West Germanic OV and VO : the status of exceptions

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Publication date
2009

2. Directional Phrases

In the previous chapter, I discussed the topic of this book and how it is organized as well as relevant literature on word order in the history of Dutch and English. The novel approach of this study is starting from the development of interesting constructions in the history of Dutch and comparing them to the developments in English. In this chapter, I begin the study by examining directional phrases in the history of Dutch and English; I use these to measure the "normal" development of arguments in either language over time. In section 2.1, I discuss the development of these phrases in the history of Dutch as well as potential problems with using them. Basically, Middle Dutch directional phrases, just like objects, occur on either side of the verb whereas their position is very restricted in Modern Dutch: unlike other prepositional phrases but much like objects, they cannot appear outside of the sentence brace except in very specific circumstances, which will be discussed below. I also discuss the developments in English. Note that I will use the abbreviation D to represent 'directional phrase' throughout this chapter when discussing word order instead of the more common O for 'object'; however, for the purposes of this dissertation, the two are seen to be interchangeable.

I look at directional phrases instead of objects for a number of reasons. First, they are practical for corpus work because one can conduct lexical searches of corpora. Second, regular objects have already been investigated by numerous researchers, and directional phrases provide a novel approach to syntactic developments over time. Third, the relatively low frequency allows for detailed analysis of the small number of examples. Finally, any theory on syntax and on word order change should be able to account for the object-like behavior of directional phrases.

In section 2.1, I begin with a discussion of directional phrases and their characteristics. The research questions of the study are formulated in section 2.2. Section 2.3 is a brief recap of the methodology used to collect and categorize data as explained in Chapter1. Sections 2.4 and 2.5 are investigations of the facts for Dutch and English, respectively. The data of the two languages are compared in section 2.6.

2.1. Directional Phrases

2.1.1. Dutch

As has been discussed in the literature, prepositional phrases in Modern Dutch can in general quite freely extrapose (Koster 1973, 1974, 1975, 1978, 1999, 2001; Van Riemsdijk 1974, 1978, 2002; Helmantel 2002). One exception, however, is directional phrases, which are generally restricted to a position to the left of the verb as demonstrated by the examples in (30). So strong is this restriction that a number of scholars consider such directionals to be objects, either as part of a small clause (Den Dikken 1995) or as part of a complex predicate (Neeleman & Weerman 1999). The contrast between locational and directional phrases can be observed in the examples in (30) below: when the prepositional phrase *in de sloot* 'in(to) the ditch' occurs before the verb as in (30a), the interpretation is ambiguous: it can either mean that Jan is jumping (up and down) in the ditch, a locational reading, or that he is jumping into the ditch from another place, a directional reading. When the prepositional phrase occurs after the verb as in (30b), the directional reading is blocked; it can only mean that Jan is jumping (up and down) in the ditch. Note that in all translations (but not in the glosses), I use the word *into* for instances of directional phrases. Unless otherwise noted, the word *in* is reserved for contexts where it has a locational reading.

(30) a. *dat* Jan in de sloot *springt*
that Jan in the ditch jumps
'that Jan jumps (up and down) in the ditch'
'that Jan jumps into the ditch'

b. *dat* Jan *springt* in de sloot
'that Jan jumps (up and down) in the ditch'
'that Jan jumps into the ditch'

The exact same syntactic restriction occurs with prepositions that are purely directional with no possible locational reading, as in (31). The directional phrase *naar Amsterdam* 'to Amsterdam' can only appear before the verb and not after it except when there is a strong contrastive reading.

(31) *dat* Jan *(naar Amsterdam) gaat (*naar Amsterdam)
that Jan to Amsterdam goes to Amsterdam
'that Jan goes to Amsterdam'

These examples demonstrate that directional phrases are restricted to a position to the left of the verb; however, under certain circumstances, they can extrapose, namely when the verb of motion occurs with a particle such as *terug* 'back' in (32).

(32) *dat* ik het schaap *terug leidde* de wei in
that I the sheep back led the pasture in
'that I led the sheep back into the pasture' (taken from De Schepper & Lestrade 2008)

The phrase *de wei in* 'into the pasture' in this example can be seen as an appositive to the particle *terug*, i.e., it elaborates on the precise direction of the action of leading and is not essential in the clause. The fact that the clause remains grammatical even after removing the adpositional phrase seems to support this.

Another characteristic of a number of directional adpositions is that they can occur after the relevant noun phrase. According to Helmantel (2002:33), twelve of the fifteen Modern Dutch directional adpositions can occur after a noun phrase: *af* 'off', *binnen* 'inside', *door* 'through', *in* 'in', *langs* 'along', *om* 'around', *onder* 'under', *op* 'on', *over* 'across', *rond* 'round', *uit* 'out', and *voorbij* 'past'.[1] As is the case with the preposition *in* in example (30) above, these twelve adpositions can also occur before noun phrases (with the exception of *af*, whose prepositional use is restricted to trade language and fixed expressions, cf. Helmantel 2002, 34). The distribution of the preposed versus postposed adpositions is such that when they occur after noun phrases, they always have a directional reading, as demonstrated in (33a). Because the postpositions always denote direction, they cannot occur to the right of the verb as seen in (33b).

(33) a. *dat* Jan de sloot in *springt*
'that Jan is jumping (up and down) in the ditch'
'that Jan is jumping into the ditch'
b. **dat* Jan *springt* de sloot in
'that Jan is jumping into the ditch'

When they occur before noun phrases and in conjunction with verbs of motion, their meaning becomes ambiguous as in (30a) above where the clause can be interpreted with a locational or directional reading. Helmantel (2002:15) divides these twelve directional adpositions further into two groups: narrow locative adpositions and extended locative adpositions.[2] The former group is composed of *binnen*, *in*, and *op*; these designate a location to which the subject moves. The latter group contains the remaining adpositions and designates a location along which the subject moves. This distinction is important as it has some effects on the syntax of these structures, for instance restrictions on the auxiliary

[1] The three directional adpositions that cannot occur after the noun phrase by themselves are *naar* 'to', *tot* 'until', and *van* 'from'. Some of these can co-occur with the postpositional variants of other adpositions though maintaining a prenominal position, however, or can occur after a noun phrase in conjunction with another adposition. An example is *naar ... toe* 'to', where *toe* is a variant of *tot*.

[2] The three inherently directional adpositions that always occur before the noun phrase *naar*, *tot*, and *van* are grouped together into a separate category: point locative adpositions.

allowed with the verb. Beliën (2006) argues that *uit* should be included in the group of narrow locative adpositions, where its "irregularities" are for the most part characteristics of this group, instead of being classified as an irregular extended locative adposition as Helmantel (2006) does. I adopt this analysis, though it does not have an effect on this stage of the study.

The characteristics of Modern Dutch directional phrases can thus be briefly summarized as being restricted to a position to the left of the verb unless occurring with verbal particles and having the possibility that the adposition occurs after the noun phrase.

