

RECYCLING INVERSION: THE CASE OF INITIAL ADVERBS  
AND NEGATORS IN EARLY MODERN ENGLISH

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1. Introduction

This paper is an empirical footnote to the discussion launched by Roger Lass (1990) of *exaptation* as a special kind of process of language change. Lass (1990: 80) adopts the term from evolutionary biology to refer to "the opportunistic co-optation of a feature whose origin is unrelated or only marginally related to its later use". He is careful to point out that the term should be understood as a metaphor and not reified as a literal transfer in ontological terms. One way to clarify, but no doubt also to complicate, the issue is to examine some potential candidates for exaptive changes in more detail.

I shall discuss certain cases of inversion in Late Middle and Early Modern English that have been qualified as innovations by some scholars, and as true verb-second fossils by others. I will begin by examining the decline in subject – operator/verb inversion in declaratives following certain common clause-initial adverbs. This process is then related to what looks like a re-emergence of inversion with negative initial elements in the 16th century. My focus falls on the second part of Lass's definition. The two processes may have been independent, but I would claim that the original function of inversion after negatives may be only marginally related to its later use. What intrigues me are the timing of these changes and their links with other processes of change under way at the same time.

In his discussion of exaptation, Lass is more concerned with its large-scale structural effects than possible sociolinguistic ones. He further argues that "if exaptation occurs, it may be purely structural, with no social relevance, or it may be aimed at something socially indexical" (1990: 100). I agree with him

that not all changes need be social indicators, let alone markers. At the moment we still know very little about the social embedding of long-term language changes (for some efforts, see Nevalainen – Raumolin-Brunberg 1996). I would nonetheless like to emphasize the fact that any process of change, including an exaptive one, must have its mechanism of diffusion. This is another issue that I shall explore with my data on inversion. Using extensive corpus evidence, I shall show how even a syntactic process can proceed by means of lexical diffusion.

## 2. Modern English inversion: exaptation or verb-second fossilization?

Compared with other Germanic languages such as Swedish, Modern English is not a verb-second language. Opinions differ as to the regularity with which the finite verb immediately followed an initial constituent even in classical Old English. The verb-second order was typically found in main clauses, especially when the initial constituent was a pronominal or negative adverb such as *þa* or *ne* (Mitchell 1985, 1: §§1595-1632, Traugott 1992: 275-277). However, many light adverbial and pronominal forms could also be placed initially without triggering inversion. Some models of syntax argue that the pronominal forms were interpreted as clitics and therefore did not behave like nominal forms (van Kemenade 1987).

In the Middle English period, inversion becomes much more irregular than it had been in Old English. It occurs after many adverbial phrases, but the V2 rule is lost, for instance, with previously inverting initial negatives such as *ne*. The fact that negatives do trigger inversion in Modern English may mean, as Fischer (1992: 376-377) suggests, a renewed grammaticalization of the inversion rule after negatives and implied negatives.

Renewed use, or exaptation, of inversion has been observed in some other cases as well. Both Stockwell (1984) and Brinton and Stein (1995) suggest that a number of new V2 triggers have been introduced between Middle and Modern English. They consist of fronted participial, adjective and prepositional phrases and locative, directional and temporal adverb phrases. They all trigger inversion with copula and full verb and can be associated with a functionalization of a focusing strategy, either locally or at the level of discourse (e.g. *In comes Chomsky*; Brinton – Stein 1995: 39-40).

By contrast, the inversions triggered by initial negatives are not restricted to finite main verbs and the copula. They also involve the operator (Quirk et al. 1985: 1381-1382). Presumably because of this, and since they both occurred in Old English, Stockwell (1984: 585) regards initial negatives and interrogatives as true V2 fossils in Modern English: "Throughout the history of English these have triggered V-2, and V-2 has become fully grammaticized in these environments, the only change being in the use of the auxiliary verb *do* to occupy

that position where no other AUX is in the sentence." As Stockwell (1984: 589) however points out, a good deal of searching and counting remains to be done here. Having done some, I have come to the conclusion that there is substantial counterevidence against an uninterrupted history of inversion after negatives in English.

