the adverb data suggest that there is a rapid decline in V-movement starting in the middle of the 15th century, the negation data seem to show a very slow decline starting from 1500 with V-movement remaining very strong up to 1650. The major decline in V-movement then appears to occur from 1650 onwards. Although there is a further increase in the occurrence of adverbs in preverbal position around that same time, no clear development with respect to V-movement can be detected in the adverb data any more. As for the completion of the change, we can identify it only in the 18th/19th centuries in the negation data, whereas the evidence from adverbs suggests completion in the middle of the 16th century.

The question that arises then is why there seems to be such a mismatch between the evidence from adverb placement and the evidence from negative clauses. What we propose here is that the loss of V-movement is not a one-step process as it has generally been

¹⁰ As for the regular occurrence of *notV* in Early Middle English, it can again be analyzed as a residue of Old English head-final structure (cf. also Haerberli and Ingham 2007:18).

described. Instead, we conclude that the loss consists of two distinct losses, the first one affecting movement beyond adverbs, the second one affecting movement beyond negation.

Such a sequential loss scenario for V-movement in the history of English has already been proposed elsewhere in the literature by Han (2000) and Han and Kroch (2000) on the basis of entirely independent evidence. Adopting a clause structure containing functional heads for tense, mood and aspect above the VP (i.e. TP-MP-AspP-VP), Han and Kroch propose that, at the beginning of the 15th century, a grammar without V-movement to T starts being introduced and, in the 16th century, a grammar without V-movement to Asp. A very similar analysis can now account for the observations made above. If we assume that negation occupies a NegP below AspP in Han and Kroch's structure and that adverbs are generated above NegP, the beginning of the decline of V-movement that we detected in the middle of the 15th century on the basis of the adverb data can be analyzed as the introduction of a grammar that lacks V-movement to T but maintains V-movement to Asp. By the middle of the 16th century movement to T is completely lost, and only V-to-Asp remains. However, in the early 16th century, a grammar emerges that lacks V-movement entirely, and we observe the beginning of the decline *Vnot* order and the concomitant increase in *do*-support. However, the grammar with V-movement to Asp is maintained for some time, with the final decline starting only in the second half of the 17th century.

In summary, we have shown in this section that the developments in adverb placement and in the syntax of negation suggest that V-movement is lost in two steps in the history of English. The first step, starting in the middle of the 15th century, affects V-movement to a high position, i.e. T and M in Han and Kroch's structure. This leads to a decrease in SVAdv and SVAdvO orders. As suggested in particular by the SVAdvO data, V-movement past adverbs is then lost to a large extent by the middle of the 16th century, i.e. the verb does not move beyond Asp any more. The second step in the decline of V-movement then concerns V-movement to Asp. This movement starts being lost from the beginning of 16th century onwards, with residues of V-to-Asp movement found until about the 19th century. A more detailed account of these developments can be found in Haeberli and Ihsane (2014). What we will focus on in the remainder of this paper is the extent to which the diachronic developments identified here can be related to proposals linking V-movement to agreement morphology.

4. CONSEQUENCES FOR THE RICH AGREEMENT HYPOTHESIS

One of the reasons why the cross-linguistic variation in V-movement has attracted so much interest in the generative literature over the last thirty years is the possibility that a syntactic property (movement) might be related to a morphological one (inflection) and that this phenomenon might therefore provide some important insight into the interaction between syntax and morphology. More precisely, it has been argued that the availability of V-movement in a language is related somehow to the presence of rich inflectional morphology (agreement) and the lack of V-movement to the absence of such morphology (Kosmeijer 1986, Roberts 1985 and much subsequent work).

This correlation, often referred to as the Rich Agreement Hypothesis (RAH), has been expressed in different ways by different authors, the distinctive property being in particular the strength and the type of the link between syntax and morphology. According to the strong version of the RAH, as postulated for example by Rohrbacher (1999) or, in a modified version, by Koenen and Zeijlstra (2014), the relation between syntax and morphology is biconditional: A language has V-movement *iff* it has rich agreement. A weaker version of the RAH, as proposed for example by Bobaljik (2002) and Bobaljik and Thráinsson (1998),

suggests that rich agreement morphology entails the occurrence of V-movement but nothing can be said about languages with impoverished agreement morphology.