When we compare this to the situation in Middle Dutch, we immediately notice that the two stages differ on both of these points. In Middle Dutch, the position of directional phrases within a clause is flexible; they appear on either side of the verb whether the verb occurs with or without a particle. The directional phrase *in dit cloester* 'into this cloister' in (34) below, for instance, appears between the finite verb *moet* 'must' and the main verb *gaen* 'to go', the order we still find in Modern Dutch. Example (35), in contrast, exemplifies an instance of a directional phrase outside the sentence brace without a verbal particle: the directional phrase *in een huus* 'into a house' appears to the right of both the finite verb *was* 'was' and the nonfinite verb *ghegaen* 'gone'.

(34) ick *moet* hier <u>in dit cloester</u> *gaen*
I must here in this cloister go
'I must go here into this cloister' (16C, exempel)

(35) *als* hi *was ghegaen* <u>in een huus</u>
as he was gone in a house
'as he had gone into a house' (14C, a'damlect)

In addition to the absence of a syntactic restriction, Middle Dutch directional adpositions also differ from those of Modern Dutch in that they never appear after the noun phrase (Hogenhout-Mulder 1983:74). Rather, the distinction between locational and directional readings of some of these adpositions was made by different case marking on the noun phrase: if a locational reading was intended, the dative case was used whereas the accusative case was used to mark a directional reading. This, however, was not entirely reliable, especially at the end of the Middle Dutch period, as there was syncretism between various cases as the result of the loss of final consonants in the articles, the most distinctive part of the case marking.

Given the unique characteristics of Modern Dutch directional phrases, namely their syntactic restriction, especially when compared to other prepositional phrases, and the ability of the adposition to appear before or after the noun phrase, two competing theories have emerged to explain these phenomena, particularly the version of directional phrases with the postnominal adposition. In one theory, postnominal directional adpositions are analyzed as just that,

adpositions, meaning that the noun phrase and the adposition together form a unit (Helmantel 2002, and the references discussed there; Beliën 2006). The second approach, in contrast, analyzes the directional postpositions as verbal particles, meaning the "adposition" forms a unit with the verb, i.e., a complex predicate, and, as a result, the noun phrase is analyzed as the direct object of this phrasal verb (Neeleman 1994; Neeleman & Weerman 1999; Blom 2005). Each of these theories has its proponents, and each has its strong and weak points. No matter how one analyzes the Modern Dutch system, however, it is quite clear that it greatly differs from the situation in Middle Dutch and that some sort of reanalysis has taken place. The status and position of the adposition is not relevant for this study as the postpositional variants do not occur in the data set and do not seem to occur until much later in the history of Dutch (as late as 19C according to Cloutier 2006) anyway. The most relevant difference for this study is the syntactic restriction that develops, and it is this change that parallels the development of objects in the history of Dutch.

2.1.2. English

Modern English directional phrases are syntactically restricted to the right of the verb as shown in (36).

(36) John (*to London) *is* (*to London) *going* *(to London).

There are no postposed directional adpositions, though ambiguous adpositions can be combined with *to* to make the directional reading clear as in (37a).

(37) a. I *am walking* into the store.
b. I *am walking* in the store.

This, however, is not always obligatory; example (37b), for instance, can have either a locational reading, i.e., I am in the store and walking around, or a directional reading, i.e., I am outside of the store and am about to enter it. Example (37a), however, can only have a directional reading.

In Old English, the situation is different. The position of directional phrases is more flexible: they can occur on either side of the verb as seen in the examples in (38). Depending on the preposition, the distinction between directional and locational readings is usually marked by case. Though there were no examples of postposed adpositions in my data, adpositions can occur on either side of the noun phrase with postpositions usually occurring with simple adverbs of place, with indeclinable interrogatives and relatives, and with single personal pronouns (Lundsær-Nielson 1993:39-44).

(38) a. *gif* he bið untyneð & *recð* his neahgebures ceap in
if it is unfenced and (he) brings his neighbor's cattle in
on his agen geat
into his own gate

'if it is unfenced and he brings his neighbor's cattle into his own gate' (OE2, lawine)

b. se soðfæsta witega, *þe* on Abrahames wununge *wæs* gefyrn
the righteous prophet who into Abraham's dwelling was once
gebroht
brought
'the righteous prophet, who was once brought into Abraham's dwelling' (OE3, aelhom)

c. *Gif* ceorl ceap *forstilð* & *birеð* into his ærne
if peasant cattle steals and carries into his dwelling
'If a peasant steals and carries cattle into his dwelling' (OE2, lawine)

The placement of the adposition with respect to the complement, then, is the result of the nature of the complement rather than a distinction between locational and directional interpretations. There are also instances of prepositions co-occurring with the preposition *to* for a directional reading as in (38c) above.

Between Old English and Modern English, there is a change in the positions allowed for directional phrases: Old English allows them to occur on either side of the verb while they are restricted to a position after the verb in Modern English. The position of the adposition itself within its phrase is also more flexible in Old English, being able to occur to the left or right of its complement; in Modern English, directional adpositions always occur to the left of their complements. Both Old and Modern English allow the combination of a potentially ambiguous directional adposition with the adposition *to* to disambiguate the locational and directional readings. The addition of *-to* blocks a locational reading, but in no stage of the language is it obligatory.

2.1.3. Summary

We see that there are some similarities in the evolution of directional phrases in Dutch and English but also some notable differences. There is a clear change in the position allowed. In the older stages of both languages, directional phrases occur on either side of the verb, and over time, the directional phrases become restricted to one side of the verb: to the left in Dutch and to the right in English.

Both languages have a means to disambiguate locational and directional readings of adpositions, though the means used and when the use arises differ. In the earliest stages of Dutch and English, case marking on the noun was used. In later stages of Dutch, postposed adpositions carried out this function, marking directional readings. In English, there is the possibility of combining potentially ambiguous adpositions with *to* in order to clearly mark directional readings though this possibility existed in Old English, a point of contrast with Dutch. This may suggest that the locational reading is more basic, in

some sense, since the directional reading is the one that involves some sort of modification.

Finally, the position of adpositions also differs: in Middle Dutch, directional adpositions only occurred to the left of verb while they can appear on either side in Modern Dutch. In Old English, adpositions in general (including directional) could occur to the right or left of its complement, but the choice was usually a matter of the nature of the complement and not a means to distinguish locational and directional readings as in Modern Dutch. In Modern English, directional adpositions only occur before their complements.

We now have a general idea about the status of directional phrases in the different stages of Dutch and English. In this study, I do not consider the position of the adposition within the adpositional phrase. The reason for this is because I did not find any instances of directional phrases with postposed adpositions in this study. Moreover, I limit myself to the adposition *in* as well as its Old English equivalent *on*, classified as one of the narrow locative adpositions by Helmantel (2002). This adposition is found throughout the history of both Dutch and English. The choice of this adposition over *op* and *uit* has to do with the number of possible spelling variants. *Binnen* was not chosen because of its much lower frequency compared to *in* and its absence in Modern English.

2.2. Research Questions

The discussion in the previous sections and chapters leads to four main questions regarding the development of the word order possibilities of directional phrases. In this chapter, we will only be considering the facts regarding directional phrases; a comparison of these with object phrases and naming objects will be discussed in Chapter 5.