## 3. Overall results

I shall compare the rates of inversion in declaratives after two contrasting sets of clause-initial elements, four non-negative (*then, therefore, thus* and *yet*), and four negative (*ne, never, neither* and *nor*). The period I focus on extends from the early part of the 15th century to the beginning of the 18th. My material is drawn from two computerized corpora, the Helsinki Corpus of English Texts (HC, see Kytö 1993) and the 1995 version of the Corpus of Early English Correspondence (CEEC, Nevalainen – Raumolin-Brunberg 1996). The HC data consist of c. 765,000 running words altogether, and the CEEC of some 1.6 million words for the non-negative adverbs, and 2.2 million for the negative particles, which typically occur less frequently in clause-initial position.<sup>1</sup>

With each item the number of cases in clause-initial position was recorded, and the relative frequency of subject – operator/finite verb inversions was calculated. At this point, no functional distinction was made between the adjunct and conjunct uses of *then, therefore, thus* and *yet*. The negatives *ne, never, neither* and *nor* were included regardless of their word-class, hence the sporadic use of the traditional term 'particle' in this paper. Only the determiner and pronoun instances of *neither* functioning as (part of) the subject and cases of the local use of *never* were excluded.<sup>2</sup> Finally, to make the study comparable

<sup>1</sup> The collections used for searching *then, therefore, thus* and *yet* were (for references, see Nevalainen – Raumolin-Brunberg 1996: 183-190): pre-1522: Cely, Fox, Paston, Stonor; 1523-1562: Clifford, Elyot, Hart (part), Henry VIII, Johnson, More, Original 1 & 2, Willoughby, Wyatt; 1563-1602: Bacon, Gawdy, Hart (part), Hutton, Parkhurst, Royal 1, Stuart, Thynne; 1603-1642: Barrington, Chamberlain, Cornwallis, Harley, Oxinden, KPaston, Pory; 1643-1682: Conway, Hatton, Osborne, Pepys, Peyton, Royal 2, Tixall. For *ne, never, neither* and *nor*, the following were used: pre-1522: Cely, Fox, Original 1 (part), Paston, Plumpton, Signet, Stonor; 1523-1562: Clifford, Cromwell, Elyot, Gardiner, Henry VIII, Johnson, More, Original 1 (part) & 2, Paget, Willoughby, Wyatt; 1563-1602: Bacon, Gawdy, Hastings, Hutton, Leicester, Parkhurst, Royal 1, Stuart, Thynne, Wood; 1603-1642: Barrington, Chamberlain, Cornwallis, Ferrar (part), Harley, Henslowe, Holles, Knyvett, Lowther, Oxinden, KPaston, Pory, Stockwell, Wentworth; 1643-1682: Conway, Ferrar (part), Fleming, Hatton, Marescoe, Osborne, Pepys, Peyton, Royal 2, Tixall, and Wilmot. The version of the CEEC in both cases was the 1995 D-version, which has been proofread once. The subperiods were strictly adhered to.

<sup>2</sup> *Never* can also assume a local domain and become part of a generic noun phrase, especially when combined with the indefinite article or *any*. In this function it equals *not* and can even give rise to forms such as *never a one*. I have excluded from my statistical account such instances of *never* associated with the subject of the sentence because, by definition, they do not operate as sentence adverbials. Most of these cases drop out of use in Modern English but some survive in literary styles (*never prince was more condescending*), or get reanalysed as instances of sentence adverbs and noun phrases (Jacobsson 1951: 40-47).

with earlier work (Stockwell – Minkova 1991, Kytö – Rissanen 1993, Nevalainen 1996), I excluded all cases where the initial adverb or negator was immediately followed by an embedded finite or non-finite nominal or adverbial clause.