Approaches also vary with respect to how richness of agreement is defined and why a link between agreement and V-movement should exist at all. For our evaluation of the RAH we will focus on two analyses that try to address both of these issues,¹¹ namely Bobaljik and Thráinsson (1998) and Koenenman and Zeijlstra (2014) (henceforth B&T and K&Z respectively). According to B&T, agreement morphology is rich if it can co-occur with other inflectional morphology, in particular tense morphology. For example, in Icelandic past tense forms such as *heyr-ð-i* ('hear-past-1sg') or *heyr-ð-um* ('hear-past-1pl'), a past tense marker (-ð-) can be distinguished from agreement endings. B&T argue that, for the tense and the agreement morphology to be able to be inserted in the clausal structure, two inflectional heads are required. Thus, Icelandic must have a split IP. In a language like English, however, tense morphology cannot co-occur with agreement morphology (**look-ed-s*). An inflectional domain with a single head is therefore sufficient for English. According to B&T, this contrast in the clause structures of Icelandic (split IP) and English (unsplit IP) is at the root of their differences with respect to V-movement. More precisely, they propose that, in a split structure, the requirements of the highest head's V-feature can only be satisfied if the verb leaves the VP whereas, in an unsplit IP, the V-feature of the inflectional head can be licensed in a head-complement configuration with the VP, which allows the verb to stay *in situ*. Thus, the link between agreement morphology and V-movement is not a direct one but it is established via syntactic structure. Furthermore, while a split IP and, hence, V-movement are necessary in languages with a rich inflectional morphology, B&T leave the possibility open that languages with impoverished inflectional morphology may nevertheless have the same properties. The morphology does not require a split IP, but the language learner may acquire it on the basis of syntactic evidence, i.e. clauses manifesting V-movement. B&T are therefore led to a weak version of the RAH.

A strong version of the RAH is proposed by Koenenman and Zeijlstra (2014). In their analysis, a language has rich agreement "if and only if agreement involves at least the same featural distinctions as those manifested in the smallest (subject) pronoun inventories universally possible" (2014:574). The relevant features K&Z identify are [\pm speaker], [\pm participant] and [\pm plural]. According to this definition, English has poor agreement because the features [-participant] and [-plural] are sufficient to distinguish 3rd person singular (3sg) agreement from all the other (zero) forms and there are therefore no distinctions involving the feature [\pm speaker]. In Icelandic, on the other hand, which has different forms throughout the regular paradigms with the exception of one syncretism per tense (2sg/3sg in the present, 1sg/3sg in the past), the distinctions cannot be made without reference to all the three types of features identified by K&Z. As for the link to V-movement, K&Z propose that languages with rich agreement have a head in the inflectional domain that encodes argumenthood. This head, Arg, must be affixed to V and, under the assumption that lowering is not a possible process, affixation is only possible through raising of V. For languages with poor agreement, K&Z assume that they do not have the head Arg and that V therefore does not leave the VP. The variation between languages with Arg and those without is related by K&Z to their hypothesis that formal features are only represented in a language if there are doubling effects. In languages that have rich agreement, agreement can be considered as the doubling of the minimal set of features defining arguments (i.e. [\pm speaker], [\pm participant], [\pm plural]). So an argument feature and, hence, an Arg head in the clause structure are postulated in such languages. But in languages that do not encode all these features in the agreement endings,

¹¹ Most of the other analyses cited do not really provide any answers to the second question. A certain definition of richness of agreement may be provided but not explanation is given as to why the syntax should be related to the morphology the way it is claimed to be.

agreement does not double the full set of features that constitute arguments. Argumenthood is therefore not syntactically represented in the clause structure.

Let us now consider the two specific versions of the RAH discussed above in the light of our evidence from adverb placement and negation in the history of English. K&Z discuss some diachronic implications of their proposal. Their focus is on the question of what happens when a language loses rich agreement as they define it. They argue that the loss of rich agreement does not necessarily lead to the immediate loss of word orders that are generally considered as diagnostics of V-movement to the inflectional domain because language learners may reanalyze such word orders as involving alternative options such as V-to-C or adverb placement in a low (vP-internal) position. Hence, in cases where rich agreement is lost, we cannot make any precise predictions with respect to subsequent word order developments in K&Z's framework.