A first question that arises is how the position of arguments in each language develops over time. Specifically, at what point do we see a shift to a more rigid DV order in Dutch and to a more rigid VD order in English? A frequency count of the word order patterns over time will give us a good indication of the developments in the two languages. The Fisher-Yates test is useful to determine whether there is any change in the syntactic system from one period to the next. If it demonstrates the distribution of word orders in one century differs significantly from that of a later century (or centuries), I assume that this pinoints a significant change in the underlying syntactic system. If the distribution found in adjacent centuries does not differ significantly, I assume that the system underlying them is the same. This will also allow me to group data from different periods together if one century does not yield enough data to achieve statistically significant results. The logistic function of the data will also be calculated to provide an indication of the rate of the change, the midpoint of the change, and the amount of time the change needed to complete

itself. I can then use these data to later compare the systems in Dutch and English. As discussed in Chapter 1, I assume that Dutch has never had a period of competing grammars: Dutch remains underlying DV throughout its history though the realization of this DV grammar differs in different periods. If English does have a period of competing grammars, then we expect the distribution of word orders in this competing-grammars period to be significantly different from any period of Dutch. After all, if a DV period of Dutch can allow a high enough frequency of VD orders so that it is not significantly different from a competing-grammars period of English, it is not logical to assume an underlying difference between the two languages. I will compare the periods established for Dutch with those established for English in subsection 2.6.1 and discuss any conclusions that can be drawn.

Second, to what extent does heaviness play a role in determining word order? This question is only relevant in the periods where there is variation between DV and VD orders. In this study, two types of heaviness are examined: lexical and structural. For lexical heaviness, I will look at the distribution of word lengths of directional phrases on either side of the verb. This will provide an overall impression of the lexical weight allowed on either side of the verb. If lexical heaviness has any influence on word order, we expect that the word lengths allowed preverbally are significantly shorter than those allowed postverbally. Structural heaviness, which focuses on the structure of the relevant constituent, is also considered. If the structural heaviness of an element affects its position in a clause, then we will be able to observe it in one of two related ways: the first is what I term the preverbal restriction where preverbal elements are not heavy, and the second is the postverbal constraint where heavy elements occur to the right of the verb. If the postverbal constraint is operative, then the preverbal restriction must also occur, but the reverse is not true. The preverbal restriction can be satisfied by splitting a structurally complex constituent so that its (simplex) head occurs to the left of the verb while its modifiers, which cause the entire constituent to be complex, occur to the right. Such an operation, then, would be triggered by the preverbal rather than by the postverbal constraint.

Third, how important is newness in determining word order? As with the previous question, this is only relevant in periods with variation between DV and VD orders; this question deals with the influence of discourse on word order. In order to determine this, I will compare the proportion of directional phrases entailing definite noun phrases to those with indefinite noun phrases per position per century because, according to Van Kemenade & Los (2006a), the position of Old English noun phrases with respect to discourse particles is sensitive to definiteness. If newness plays an important role in determining word order in any century, then we expect there to be a significantly greater percentage of directional phrases with indefinite noun phrases to the right of the verb than to the left.

Finally, can we distinguish separate cohesive synchronic syntactic systems by

considering word order, heaviness, and newness together? If so, what periods can we distinguish and what characterizes them? If there is a cohesive syntactic system, then we expect that the factors governing word order will be the same in adjacent centuries/periods, i.e., the extent to which heaviness and newness, if relevant factors, influence word order will be the same. This study will help to find out which factors are relevant in each period and the extent to which each influences word order.

In sections 2.4 and 2.5, I will present the data and results for Dutch and English, respectively. Each of these language-specific sections ends with a subsection where I address the research questions posed here per language and which includes connections between word order, heaviness, and newness. The Dutch and English sections are followed by section 2.6 where I compare and summarize the results for both languages.

2.3. Methodological Considerations

In this section, I will briefly review the way in which I collected and categorized the data and the criteria I used to include or exclude clauses. For detailed information about the texts used in this study, refer to Chapter 1.

2.3.1. Directional Adpositions

I used the program *MicroConcord* version 1.0 to find instances of adpositions meaning 'into' (Scott & Johns 1993). The program allows wildcards, represented by the symbol <*>, allowing one to search for words with a particular string of letters without regard for preceding, intervening, or following letters depending on where the <*> is placed with respect to the letters. For example, the search string <in*> will sort out all words in which the letter <i> precedes the letter <n> with or without letters in the positions where the <*> occurs. This search string is helpful, for instance, in picking out the Dutch words *in* and *inne* as well as instances where it is written together with a following determiner, such as *int*, *inder*, *inden*, *inde*, and *indien* or even a following word, such as *indordrecht*. Of course, the program included a number of irrelevant words (for instance, Latin borrowings beginning with *in-* as in *intelligent*), which needed to be taken out, but these were in general easy to distinguish from the adpositions. In ambiguous instances where it was not immediately clear whether the word was an instance of an adposition, a closer look at more of the context was sufficient to determine the intended word. I also included other spellings of the initial vowel, namely <jn*> and <yn*>. These spellings are found in both the Dutch and English data. Additionally, I looked for instances of the adposition <on> in English as this is the primary adposition in the earlier texts for the meaning 'into'.

After collecting the adpositional phrases, I filtered out by hand the cases where it had a directional reading. Most of the relevant examples occurred with verbs meaning 'to go' and 'to come' so there was no doubt that the adpositional phrase was directional. For other motion verbs, I looked at the context to determine whether it was a directional phrase or a locational phrase. If I could not determine the status by the context, I did not include the example. I did not rely on case marking to judge the directionality of an adpositional phrase even though there is a tendency to use accusative case for directional readings. I chose not to do this because accusative case is not limited to directional phrases and because case marking, especially in the later stages of both languages, is not consistent. I limited myself to more literal examples where there is some physical motion from one location to another. I did not include more figurative uses, for instance, with verbs meaning 'to translate', even though it could be argued that there is a movement of a text from one language into another.

2.3.2. Word Order

Once the clauses containing directional phrases were collected, they had to meet a number of syntactic criteria in order to be included in the study. As discussed in Chapter 1, I did not include main or conjunct clauses that contained only a single finite verb in order to avoid the potential effects of verb second, which would have resulted in increased VD orders. Instances where the directional phrase occurred in the first position (i.e., topicalized directional phrases) were similarly excluded as such an order limits the position of the directional phrase. Clauses needed to meet two additional criteria in order to be included: the directional phrase had to contain a full noun phrase and not a pronoun, and the directional phrase had to occur in the same clause as the verb. Pronouns are known to prefer a preverbal position in Dutch and the early stages of English. If my assumption that directional phrases adhere to the same patterns as other types of arguments is correct, this means that directional phrases with pronouns also prefer preverbal positions.

As some of the examples occur in relative clauses, the directional phrase is occasionally found outside of the relevant clause, as in (39), though this order is rare.[3] The first directional phrase, *in to þe gernere* 'into the grainery', occurs in the same clause as the main verb *don* 'do'. The second directional phrase, *in to heuene* 'into heaven', however, occurs in a relative clause outside of the scope of the main verb and hence was not counted.