In the final analysis, my HC sample consisted of 2,123 occurrences of the four non-negative adverbs in initial position, and 156 instances of the four negative items. The corresponding figures for the CEEC are 3,105 and 465, respectively. Examples (1) – (11) illustrate the variation in word-order found in syntactically similar contexts.

- (1) They call to super, **therefore** I must hasten my letter, but first I must tell you ... (CEEC; BRILLIANA HARLEY 30-31)
- (2) ... she maye be well delte with at suche hande as you woulde procure to hier the same. **Therefore** hathe she movid me to send over unto you to let you knowe thustumche ... (CEEC; EDWARD CLERE II, 134)
- (3) Thus you perceave what is to be done hierin, etc. (CEEC; OTWELL JOHNSON 973)
- (4) ... and **thus** stande they in altercation, not like to agree, as many thynck. (CEEC; HENRY SOUTHWICK 338)
- (5) ... thy fathers illnes of his legge haue bine the Cawse of our stay for he was faynt to take Phisike for it: but **yett** it is bigge so that he can not endure on his boote. (CEEC; KATHERINE PASTON 93)
- (6) ... I heer so bade newes of the increase of the sikenes at London, that although I haue great ocation to haue bine ther, **yett** will I forbear till it shall please god in mearcy to scease it. (CEEC; KATHERINE PASTON 84)
- (7) ... but **neither** they mowght persuade me to approve that which both faith and my raison condemned: **nor** I mowght dissuade theim from the excusing of that, which all the worlde abhorred, (CEEC; THOMAS ELYOT 27).
- (8) I perceyve youre opinion of owre monneyes, which dissentyth not partely from others I have herd of beffore; **neither** dyd I suppose anny better sequele of it. (CEEC; ANTHONY CAVE 1476)
- (9) I can now also truly averr, that I have not countenanced any factious persons, **nor** have such persons resorted to me, **nor** hath there been in my family any factious or unlawful meeting. (CEEC; EDWARD HARLEY 241)
- (10) Where as they many tymeze haue meovyd a trefy and **neuer** it taketh to noo conclucion, and as they haue seyde ... (CEEC; JOHN RUSSE II,307)
- (11) I **neuer** haue prayde God to bringe me hence [...] **Nor** **neuer** longed I since I came hether to set my fote in mine owne howse, (CEEC; THOMAS MORE 543)

The overall results for the two corpora are shown in Figures 1 and 2. In both, the shapes of the two frequency curves are very similar despite the different time scales used (the CEEC data for the pre-1522 period cover about one hundred years). Inversion occurs after the initial adverbs *then*, *therefore*, *thus* and *yet* in one third of the cases in Late Middle English in the multi-genre Helsinki Corpus but in only about 15% in the Corpus of Early English Correspondence. In both, inversion all but disappears in these contexts in the course of the EModE period.