However, there is an alternative scenario to be considered from a diachronic point of view. It concerns the situation where a language maintains its rich agreement morphology. K&Z assume that the presence of an Arg head in the clause structure and, hence, V-movement is a necessary consequence of rich agreement morphology. From a diachronic perspective, this means that a language can only lose V-movement to the inflectional domain if it loses rich agreement morphology as K&Z define it. If a language maintains an agreement paradigm that qualifies as rich, however, V-movement must be maintained as well. The diachronic prediction is therefore that in the absence of a sufficient weakening in the agreement morphology, there should also not be any change in the syntax of V-movement.

Let us now explore what these observations mean for the diachronic data discussed in the earlier sections. According to K&Z, agreement morphology is rich if the features [\pm speaker], [\pm participant] and [\pm plural] are needed to specify the different agreement endings. This condition is met in the basic ME verbal paradigm for the present indicative as it has different forms for 1sg (-e), 2sg (-est) and 3sg (-eth, -es) and for the plural (-eth, -en), thus making [\pm speaker] necessary for the distinction between 1sg and 2sg, [\pm participant] for the distinction between 2sg and 3sg and [\pm plural] for the distinction between the plural and the singular forms.¹²

Is there any weakening of these distinctions during the period we are interested in, i.e. around the middle of the 15th century when the evidence from adverb placement suggests a decline of V-movement? If we focus on the present tense, we can indeed observe a certain weakening of the 1st person singular form (cases without -e) and the plural (increasing reduction of -en to -e or zero). However, these developments do not have any influence on the features needed to define the different agreement endings. As long as there are three different forms in the singular and there is a singular/plural distinction for one of these, the three features [\pm speaker], [\pm participant] and [\pm plural] are needed. So what would be necessary for agreement not to count as rich any more is the loss of either 2sg or 3sg morphology.

3sg morphology has been maintained until today, and it is consistently present throughout the different periods of our corpora, initially realized as -(e)th, subsequently as -s. So the crucial morpheme to test the validity of K&Z's proposal for the history of English is the 2sg -est morpheme. It is the loss of this morpheme that turns the rich agreement paradigm of early English into the poor one in PDE according to K&Z's definition. If we focus on the status of 2sg morphology in the period 1350-1500, when we see the first decline of V-movement, we observe that there are 141 main clauses containing the 2sg subject *thou* and a finite main verb in our texts, and in 123 of these, the verb ends in -(e)st. As for the remaining 18 cases, they can be accounted for as follows. 13 examples are from the only northern text in our data (*The Northern Prose Rule of St Bennet*), and, as is well known (cf. e.g. Lass 1992:137), northern

¹² In the subjunctive, a simple singular/plural distinction (-e vs. -en) is made in ME.

varieties lost verbal inflectional distinctions earlier than other varieties of ME. The absence of the 2sg ending in this text is therefore not surprising. This leaves us with five 2sg contexts without the expected *-(e)st* inflection. Four of these cases have the status of exhortations and can therefore be analyzed as main clause uses of the subjunctive (cf. fn. 12).¹³ As for the final example, it contains a finite main verb with the suffix *-es* rather than *-est* (*witholdes*). Yet, in a different manuscript of the same text, *-t* is added (Brie 1906:81). The absence of *-est* in our example is therefore likely to be the result of an error. Thus, leaving aside the particularities of northern ME, the use of a distinctive 2sg ending is systematic in the 15th century, at a time when V-movement to a high inflectional head is on the decline. The first stage in the decline of V-movement can therefore not be related to developments in the agreement morphology.

But could agreement play a role in the second stage, which leads to the complete loss of V-movement? This second phase starts at the beginning of the 16th century, with V-movement slowly declining throughout the century. But again, no major developments in the 2sg morphology can be observed in this period. Among the 99 main clauses with a 2sg subject, only 5 do not have a *-(e)st* ending. At least two of these examples can again be related to main clause use of the subjunctive, whereas a third case might have a phonological explanation (elision of *-t* before another obstruent in ... *needes thou...*). Similarly, in the 17th century, when V-movement starts its final decline, the finite main verbs in the 75 main clauses containing a 2sg subject pronoun almost consistently end in *-(e)st* (three exceptions). Overall then, there is no clear evidence for a weakening of the *-(e)st* agreement ending in main clauses with a 2sg subject until the end of the 17th century. According to K&Z's version of the RAH, the syntax of V-movement should therefore not be altered in this period, contrary to what we have observed.