(39) Ah þet we moten bon of þe corne þe me *scal don* in to þe
but that we must be of the grain which one shall do in to the

[3]Note that the examples are taken from the English data, but the same criteria were also used for the Dutch texts.

gernere þet is in to heuene
grainery that is in to heaven
'...but that we should be like the grain that one puts into the grainery, that is, into heaven' (ME1, lamb1)

One type of construction, namely a participle with a directional phrase modifying a noun phrase as in (40), met the two additional criteria but was excluded. In (40), the verb *cumenne* is a present participle modifying the noun *Crist* and functions more as an adjective than a verb in this construction. The influence of its adjectival nature on the position of the directional phrase is not clear; it is possible that such participle constructions prefer a VD order to DV even in an underlyingly DV language.

(40) Myd þy he getacnode Crist *cumenne* in þære clænan
with that he symbolized Christ come into of-the pure
fæmnan ynnoð
virgin's womb
'With that, he symbolized Christ, come into the womb of the pure virgin' (OE4, mart2)

Further, these constructions are generally appositive in nature, giving additional but non-essential information about one of the elements in the matrix clause. These examples were not included in the analysis in order to avoid any potential effect they may have on the word order patterns.

In determining whether a clause is DV or VD, I looked at the position of the first directional phrase itself (if there was more than one) with respect to the verb. In a few instances, the directional phrase occurred to the left of the verb but was further modified by a relative clause or coordinated phrase to the right of the verb. As the first directional phrase still occurred preverbally, I counted these tokens as DV. These examples were quite rare, however, and should not have a major impact on the frequencies.

2.3.3. Heaviness

I examine heaviness as a factor both lexically and structurally. The reader should refer to subsection 1.4.2 of Chapter 1 for specific details. A brief summary of these criteria follows.

In order to get an impression of the lexical heaviness of directional phrases on either side of the verb per century, I count and compare the distribution of word lengths of directional phrases per position. This gives an impression of the number of words allowed on either side of the verb per period. I counted items between spaces as separate words even if they are written together in the modern standard language, for example, English *hym self* 'himself' counts as two words, and I counted identifiable words written together as separate words,

for example, Dutch *vander* 'from-the' counted as two separate words. I also included the preposition itself in the word count.

Structural heaviness is defined by the internal structure of the directional phrases and was determined to be either simplex or complex. I distinguished simplex and complex directional phrases based on two separate definitions, which I call *strong* and *weak* respectively, in order to be better able to define the constraints of structural heaviness as accurately as possible. In the strong definition of structural heaviness, I only counted directional phrases modified by relative clauses and conjoined directional phrases as structurally heavy elements. In the weak definition, I include directional phrases that were modified by genitive noun phrases and/or prepositional phrases. The investigation of the influence of structural heaviness on word order involves two parts: one, a qualitative examination and comparison of the heaviness on either side of the verb and two, a statistical comparison of the heaviness per position in each period. The former gives a general impression of any potential heaviness restrictions or influences in any given period while the latter either confirms the hypotheses or disproves them.

2.3.4. Newness

The final factor under investigation is newness, examined from a qualitative and a quantitative perspective. The criteria for determining newness of directional phrases have been set out in subsection 1.4.2 of Chapter 1, to which the reader should refer for specific details. Here I provide a brief summary.

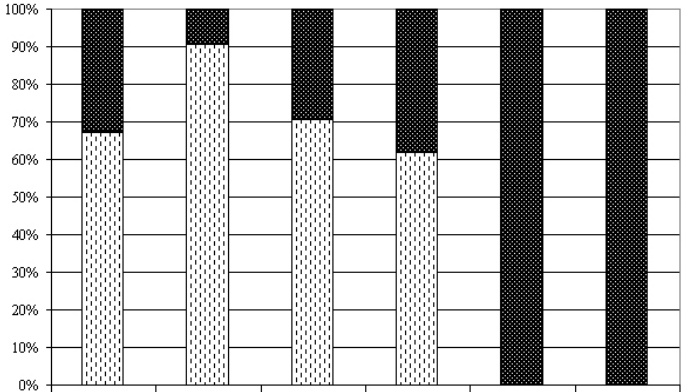
I understand newness as indefiniteness since indefinite noun phrases usually introduce a new entity into the discourse and definite noun phrases tend to represent items already mentioned in the discourse. For the quantitative study, I count the occurrence of directional phrases with indefinite and definite noun phrases per position per period and compare the results statistically. The qualitative evaluation, on the other hand, involves a more detailed examination and comparison of instances in which the same directional phrase appears.

2.4. Dutch

In this section, I will focus on the data from the history of Dutch. The primary concern here is the position of directional phrases and how it develops over time. I look at the distribution of the frequencies of word orders (DV and VD) over time in subsection 2.4.1 before examining the influence of heaviness (subsection 2.4.2) and newness (subsection 2.4.3) on word order possibilities. It is clear from the developments that these factors have varying and shifting degrees of influence on word order over time. I discuss the evolution of this construction in the history of Dutch in subsection 2.4.4.

2.4.1. Word Order

Figure 2.1 shows the distribution of the position of directional phrases over time, i.e., the frequency of the order VD versus DV. There is a drastic shift in



	13C	14C	15C	16C	17C	18C
DV	23	3	5	8	30	19
VD	47	29	12	13	0	0

Figure 2.1.: Position of Directional Phrases in Dutch

the position of directional phrases between 16C and 17C. Whereas directional phrases actually occur more frequently to the right of the verb than to the left up until 16C, they are restricted to a clause-internal position from 17C on. What is also striking is the frequency with which the VD order occurs in this early period; despite being underlyingly DV, two-thirds or more of the examples are VD in 13C–15C. Even in 16C, more than half of the examples are VD. This shows that the frequency of VD can still be very high in a language with an underlying DV grammar.

When we compare the centuries to one another using the Fisher-Yates statistical test, we observe that 17C and 18C are not significantly different from one another but are significantly different from all of the other centuries ($p = .00002$). We also see that 14C is significantly different from both 13C ($p = .02$) and 16C ($p = .03$) but not 15C. There is no statistically significant difference between 13C, 15C, and 16C. From this, we can distinguish two periods: 13C&14C&-15C&16C on the one hand and 17C&18C on the other. I include 14C in the first period because it is wholly contained within it and because it is not significantly different from 15C, one of the centuries that clearly belongs to this period. For statistical tests on the first period in the following subsections on heaviness and newness, I will look at each century individually as well as combine the data

for more accurate statistics. Given the oddity of 14C, I will also check to see if subtracting the data from this century has an influence on the combined total of this period.