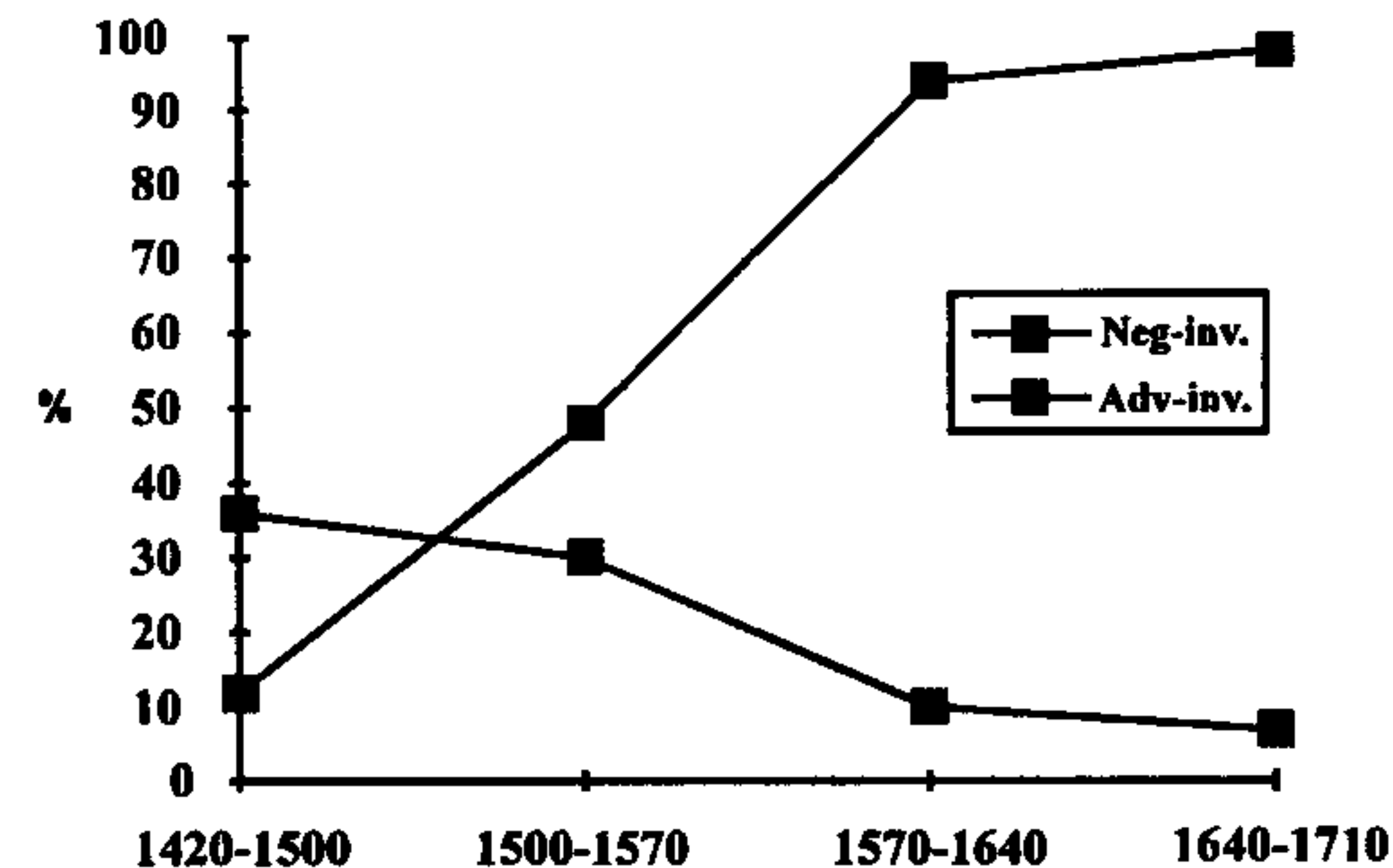


Figure 1. Inversion after initial adverbs and negators in the Helsinki Corpus.<sup>3</sup>