One aspect of 2sg contexts makes the picture slightly more complex though. The development of the 2sg agreement ending is closely tied to the development of the 2sg pronoun *thou*, and the use of this pronoun does undergo change in the period under consideration. As Lass (1999:162) puts it, “[t]he fate of the 2 sing. inflection is really part of the pronoun story: it falls away with the *you/thou* opposition”. Whereas this opposition originally encoded a simple singular/plural contrast, things started to change from the end of the 13th century onwards when *you* can first be found with singular reference (e.g. Lass 1999:148). The use of *you* in the singular then gradually gains ground until, by the 18th century, *thou* is restricted to special registers like verse or religious discourse and to some regional vernaculars (Lass 1999:153).

The development of the *thou/you* distinction from the first occurrence of singular *you* to the complete loss of *thou* is a complex one involving sociolinguistic and pragmatic factors (cf. e.g. Busse 2002, Hope 1993, Walker 2007). The original distinction in ME is reminiscent of a French-style system (referred to as a T/V system in the literature) in which the plural form *you* (V) is used for politeness, and the singular form *thou* (T) expresses intimacy or social equality. But, as Lass (1999:149) puts it:

What evolved was loose, unstable and pragmatically more subtle, with some T/V properties and other quite different ones. In particular, the upper-class reciprocal use of V seems to have found its way into the standard as the unmarked case, with T reserved for two other purposes: (i) marking asymmetrical (permanent or temporary) status relations ...; and (ii), as a general indicator of heightened emotional tone, intimacy etc. but

¹³ The following example illustrates this point:

(i) here than thou begynne thy matyns (CMAELR4,6.163)
 ‘Here then you begin your matins’

This sentence is preceded by two imperative clauses and followed by two clauses starting with *thou shalt* and another two imperatives. Within this sequence of commands, it is plausible to assume that (i) involves a subjunctive rather than an indicative, and hence a form that cannot take a *-(e)st* ending.

strongly influenced by register, topic, relationship between interlocutors and a number of other factors unconnected with status or power.

The time when *you* becomes the unmarked 2sg pronoun is generally situated somewhere in the 16th century (Hope 1993:95).

Given that 2sg *-(e)st* is directly tied to 2sg *thou*, the restrictions on the use of the latter imply that the former starts being used less frequently from late ME onwards. Coming back to our discussion of the RAH, we may wonder then whether these developments could be expected to have any consequences for the status of V-movement according to K&Z's approach. Our view is that the answer to this question is negative. Although the use of *thou* is restricted in various ways, speakers acquire the agreement morpheme *-(e)st* as long as they acquire *thou*, which seems to be the case at least until the 17th century. And as long as *-(e)st* is acquired, the verbal paradigm continues to manifest the featural distinctions [\pm speaker], [\pm participant] and [\pm plural], which entail V-movement in K&Z's system. So we would not expect any changes in the syntax of V-movement until the 17th century.

One possibility to avoid such a conclusion might be to argue that the restrictions on the use of *thou* in the 15th and 16th centuries have removed it from contexts that would be relevant for the purposes of L1 acquisition. However, such a hypothesis is unlikely to be correct. One of the frequently mentioned asymmetrical relations in which *thou* is used by the socially dominant member is the parent-child relation (cf. e.g. Hope 1993:86/87 for court records from the second half of the 16th century, Walker 2007:168, 291 for witness depositions and drama comedy from 1560 to 1760). Thus, 2sg morphology would be expected to occur regularly in a child's input. Furthermore, *thou* continues to play a role among equals. For example, Walker (2007:204, 224) observes the use of *thou* by young male characters of the gentry in drama comedy to mark in-group membership until the beginning of the 18th century. Overall, it thus seems rather implausible to say that the use of *thou* in the periods that are relevant for us is too restricted to have an impact on the acquisition of agreement endings and of the features needed to define them.

In summary, the most recent version of the RAH developed by K&Z predicts changes in the syntax of V-movement in English to occur only once 2sg agreement is lost. However, this prediction is not borne out. According to the data we presented in sections 2 and 3, there are two phases in the decline of V-movement, one starting in the middle of the 15th century, and a second one starting in the first half of the 16th century. At these points, there is no evidence for the decline of 2sg *-(e)st* as an agreement morpheme. The emergence of a T/V-like system in late ME leads to a reduction in the use of the subject pronoun *thou* and, hence, the *-(e)st* ending. Nevertheless, *-(e)st* seems to remain an integral part of the verbal paradigm, and its presence requires the use of the featural distinctions manifested in the smallest pronoun inventories universally possible. Hence, at the beginning of both phases of the decline we have identified, agreement morphology qualifies as rich in terms of K&Z's definition and the status of V-movement in English should therefore not have changed at these points.