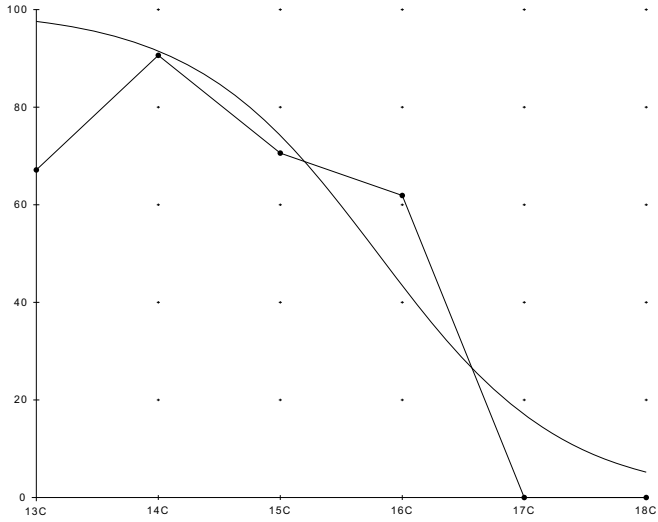


Figure 2.2.: Logistic Function of Directional Phrases in Dutch

If we calculate the logistic function of the data, we get figure 2.2. Note that the line with the dots is a representation of the actual data and the smooth S-shaped curve is the logistic function. According to these calculations, the slope of the curve (i.e., the rate of change) is -1.32, a rather quick change; the change takes 4.5 centuries to complete, and the midpoint of the change is just before 16C. The negative slope means that the direction of change is toward the loss of a possibility, in this case the loss of VO. The range of the change suggests that the change starts mid-13C and completes itself at the very beginning of 18C.

2.4.2. Heaviness

I investigate heaviness as a potential factor in the position of directional phrases by counting and comparing their word lengths per position in each period as well as examining the structural complexity of preverbal and postverbal directional phrases in each period. On the basis of the data on word order frequencies in the previous subsection, we can distinguish two syntactic systems:

13C&14C&15C&16C where both preverbal and postverbal directional phrases occur with a higher frequency of postverbal, and 17C&18C where only preverbal directional phrases occur. Is there some sort of heaviness restriction, whether lexical or structural, on preverbal directional phrases in the earlier period, i.e., is there a preverbal restriction? Does the heaviness of directional phrases force them to occur in a postverbal position, i.e., is there a postverbal constraint? If so, how is heaviness best defined?

Table 2.1 gives the distribution of word lengths per position in Dutch; the first column is the total of all directional phrases in 13C&14C&15C&16C, and the second column excludes the data from 14C. It is evident from the table that the VD position is preferred regardless of the length of the directional phrase. A statistical analysis using the Fisher-Yates test on the various permutations of these data reveals that the preference is not significantly greater for longer directional phrases than for the shorter ones, nor is any of the distributions for the various word lengths significantly different from the overall distribution of DV and VD orders. The few examples of directional phrases composed of

phrase length	including 14C		excluding 14C	
(words)	DV	VD	DV	VD
2–3	32	69	29	47
4–5	4	19	4	16
6–7	1	4	1	3
8–9	2	6	2	4
>9	0	3	0	2
Total	39	101	36	72

Table 2.1.: Word Length of Directional Phrases per Position in Dutch

more than nine words are all VD, which is telling, but as the numbers are so small, we cannot say anything definitive about any possible correlation between lexical length and position of directional phrases. This suggests that heaviness defined lexically is not useful in predicting the position of directional phrases in any period of Dutch.

In examining the structural heaviness of directional phrases in 13C&14C&-15C&16C according to the strong definition, note that of the 39 instances occurring preverbally in table 2.1, only three (about 8%) can be considered complex according to the weak definition (see table 2.3 below), and two of these are split. This means that the majority of the preverbal directional phrases, around 92%, are simplex. Two of the complex directional phrases are conjoined as in (41a), and one, given in (41b) is modified by a relative clause.

(41) a. *Dat* si eweleke... jn onser grauescap ende in al onsen lande,
that they forever... into our county and into all our land

tholne vri *varen sullen*
toll free sail shall
'that they shall sail into our county and into all of our lands forever without paying a toll' (13C, d'recht 1284 juni 7)

b. Ende *als* hij van haere tot in ytalien *toech* daer hij
and when he from her until into Italy brought there he
ierst romen began te stichten
first Rome began to found
'And when he went from her into Italy, where he first began founding Rome' (15C, blome)

Of the 101 postverbal directional phrases, 13 instances (about 13%) can be considered complex according to the strong definition: eight are conjoined, four are modified by relative clauses, and one is both conjoined and modified by a relative clause. As with the preverbal directional phrases, the majority are simplex, around 87%. The percentage of simplex versus complex directional phrases per position does not seem to differ greatly.

Table 2.2 gives the distribution of simplex versus complex directional phrases over the orders DV and VD in the early period as established in subsection 2.4.1 based on word order patterns. In this table, complex directional phrases are understood according to the strong definition of structural complexity, i.e., as either conjoined directional phrases or directional phrases that are modified by a relative clause. Moreover, the two split directional phrases (one in 13C and one in 15C) were counted as simplex to see if the preverbal restriction is operative in this period, i.e., whether there is a restriction on the heaviness allowed to the left of the verb. The data in the first column indicate that simplex directional

	including 14C		excluding 14C	
	DV	VD	DV	VD
Simplex	38	88	35	63
Complex	1	13	1	9
Total	39	101	36	72

Table 2.2.: Position and Complexity in Directional Phrases in Dutch: Preverbal Restriction and Strong Definition

phrases are 2.3 times more likely to occur postverbally than preverbally whereas complex directional phrases are 13.0 times more likely. This is an indication that there is a stronger tendency for complex directional phrases to be postverbal than for simplex ones. The statistical test, however, does not show a significant difference in the distribution of simplex versus complex directional phrases per word order in any individual century nor in any of these distinct periods. This

may be the result of a lack of data on complex directional phrases since the tendency is quite clear. Collecting more data may help resolve this, but for now, we will say that there is no restriction on the structural heaviness of preverbal directional phrases when structural heaviness is defined according to the strong definition though there is a tendency toward a restriction.

Table 2.3 gives the same information as in table 2.2 but according to the weak definition of complexity. In addition to the elements considered complex according to the strong definition, instances of directional phrases modified by genitive noun phrases and/or prepositional phrases are also included. Again, the two split directional phrases (one in 13C and one in 15C) were counted as simplex to see if the preverbal restriction is operative. The data in the

	including 14C		excluding 14C	
	DV	VD	DV	VD
Simplex	36	73	33	51
Complex	3	28	3	21
Total	39	101	36	72

Table 2.3.: Position and Complexity in Directional Phrases in Dutch: Preverbal Restriction and Weak Definition

first column indicate that simplex directional phrases are 2.0 times more likely to occur postverbally than preverbally whereas complex directional phrases are 9.0 times more likely. This is an indication that there is a much stronger tendency for complex directional phrases to be postverbal than for simplex ones. The distribution of simplex versus complex directional phrases per word order is not significantly different in any individual century, but the difference is significant when the data are taken together: $p = .01$ in 13C&14C&15C&16C, and $p = .02$ in 13C&15C&16C. This suggests that the preverbal restriction is indeed operative when structural heaviness is defined according to the weak definition. In other words, the part of a directional phrase occurring preverbally is significantly less likely to be conjoined or modified by a relative clause, genitive noun phrase, or prepositional phrase than a directional phrase that occurs postverbally. The inclusion of 14C seems to skew the results slightly since it has only three instances of DV order, none of which is complex by either definition. Even when it is excluded, however, there is still evidence that there is a preverbal restriction on directional phrases in this period of Dutch.