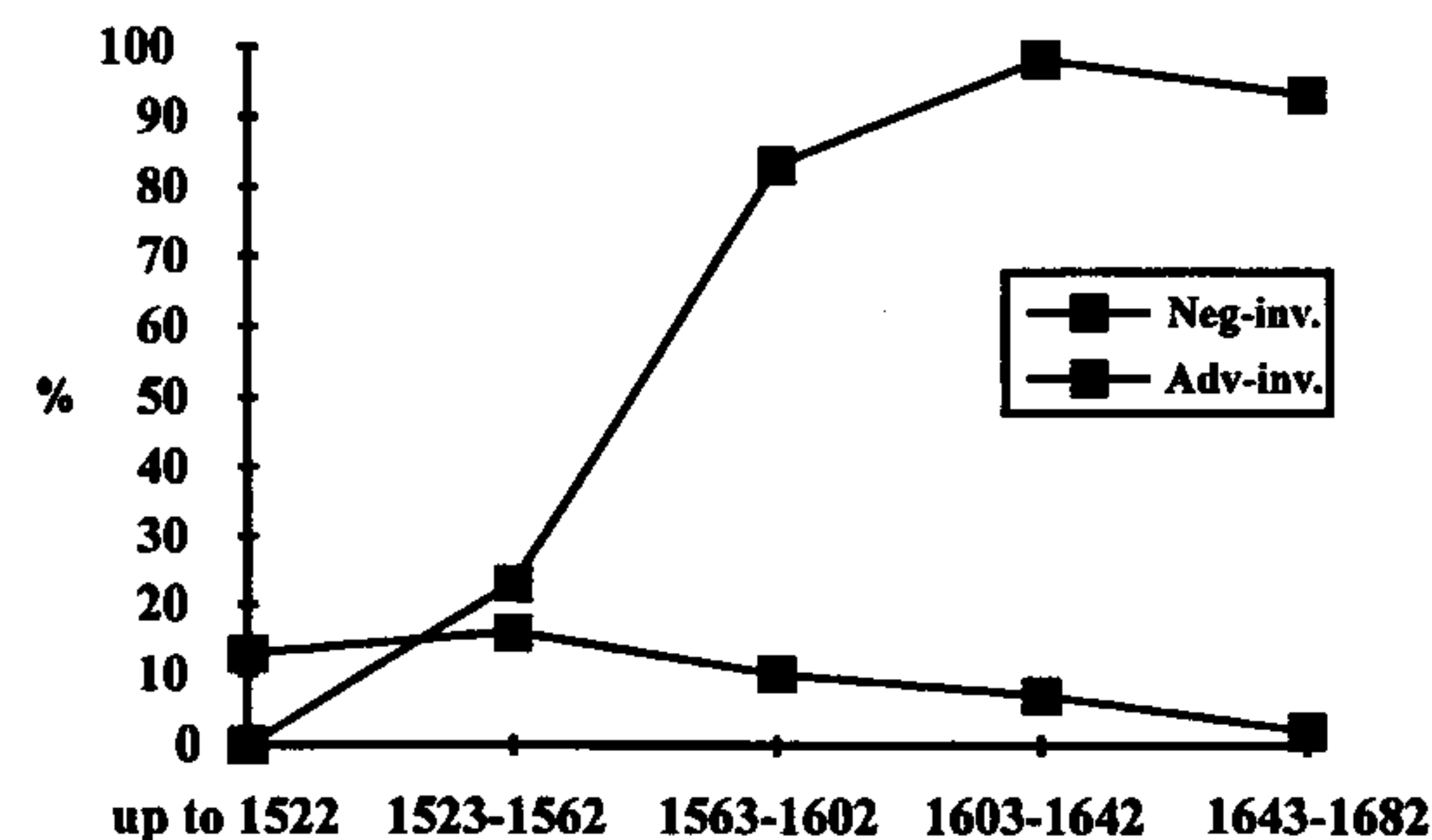


Figure 2. Inversion after initial adverbs and negators in the Corpus of Early English Correspondence.

<sup>3</sup> The EModE figures for the initial adverbs *then*, *therefore*, *thus* and *yet* are drawn from Kytö – Rissanen (1993: 262).

The four negative elements *ne*, *never*, *neither* and *nor* reverse the pattern, and start from zero inversion in the pre-1522 period in the CEEC data, and some 10% in the LME section of the HC, but reach almost 100% inversion in both corpora by the end of the EModE period. A sudden upsurge in the process can be seen in the 16th century when the rate of inversion begins to rise. The correspondence data would suggest that it is the latter half of the 16th century that constitutes the steeply rising part of the S-curve. As with the non-negative adverbs, the difference between the first ME and the last EModE period is statistically highly significant.

These quantitative results are supported by the study of Jacobsson (1951). Using a variety of LME and EModE texts, Jacobsson (1951: 96-97) found, first, that a group of initial adverbs (*here*, *now*, *so*, *then*, *there*, *therefore*, *yet*) show a fall from 44% inversion in 1370-1500 to 34% in 1500-1600, and finally to 7% in 1600-1700. His sample consisted of more than 4,000 instances of the variable. Jacobsson does not present comparable statistics on initial negatives, but his general results agree with the present findings, as we shall see in the following section.