It should be pointed out that, more generally, our findings would be problematic for any strong version of the RAH as the loss of some form of agreement would be expected to entail the complete loss of V-movement in one step. In a sequential loss scenario as we propose here, it could at best be the final step that could be related to agreement morphology, and an independent explanation would have to be found for the first step.

Let us now consider the consequences of the proposals made by B&T, according to which inflectional morphology is rich if agreement co-occurs with tense morphology. As English has never had a tense morpheme expressing present tense, the evidence to be considered has to come from the past tense paradigms. Middle English originally has some ending after the past tense marker *-(e)d* in all forms of the regular past tense paradigm: *-e* in 1sg and 3sg, *-(e)st* in 2sg, and *-en* in the plural. As long as such forms exist, language learners

must postulate a syntactic structure with a split IP that gives rise to V-movement. V-movement can only be lost once agreement endings in the past have been lost. However, given that B&T's version of the RAH is a weak one, the potential loss of agreement endings in the past do not force the loss of V-movement. In principle, a syntactic structure that requires V-movement can be maintained without the co-occurrence of tense and agreement morphology.

To evaluate B&T's approach in connection with our diachronic observations, we examined the status of agreement in all main clauses containing a pronoun and a regular verb in the past tense in the period that is of interest to us.¹⁴ The amount of evidence available in the corpora varies considerably for the different forms, with clauses involving 3rd person pronouns being by far the most frequent. With these, a clear development away from combining tense and agreement can be observed. In the singular, the ending *-e* is still present in about 70% of all cases in the period 1350-1420 (n=535).¹⁵ But in the following periods, the combination of past tense plus *-e* becomes the clear minority option (2.0% in 1420-1475 (n=803), 17.6% in 1475-1500 (n=103), 4.3% in 1500-1525 (n=115)). A clear decline of affixes co-occurring with the past tense morpheme can also be observed in 3pl. In the period 1350-1420, such affixes are still predominant, with 80.3% of the regular past tense forms ending in *-e* or *-en* (n=122). But in the period 1420-1475, the situation changes completely. Only 8.7% of the regular 3pl past tense forms combine past tense morphology with an additional affix (n=104). In the PCEEC, *-e* or *-en* affixes are even entirely absent with regular verbs between 1420 and 1500 (n=24). Agreement is therefore clearly on its way out with 3sg/3pl subjects when V-movement past adverbs starts declining.

For the other verb forms, the data are more limited and therefore somewhat less conclusive. In 1sg, 1pl and 2pl, there is hardly any evidence for the co-occurrence of an agreement ending with the past tense morpheme throughout the periods considered, so the decline with these forms must already have started earlier. For instance, there are 14 examples with regular 1sg verbs in the period 1350-1420, and only two of them have anything attached to the past tense ending (*-e*). The subsequent periods also contain only isolated examples of this type, as the 4 cases out of 207 in the PCEEC period 1420-1500. In 1pl, there are only two examples involving regular verbs for the period 1350-1420, one ending in *-d*, the other in *-den*. However, after 1420 no further examples of *-den* are found (among two 1pl verbs for 1420-1475, one for 1475-1500, 15 for the PCEEC period 1420-1500, and 98 for 1500-1525). In 2pl, no regular verb in the past tense is found with an agreement ending between 1350 and 1525, but a simple past tense ending occurs with one example between 1350 and 1420, two between 1420 and 1475, two between 1475 and 1500, 11 in the PCEEC period 1420-1500 and three from 1500 to 1525. Overall, there is thus no substantial evidence for the co-occurrence of past tense morphology and agreement in 1sg, 1pl and 2pl in the period that is of interest for our purposes.

Finally, there are unfortunately only five main clauses containing a regular verb in the 2sg past in our corpora for the period 1350-1525. Four of these verbs have an ending of the type *-dst* that combines past tense and agreement. The fifth one is from the northern text in our data and is therefore not unexpectedly impoverished in its inflectional morphology. By including subordinate clauses, the dataset can be increased to 21 2sg past verbs. But the spread over the period is uneven, with no examples occurring in the material between 1475 and 1525. 18 of the 21 2sg past verbs combine the past tense morpheme with an agreement ending. Among the remaining three, two are again from the northern text. The only true

¹⁴ As in the present tense, subjunctives have fewer agreement distinctions in the past tense. The focus on main clauses allows us to reduce the likelihood of interference by potential subjunctive forms.