We have just seen that there is a structural heaviness restriction on preverbal directional phrases when structural heaviness is considered according to its weak definition. Remember, however, that the existence of this preverbal restriction does not necessarily mean that the heaviness of a directional phrase forces it to occur to the right of the verb. In order to check this, we need to take

another look at the split directional phrases, which were considered simplex in the previous discussion, and see if the difference in the distributions will remain significant if we consider them complex. Table 2.4 gives the same distributions as in table 2.3, i.e., according to the weak definition of complexity; however,

	including 14C		excluding 14C	
	DV	VD	DV	VD
Simplex	34	73	31	51
Complex	5	28	5	21
Total	39	101	36	72

Table 2.4.: Position and Complexity in Directional Phrases in Dutch: Postverbal Constraint and Weak Definition

the two split directional phrases (one in 13C and one in 15C) are counted as complex to see if there is a postverbal constraint on directional phrases. The data in the first column indicate that simplex directional phrases are 2.1 times more likely to occur postverbally than preverbally whereas complex directional phrases are 5.6 times more likely. This suggests a weak tendency for complex directional phrases to be postverbal than for simplex ones. The distribution of simplex versus complex directional phrases when considering the postverbal constraint is not significantly different in any individual century nor when the data are considered together. This lets us know that while there is a restriction on the structure allowed preverbally, a complex directional phrase as a whole is not necessarily forced to a postverbal position; splitting is an important way to meet the requirements of the preverbal restriction.

2.4.3. Newness

Newness is the next factor under investigation. To determine if it is a relevant factor in determining the position of directional phrases, I will look for whether the noun in the phrase is definite or indefinite. I begin with the qualitative part of the study where I examine the position of repetitions of the same directional phrase. This is followed by the quantitative part where the distributions of definite and indefinite directional phrases per position per period are statistically analyzed.

There were not many examples of repeated directional phrases within the same text among the data, only a few examples in 13C and 16C. Moreover, the examples that there are do not indicate that newness has an influence on the word order. The 13C examples in (42), for instance, have a directional phrase containing a name, which was counted as definite, i.e., given information. In both (42a) and (42b), the directional phrase appears after the verb.

(42) a. *do* hi *liep* in die haghe
then he walked into The Hague
'then he walked into The Hague' (13C, d'recht 1284 begin mei)

b. *doe* si *voeren* in die haghe
then they went into The Hague
'then they went into The Hague' (13C, d'recht 1284 begin mei)

If newness did influence the word order, we would have expected the second occurrence to appear before the verb, contrary to what we find. This suggests that newness does not play an important role in determining the position of directional phrases.

The directional phrase in the 13C examples in (43), *in onse lant* 'into our land', was counted as definite because of the possessive adjective preceding the noun. Unlike the preceding clauses, these directional phrases appear in different positions; however, the order in which they appear in the different positions again goes against what one would expect if newness played a role.

(43) a. soe *sullen* die comanne bi wat weghe si in onse lant
so shall the merchants by what way them into our land
varen
transport
'in this way, the merchants shall transport them into our land by some way' (13C, hgk 1300 jan 7)

b. dat ghoet *dat* si *gheleit hebben* in onse lant
the goods that they led have into our land
'the goods that they led into our land' (13C, hgk 1300 jan 7)

Example (43a) occurs first in the text, yet the directional phrase appears before the verb. In the second occurrence, (43b), the directional phrase appears after the verb, the order we expect with indefinite, or new, noun phrases, even though it clearly is the same directional phrase as in the first example, which occurs only five clauses earlier. Again, the data suggest that newness does not play a role.

In 16C, we still get no indication that newness plays a role in determining the position of directional phrases. The directional phrases in the clauses in (44) are formulated a little differently from one another, but it is clear that they refer to the same thing. (44a) was counted as definite because of the possessive pronoun *zijnen*, and (44b) was counted as definite because of the definite article *de* and the noun phrase in the genitive modifying the complement.

(44) a. *dat* wy ons den Heere *begeeren op te offeren* in zijnen handen
that we us the Lord desire up to offer into his hands
'that we desire to offer ourselves into his hands' (16C, offer)

b. Hierom *willen* wy ons gheheelijcken *ouer gheuen* inde
herearound want we us wholly over give into-the
handen des Heeren
hands of-the Lord
'For this reason, we want to give ourselves completely into the hands of the Lord' (16C, offer)

Both directional phrases occur to the right of the verb. This is additional evidence that newness does not play a role in Dutch directional phrases.

The above three pairs of examples indicate that newness does not play a role in determining the position of directional phrases; statistical tests also confirm this. Table 2.5 gives the distribution of definite and indefinite directional phrases per word order in 13C&14C&15C&16C as well as the combined data for 13C&15C&16C. Already before conducting the Fisher-Yates test, one can

	including 14C		excluding 14C	
	DV	VD	DV	VD
Definite	34	92	31	66
Indefinite	5	9	5	6
Total	39	101	36	72

Table 2.5.: Position and Newness in Directional Phrases in Dutch

observe in the table that there is no stronger tendency for indefinite directional phrases to occur postverbally than definite directional phrases. According to the combined data in the first column, definite directional phrases are 2.7 times more likely to occur postverbally than preverbally whereas indefinite directional phrases are 1.8 times more likely. This actually is a slight reversal of what we would have expected. The fact that there is no statistically significant difference in the distributions within any individual century nor in any of the combinations of centuries confirms our suspicions: newness, at least when defined as indefiniteness, is not an important factor in determining word order in early Dutch.

2.4.4. Discussion

I will address the research questions posed in section 2.2 above in this subsection. In response to the first set of questions regarding the distribution of the directional phrases over time, we saw in subsection 2.4.1 that there is a clear break between 16C and 17C: from 13C to 16C, there is a rather high frequency of VD orders whereas VD orders are completely absent from 17C. A statistical test confirmed the distinction between these two periods. One of

the centuries in the first period, namely 14C, behaves a bit differently from the others in the same period, however; 14C has a significantly higher frequency of VD orders than either 13C or 16C, but it is not significantly different from 15C. For this reason, I conducted the other statistical tests for this period with and without 14C to see if that had any effect. In no instance did the inclusion or exclusion of 14C result in statistical significance or insignificance. This suggests that 14C can be safely included in this period. The logistic function of these data revealed that the slope of the S-curve, which describes the rate of change, is -1.34, a rather fast change. The midpoint of this shift is just before 16C, different from what the raw data would seem to suggest.

The second set of research questions addresses the influence of heaviness, understood both lexically and structurally, on word order patterns in the centuries where both word orders still occurred. As discussed in subsection 2.4.2 above, lexical heaviness does not have an influence on the word order patterns: for all word lengths, there is a preference for VD orders, but this is just a reflection of the overall preference for VD orders in this period. In contrast, structural heaviness, when defined by the weak definition, does have an influence on word order in the form of a preverbal restriction. Under the weak definition of complexity, a directional phrase is considered complex if it is conjoined (two or more directional phrases conjoined with or without a conjunction, or two or more noun phrases conjoined under a single preposition) or modified by a relative clause, a genitive noun phrase, or a prepositional phrase. The preverbal restriction significantly reduces the ability of preverbal directional phrases to be complex; complex directional phrases either have to split with part of it occurring to the right of the verb, or the whole phrase has to occur to the right. Despite this restriction, however, complex directional phrases are not always forced to the right, showing that the postverbal constraint is not operative in early Dutch.