### 5. Lexical diffusion

A number of language changes are shown to spread by means of lexical diffusion, i.e. by gradually diffusing across the lexicon. This mechanism seems to apply not only to phonological but also to syntactic changes, such as the development of periphrastic *do* in English (Ogura 1993). Sets of clause-initial lexemes seem ideally suited for testing the hypothesis in the case of inversion.

My discussion so far may indeed suggest that the loss of inversion after initial adverbs and the rise of it after negatives were rather homogeneous processes. The facts are, however, more complicated. The frequencies of occurrence of the individual lexemes are given in Tables 1 and 2 for the two corpora separately. They clearly indicate that while the overall trend is the same for both sets of lexemes in the two corpora, the individual rates of change vary. In the case of the four initial adverbs, *thus*, *then* and *yet* have clearly steeper falls than *therefore*, especially in the HC, where the rate of inversion is generally higher than in the CEEC. A very similar rank order was obtained by Jacobsson (1951: 96) for the three adverbs *then*, *yet* and *therefore*, which were included in his corpus.

One explanation for the low rate of inversion after *therefore* may be its relatively late grammaticalization as an adverb (only attested around 1400 according to the OED). In other words, it was not available when the V-2 rule was still fully operational. Had it been, its rather heavy phonological weight could also have made it less than ideally suitable as a V-2 trigger.

It is also clear that the increasing rate of inversion after initial negatives is lexically diffused. The results of the two corpora again tally with those of Jacobsson (1951: 17-47). The case of *ne* is interesting from the viewpoint of chronology. *Ne* had triggered inversion in Old English but had lost the rule both as a negator and as a conjunction in Early Middle English. As it falls out of use in the first half of the 16th century, *ne* fails altogether to catch on with the new rise of the inversion rule. The other connector, *nor*, is rather slow, too, but does generalize inversion in the 17th century. *Neither*, which functions both adverbially and as a co-ordinator, begins to display inversion in the 15th century in the HC data and clearly favours it by the mid-16th century in both corpora.

Table 1. Frequency of inversions in the Helsinki Corpus (HC).

Adverb	HC M4 1420-1500	HC E1 1500-1570	HC E2 1570-1640	HC E3 1640-1710
Thus	30/65 (46%)	7/32 (22%)	8/27 (30%)	3/16 (19%)
Then	180/453 (40%)	116/289 (40%)	40/296 (14%)	17/139 (12%)
Yet	32/83 (39%)	21/105 (20%)	7/133 (5%)	3/114 (3%)
Therefore	18/130 (14%)	13/102 (13%)	1/86 (1%)	1/53 (2%)
Never	0/2 (0%)	1/1 (100%)	1/1 (100%)	1/1 (100%)
Neither	4/9 (44%)	14/22 (64%)	40/41 (98%)	4/4 (100%)
Nor	0/7 (0%)	1/9 (11%)	5/7 (71%)	34/35 (97%)
Ne	0/16 (0%)	0/1 (0%)	—	—

Table 2. Frequency of inversions in the Correspondence Corpus (CEEC).

Adverb	CEEC up to 1522	CEEC 1523-1562	CEEC 1563-1602	CEEC 1603-1642
Thus	7/20 (35%)	11/129 (9%)	2/132 (2%)	6/85 (7%)
Then	25/208 (12%)	49/164 (30%)	33/159 (21%)	19/153 (12%)
Yet	19/107 (18%)	36/216 (17%)	30/274 (11%)	22/366 (6%)
Therefore	5/103 (5%)	16/208 (8%)	8/145 (6%)	1/99 (1%)
Never	0/2 (0%)	9/12 (75%)	4/4 (100%)	8/8 (100%)
Neither	0/5 (0%)	9/18 (50%)	59/64 (92%)	107/107 (100%)
Nor	0/41 (0%)	3/55 (5%)	2/13 (15%)	31/34 (91%)
Ne	0/8 (0%)	0/5 (0%)	—	—