¹⁵ Periods that are not specified any further refer to the Penn corpora, PCEEC data being explicitly referred to as such.

exception to agreement comes from Malory's *Morte Darthur*, a text written in the second half of the 15th century.

- (4) thou haste done thyselff grete hurte that *thou saved* not thys lady that slew herself.
(CMMALORY,54.1795)
you have done yourself great harm that you saved not this lady that slew herself
'You have done yourself great harm by not saving this lady who killed herself.'

Is this counterexample an indication of the start of the decline of *-dst*, or is it simply noise in the data? What might go against the former option is the fact that regular verbs in the 2sg past tense fairly systematically occur with an agreement ending even in the 16th and 17th centuries in our corpora (31 out of 33 examples).¹⁶ Furthermore, the form without *-(e)st* in (4) occurs in a subordinate clause, so the use of the subjunctive or at least influence of the subjunctive in other subordinate clauses cannot be entirely excluded. Finally, as we observed earlier in connection with K&Z's approach, it is plausible to assume that speakers acquire the agreement morpheme *-(e)st* as long as they acquire *thou*, which seems to be the case at least until the 17th century. In this respect, we would not expect past tense forms to differ from present tense forms.

If these observations are correct, the decline of V-movement in English as described in section 2 and 3 would be problematic for B&T's approach. As long as there is a past tense form with an agreement ending, i.e. possibly up to the 17th century with 2sg, a split IP must be postulated for the structure to be able to host two inflectional morphemes. The fact that the contexts in which the 2sg pronoun *thou* is used become more and more restricted should not have an influence on this conclusion. *Thou* remains part of the grammar and V-movement should therefore be obligatory until *thou* is no longer productive at all. Hence, we would expect neither the beginning of the first decline of V-movement in the 15th century nor the beginning of the second one in the 16th century.

However, a text written around 1350, the *The Earliest Complete English Prose Psalter*, might shed some doubts on the robustness of *-(e)st* in the past tense in the periods we are interested in. In this text, one can find a certain amount of variation in the use and non-use of the 2sg agreement ending in the past. This is illustrated in (5).

- (5) a. þou louedest ri3tfulnes, (CMEARLPS,55.2368)
'You loved righteousness'
b. for þou loued soþenes; (CMEARLPS,61.2674)
'for you loved truth'

If *The Earliest Complete English Prose Psalter* were representative for the use of the 2sg past tense agreement ending in late ME, it could be argued that, in terms of a grammar competition approach (cf. Kroch 1989, 1994), the absence of agreement as in (5b) means that a competing grammar without a split IP and hence without V-movement could be introduced. Whether or when this happens would have to remain open since, as we observed above, B&T postulate a weak version of the RAH according to which a split IP could be maintained without rich agreement morphology. But as *The Earliest Complete English Prose Psalter* was written about a century before the first signs of the decline of V-movement that we have identified in English, B&T's approach might be compatible with our data since the morphological change would have started some time before the syntactic one.

¹⁶ However, the number of texts in which such forms can be found in the 16th/17th centuries is very limited. With a few exceptions, they all come from six sources: Three translations of Boethius' *Consolation of Philosophy*, two versions of the bible, and a collection of court proceedings.

Two problems remain for B&T's approach, however. First, it would not be clear why the decline of V-movement happened in two steps. B&T's analysis seems to provide an all-or-nothing choice with respect to V-movement: Either there is a split IP with V-movement or there is an unsplit IP without V-movement. The developments in the history of English suggest that there must at least be a three-way distinction: V-movement past adverbs and negation, V-movement past negation but not past adverbs, no V-movement at all. Such a three-way distinction seems to be incompatible with B&T's model. It would of course be conceivable that there may be variation with respect to how much splitting of the IP there is and that the intermediate stage is one where there is still a split IP but one with fewer inflectional projections than at the initial stage. However, with such a proposal, we would lose the correlation between inflectional morphology and syntactic structure because the morphological variation is at most a two-way distinction in English and the languages considered by B&T: two inflectional morphemes (tense and agreement) vs. one inflectional morpheme (tense or agreement).