Newness is the third research question. There were only a few examples of repeated directional phrases. None of these repetitions seemed to indicate that newness played an important role in the word order of directional phrases. This was confirmed by a statistical test; the distribution of indefinite and definite directional phrases across the two word orders was not significantly different in any individual century nor in any division of periods. This shows that newness does not play a role in determining the position of directional phrases in the early stages of Dutch.

All of these data give evidence for two distinct periods. The first period, 13C&14C&15C&16C, has two word orders available. The position of structurally complex directional phrases, understood by the weak definition, is limited by a preverbal restriction rule: structurally complex phrases must either split or occur postverbally. As mentioned above, 14C was a bit problematic because it did not seem to behave in the same way as most of the centuries in this period. However, the fact that the inclusion or exclusion of the data from 14C did not

have much of an effect on any of the results suggests that it does belong in this initial group. We will confirm this later when we compare these periods to the periods in English. In the second period, 17C&18C, there is no word order variation: directional phrases always occur preverbally.

This research can be greatly augmented in a number of ways, many of which are just as relevant for English discussed below. One issue that is specific to Dutch, however, is the internal syntax of directional phrases. In my data, I found no examples of *in* appearing after the noun phrases. However, in contemporary Dutch, this is one of the more common ways of expressing direction. Further research should include an investigation of the rise of the postpositions we see in Modern Dutch and the potential impact this may have had on the position of directional phrases within a clause.

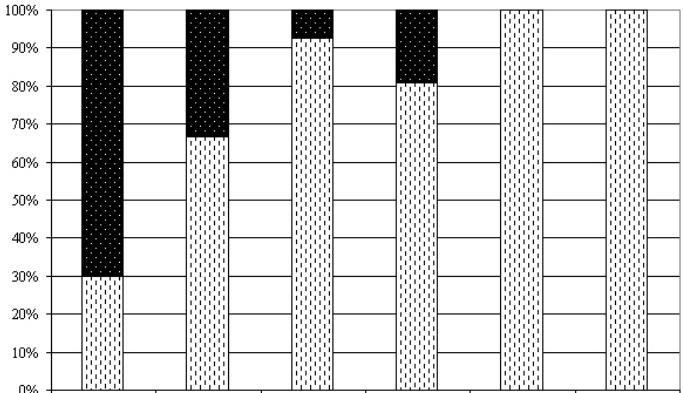
2.5. English

In this section, I will focus on the data from the history of English. The primary concern here is the position of directional phrases and how it evolves over time. I look at the distribution of the frequencies of word orders (DV and VD) over time in subsection 2.5.1 before examining the influence of heaviness (subsection 2.5.2) and newness (subsection 2.5.3) on word order possibilities. It is clear from the developments that these factors have varying and shifting degrees of influence on word order over time. I finally discuss the evolution of this construction in the history of English in subsection 2.5.4.

2.5.1. Word Order

Figure 2.3 shows the frequency of the position of directional phrases with respect to the verb in English over time. We can see a gradual increase in the frequency of VD order over time until it becomes the only order available in ME3; the system in ME3 and ME4 is different from the earlier periods, a rigid VD syntax being clearly what determines the position of directional phrases. In the other periods where the word order is more variable, we see two distinct periods, giving a total of three distinct periods: OE2, characterized by a low frequency (around 30%) of VD orders; OE3&ME1, characterized by a higher frequency of VD orders (above 65%) while still allowing DV orders; and ME3&ME4, characterized by rigid VD order.

When the periods are compared to one another using the Fisher-Yates statistical test, we see that ME3 and ME4, as expected, are not significantly different from one another but are significantly different from the other periods, with the exception of OE4. In addition, ME3 is not significantly different from ME1. I will group ME3 and ME4 together but separately from OE4 and ME1 because they have only VD orders. Note, however, that these four periods could be



	OE2	OE3	OE4	ME1	ME3	ME4
■DV	7	9	2	5	0	0
⊡VD	3	18	25	21	25	36

Figure 2.3.: Position of Directional Phrases in English

grouped together. I chose not to do this because the word order options in ME3&ME4 are much more limited than in OE4&ME1 and because ME1 is also not statistically different from OE3, a period which is clearly different from ME3&ME4.

For the first four periods, the picture is much more complicated. Given the very low frequency of VD orders in OE2, it is not surprising that it is significantly different from the other periods; however, it is *not* significantly different from OE3, suggesting that they might share the same underlying system. OE3, in turn, is significantly different from OE4 but not ME1 whereas OE4 and ME1 are not significantly different from one another. These statistics indicate that OE2 should be treated separately from OE4&ME1. It is not entirely clear, however, where to group OE3, and its position between the two distinct systems does not help to decide. For the presentation of data, I will group OE3 with OE2 and not OE4&ME1, but in my calculations, I will try grouping it with each to see if there is any difference. This may eventually reveal that the behavior of OE3 is more like either OE2 or OE4&ME1.

If we calculate the logistic function of the data, we get the graph shown in figure 2.4. Note that the line with the dots is a representation of the actual data and the smooth S-shaped curve is the logistic function. According to these calculations, the rate of change is 1.34; the change takes 4.5 centuries to complete, and the midpoint of the change is around 900, so about halfway through OE2. The range of the change suggests that it starts around 680 (OE1,

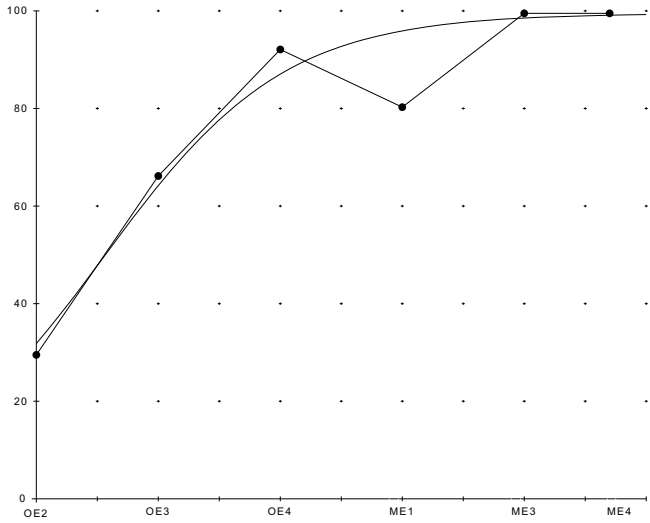


Figure 2.4.: Logistic Function of Directional Phrases in English

not one of the periods included in this study) and completes itself around 1130 (at the end of OE4).[4]

2.5.2. Heaviness

I investigate heaviness as a potential factor in the position of directional phrases by counting and comparing their word lengths per position in each period as well as examining the structural complexity of preverbal and postverbal directional phrases in each period. On the basis of the data on word order frequencies in the previous subsection, we can distinguish three syntactic systems: OE2 and OE3 where both preverbal and postverbal directional phrases occur with a lower frequency of postverbal, OE4&ME1 where both preverbal and postverbal directional phrases occur with a higher frequency of postverbal, and ME3&ME4 where only postverbal directional phrases occur. Is there some sort of heaviness restriction, whether lexical or structural, on preverbal directional phrases in any of the periods? Does the heaviness of directional phrases force them to occur in a postverbal position, i.e., is there a postverbal constraint? If so, how is heaviness best defined?