Thinking of *never* as an established adverb one would have expected it to have retained the inversion rule just like the non-negative adverbs. Tables 1 and 2 do not endorse this view, although they suggest that *never* was the first of the four negatives to generalize the rule. The problem is partly that a clause-initial position is not typical of the time adjunct *never*, which is usually placed in a mid-position before the verb. We can see this in the extremely low overall frequencies of the initial time adjunct in the material. A comparison of Tables 1 and 2 clearly shows that the four negators are on the whole much more infrequent initially than the non-negative adverbs that we have considered.

## 6. Exaptation or extension of use?

Having established that the development of inversion in English is at least partly lexically driven, various questions come to mind. First, what is the role, if any, played by functional specialization in shaping the process? Second, how are these word-order developments linked with other, related, on-going processes? And third, do we really have a case of exaptation, or merely of extension of existing use?

## 6.1. Increased polyfunctionality

Studies of inversion differentiate word classes. The inverting adverb *þa*, for instance, is distinguished from the non-inverting conjunction in Old English. A similar distinction is made with the homonyms of *then* in Early Middle English (e.g. Stockwell – Minkova 1991). Most of the adverbs are however polyfunctional and we can tell by dictionary evidence that many of these adverbialization processes took place in post-OE times. In fact, all the non-negative adverbs considered here have developed conjunctive uses in the course of time (Quirk et al. 1985: ch. 8). It might therefore be useful to connect these developments with the simultaneous changes taking place in the order of clause elements. One may therefore wonder whether *then* used as a temporal adverbial favoured inversion more than when used as an inferential conjunct in Middle English. Both are presented in (12).

- (12) But noȝt aftyr mete, ne aftyr slepe, ne aftyr hatyng, for thanne am þe [{{humores}}] medelyd þe goode with the wykke, and if he blede, than þe goode humores schuldyn goon owte as well as þe wyk. (HC; ROBERT REYNES 158)

Although the present data suggest that there were no absolute word-order preferences based on function, functional evolution could nonetheless be one of the factors contributing to the loss of inversion after non-negative initial adverbs (see also Breivik – Swan 1994: 36-37).

## 6.2. Loss of V-2

It would also seem that the individual lexemes analysed here cannot and should not be separated from some other major processes taking place in Late Middle and Early Modern English. Stockwell and Minkova (1991), among others, argue in favour of decliticization of pronoun subjects by around 1400. This is interpreted to mean the loss of V-2 and introduction of Subject-Verb syntax. Interestingly, however, the incidence of inversion after *then*, for instance, is lower in the CEEC sample of the Paston letters from the 15th century than in the

More letters from the 16th century. One way of testing whether this is merely a reflection of the kind of subject the clause has is to compare the rate of inversion after nominal and pronominal subjects in main clauses.

My results provide some support for the sensitivity of inversion to subject type in the 15th century but less in the 16th. In the Paston letters, only 24% (38 cases out of 156) of the pronoun subjects were inverted with clause-initial *then*, as compared with 50% (8 cases out of 16) of the nominal subjects. In the More letters, however, we find 47% (9/19) of the pronoun subjects inverted after *then*, but only slightly more, 55% (12/22), of the nominal ones.

The results of Kytö and Rissanen (1993: 264) similarly suggest that, with some frequently inverting non-negative adverbs in the Helsinki Corpus, clauses with full noun-phrase subjects are more likely to have an inverted word-order than those with pronoun subjects: 25% of the pronoun subjects v. 37% of the nominal subjects have it in 1500-1570; the corresponding frequencies in 1570-1640 are 5% v. 22%, and in 1640-1710 6% v. 11%. The influence of subject type is hence less perceptible in Early Modern English than earlier, but it has by no means altogether disappeared.