A second problem is that, as the observations made earlier show, it is by no means clear that *The Earliest Complete English Prose Psalter* is representative for late ME. When the second person pronoun *thou* is used with a verb in the past tense, the *-(e)st* ending occurs rather systematically up to the 17th century in our data. For an unsplit IP to be able to emerge, an important weakening of 2sg agreement in the past tense would be expected throughout our data. As this expectation is not borne out, we conclude that the two stages in the decline of V-movement cannot be related to a weakening of agreement morphology. However, it is unfortunately the case that the amount of data in our corpora is relatively limited. Our conclusions must therefore remain somewhat tentative.¹⁷

In summary, we have examined two prominent versions of the RAH in the light of our findings in sections 2 and 3. Both of these approaches predict that the development of V-movement in the history of English is closely related to the status of 2sg agreement morphology. According to K&Z's analysis, V-movement in English should only decline once 2sg agreement morphology is lost since, as long as there is 2sg agreement, the agreement feature system is of a type that triggers V-movement. This prediction does not seem to be borne out, however. Neither the first step in the loss of V-movement in the 15th century nor the second one at the beginning of the 16th century is preceded by a clear decline in 2sg agreement morphology. Thus, the syntactic change seems to occur too early with respect to the morphological one within K&Z's system. As for B&T's framework, the loss of V-movement is only expected to occur after the loss of 2sg agreement morphology in the past tense. Once again, our data do not show the expected chronology as the relevant morphological change seems to follow the beginning of the syntactic one. However, there is some evidence from an early text suggesting that the status of 2sg agreement in the past tense may have been weakened in the late ME period already. If this text were representative for the general status of 2sg past tense morphology in late ME, B&T's approach would not be incompatible with our data as the weakening of 2sg could have allowed the emergence of a

¹⁷ A look at the secondary literature does not provide an entirely conclusive picture with respect to the status of *-(e)st* in Middle and Early Modern English, either. Lass (1992:137), when discussing verbal paradigms in the "merging London standard" around Chaucer's time (i.e. around 1400), puts the *-(e)st* ending in parentheses for 2sg past. In Lass (1999:160-1), however, no parentheses are added in the paradigms representing Late Middle English (c1400) and Early Modern English (c1500). Some optionality is suggested by Blake (2002:56) for Early Modern English when he observes that in Shakespeare's writings "[t]he singular subject form took a distinctive ending on the verb in the second person singular present, and often the preterite, indicative", thereby implying that the use of *-(e)st* is frequent but not systematic in the past. On the other hand, no indication of a weakening of *-(e)st* in Early Modern English is suggested by Barber (1997:165) who points out that "[f]orms 2 [present with *-(e)st*] and 6 [past with *-(e)st*] are used throughout the period, though naturally they become rarer as the pronoun *thou* falls into disuse during the seventeenth century" (1997:165).

structure without V-movement from the 15th century onwards. However, the data that we have examined suggest that the absence of 2sg agreement morphology in the past tense is unusual until the 17th century. The earlier text with variable morphology can therefore not be considered as conclusive evidence for an early weakening of 2sg past tense morphology. A further problem raised by B&T's approach is that it is not immediately clear how it could account for the stepwise loss of V-movement. Overall, we conclude that the loss of V-movement in English does not support theories that link V-movement to richness of agreement morphology.

5. CONCLUSIONS

The distribution of finite main verbs with respect to adverbs shows that the decline of V-movement in English already starts in the middle of the 15th century. These observations concerning the development of V-movement differ from what data involving sentential negation indicate. Movement past negation starts being lost in the 16th century and comes to completion about 200 years later. This contrast suggests that the loss of V-movement in English occurred sequentially. First, V-movement to a high inflectional head is lost, and later, V-movement to a lower inflectional head. We have shown that our findings are problematic for theories postulating a connection between V-movement and richness of agreement morphology. In particular, for approaches such as those proposed by Koenenman and Zeijlstra (2014) and Bobaljik and Thráinsson (1998), both developments seem to start too early from the point of view of the expected related morphological change (loss of 2sg *-st*). Furthermore, neither of the two approaches is in a position to deal with the stepwise loss of V-movement. We therefore conclude that the loss of V-movement in the history of English must be accounted for in a way that is independent of the development of verbal agreement morphology (cf. Haeberli and Ihsane 2014 for a proposal).

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