As the correlation with subject type is waning, one may wonder why initial adverbs such as *thus* and *then* do not reach zero per cent of inversion in the 17th century. One obvious answer is that the slow decline continues in Late Modern English. It is also possible that there are other factors at play which slow down what on the surface looks like an uninterrupted process. One of them might be exaptation. One would have to go back to the data to check whether the inverted cases might in fact re-employ inversion as a discourse management device in the same way as other 'presentatives' do today (Brinton – Stein 1995: 40-41).

A brief look at the Late Modern English Prose corpus of letters (Denison 1994) gives support to both the above suggestions. These 19th and early 20th-century materials consist of 100,000 words and have some 60-odd instances of clause-initial *then*, *therefore*, *thus* and *yet*. The single case of inversion I found, however, does fulfil the discourse functional criteria laid down by Brinton and Stein (1995: 40): inversion after *then* in (13) serves to put a new entity onto the scene and the story continues with it.

- (13) ... packing, when Mrs. Fraser came in to my room to consult about it. She sat down, & soon after Lady Grant followed, & also took a seat. Then came Prof. Fraser, then Sir A. Grant, & all seated themselves round about in my bedroom, where a species of cabinet council was held. The Frasers were all for ... (AMBERLEY 524:7)

## 6.3. Loss of multiple negation

Another major factor that importantly correlates with inversion is multiple negation, or negative concord. Multiple negation is definitely on the way out from simple clauses in the rising standard language in the 16th century but lingers on in additive/correlative constructions until the 17th, and even later. There is a pronounced tendency for multiply negated clauses to disfavour inversion after the weak correlatives *ne* and *nor* (see Nevalainen: forthcoming). The correlative conjunction *ne*, for instance, always occurs with other negatives and is never followed by inversion in the data.<sup>4</sup> A 15th-century example is given in (14).

- (14) ... so that there neded not, ne I had no cause, to assigne Clyffton to resseyve c li. of my lord of Suffolk; (CEEC; JOHN FASTOLF II,151)

Tables 1 and 2 show that *nor* is the last of the four negatives to acquire the inversion rule. As a typical co-ordinator, it also represents the environment where multiple negation persisted longest in standard English. The extract in (15) contains a late instance of non-inverting *nor* in the data. Cases like this constitute a small minority, as most instances of *nor* from the same period have inversion but no multiple negation, as in (16).

- (15) ... content your self with your Old Mistresse, you are not soe handsome as Will Spencer nor I have not soe much courage nor wealth as his Mistresse ... (CEEC; DOROTHY OSBORNE 167)
- (16) My Lady Anne Wentworth I heare is marryeing but I cannot Learne to whome *nor* is it Easy to guesse whoe is worthy of her. (CEEC; DOROTHY OSBORNE 32)

On the basis of this evidence I would argue that the two mechanisms of negative concord and inversion after an initial negative element may serve the same purpose. They both signal the sentential or clausal scope of the negative element. As long as negation was morphologically marked in all indefinites throughout the clause, inversion was not used for the purpose of scope marking. *Nor* finally joins other initial negatives in adopting the inversion rule when negative concord ceases to operate in the rising standard language.

## 7. Conclusion

My corpus evidence suggests that inversion after clause-initial negatives is a good example of exaptive change. Negators do not have an unbroken history of verb-second from Old to Modern English but the rule is revived in the Early

<sup>4</sup> Inversion does occur after *ne* in conditionals without a subordinator, which signal the conditional relationship by subject – operator inversion in both negative and affirmative clauses. Those cases have been excluded from the quantification.

Modern period. Comparing this development with the demise of multiple negation at around the same time leads me to conclude that the new function of inversion with negators is to indicate the scope of the negative element.

What about non-negative adverbs? We could argue that the data I have introduced show the last vestiges of the old verb-second rule. The timing of the two processes discussed supports the argument: my set of clause-initial adverbs ceases to invert at about the same time as the negative items adopt the rule. Evidence like this suggests that we should extend the final stages of the loss of V-2 from the 14th century to Early Modern English. These Early Modern developments also require us to reconsider the status of 'true V-2 fossils' in Present-day English.

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