[4]Refer to section 1.4.3 in Chapter 1 for a discussion of the problems associated with the logistic function.

Table 2.6 gives the distribution of word lengths per position in English; the first column is the total of all directional phrases in OE2&OE3, and the second column is the data from OE4&ME1. I also checked each period individually as well as OE3&OE4&ME1 and the combination of just OE3 and ME1. For the most part, it seems that there is a preference for VD orders. The one exception is two-to-three-word directional phrases in OE2&OE3; in this period, the division is about 50–50. It is also interesting to note that the one instance

phrase length	OE2 & OE3		OE4 & ME1	
(words)	DV	VD	DV	VD
2–3	15	14	6	36
4–5	0	4	1	5
6–7	1	2	0	4
8–9	0	1	0	1
Total	16	21	7	46

Table 2.6.: Word Length of Directional Phrases per Position in English

of a preverbal directional phrase of six words or more occurs in OE2, the most DV of all periods. With this in mind, I compared the various permutations of the data using the Fisher-Yates test to see if there was any effect of lexical weight on the position of directional phrases. I did this by comparing two-word directional phrases to the others, two- and three-word directional phrases to the rest, etc. up to nine-word directional phrases compared to the rest. I did this comparison for each individual period as well as for the combinations OE2&OE3, OE3&OE4&ME1, and OE4&ME1. I found that the preference for the VD order is not significantly greater for longer directional phrases than for shorter ones nor is any of the distributions for the various word lengths, no matter how they are combined, significantly different from the overall distribution of DV and VD orders per period. This indicates that lexical heaviness does not play an important role in determining the position of directional phrases.

Table 2.7 gives the distribution of simplex versus complex directional phrases over the orders DV and VD in the early periods as established in subsection 2.5.1 based on word order patterns. In this table, complex directional phrases are understood according to the strong definition of structural complexity; i.e., only conjoined directional phrases or ones modified by relative clauses are considered complex. Moreover, the one split directional phrase (from ME1) was counted as simplex to see if the preverbal restriction is operative. The data in the first column indicate that simplex directional phrases are 1.3 times more likely to occur postverbally than preverbally whereas complex directional phrases are just as likely to occur on either side; these two types do not greatly differ from one another. The second column, on the other hand, shows that simplex

	OE2 & OE3		OE4 & ME1	
	DV	VD	DV	VD
Simplex	15	20	7	42
Complex	1	1	0	4
Total	16	21	7	46

Table 2.7.: Position and Complexity in Directional Phrases in English: Preverbal Restriction and Strong Definition

directional phrases are 6 times more likely to appear postverbally and complex 4 times more likely. The Fisher-Yates test confirms that the distribution of simplex versus complex directional phrases per word order is not significantly different in any individual period nor in any combination of the periods as established above. This shows that there is no restriction on the structural heaviness of preverbal directional phrases when structural heaviness is defined according to the strong definition. These results are probably due to the lack of complex directional phrases, so no conclusive statements can be made.

Table 2.8 gives the distribution of complexity over the two orders according to the weak definition of structural complexity. This means that in addition to the elements considered complex according to the strong definition, instances of directional phrases modified by genitive noun phrases and/or prepositional phrases are also included. Again, the one split directional phrase from ME1 is counted as simplex to see if the preverbal restriction is operative. Again, the

	OE2 & OE3		OE4 & ME1	
	DV	VD	DV	VD
Simplex	13	17	7	40
Complex	3	4	0	6
Total	16	21	7	46

Table 2.8.: Position and Complexity in Directional Phrases in English: Preverbal Restriction and Weak Definition

data show no clear tendency: in the first column, both simplex and complex directional phrases are 1.3 times more likely to appear postverbally than preverbally, and in the second column, simplex directional phrases are 5.7 times more likely to appear postverbally than preverbally compared to 6.0 times for complex directional phrases. Even with the weak definition, the Fisher-Yates test indicates that the distribution of simplex versus complex directional phrases per word order is not significantly different in any individual century nor in

any combination of periods, confirming that there is no preverbal restriction on directional phrases in any stage of English. What this also means is that there cannot be a postverbal constraint since it can only exist with the preverbal restriction. Heaviness by any definition, then, does not seem to play a role in determining the position of directional phrases in English.

2.5.3. Newness

Newness is the next factor under investigation. To determine if it is a relevant factor in determining the position of directional phrases, I will look for whether the noun in the phrase is definite or indefinite.

The following examples from OE3 have the same directional phrase, *on þisne middaneard* 'into this world'. This phrase was counted as definite in both instances because of the demonstrative *þisne*. In both (45a) and (45b), the directional phrase appears before the verb.

(45) a. ðæt soðe leoht wæs þe onliht ælcne mannan *þe* on
that true light was which illuminates all man who into
þisne middaneard *becymð* to menn geboren
this world comes to men born
'that was the true light, which illuminates all mankind, which comes into this world born of men' (OE3, aelhom)

b. ic gelyfe þæt þu eart Crist, Godes Sunu, *þe* on þysne
I believe that you are Christ God's Son who into this
middaneard to mannum *come*
world to man may-come
'I believe that you are Christ, God's Son, who came into this world as man' (OE3, aelhom)

As both directional phrases are definite, this position is expected as they are instances of old information. This would seem to suggest that newness may play a role in word order in the first period of English. In the same text, however, there are examples that suggest otherwise. The directional phrases in (46) are more or less the same: they have the same number of words and refer to an open sea of fire. Both are definite and as such are expected to occur before the verb and not after, as they appear here.

(46) a. þonne se deað and seo hell *wurdon asende* into þam bradan
then the death and the hell became sent into the spacious
mere ðæs brastligendan fyres
sea of-the roaring fire
'then death and hell were sent into the open sea of roaring fire' (OE3, aelhom)

b. ælc ðæra manna *wæs aworpen* into ðam widgillan mere
each of-the men was thrown into the broad sea
ðæs bradan fyres
of-the open fire
'each of the men was thrown into the broad sea of open fire' (OE3, aelhom)

It is noteworthy that the directional phrases in (46) are quite complex, each comprising the head with a genitive noun phrase modifier. This may indicate that the combination of newness and heaviness plays a role in this example despite the discussion in 2.5.2 suggesting that heaviness does not play a significant role in the history of English.

Of course, more convincing evidence that newness does not play an important role would be examples where an indefinite directional phrase occurs to the left of the verb while its definite counterpart occurs to the right, but these examples are enough to bring into question the role of newness in determining word order in the first period of English.

In the second period of English, we have a stronger indication that newness may play a role in word order. The three examples in (47) all appear in the same text. Two of these are indefinite, i.e., new information, while one is definite.

(47) a. [þ]a *het* he hym gebyndan anne ancran on hys
then commanded he him to-tie an anchor onto his
sweoran ond hyne *forsendan* on sæ
neck and him send into sea
'Then he commanded him to tie an anchor around his neck and to send him into the sea' (OE4, mart2)

b. ond se ancra þær wæs big geseted myd þam he *wæs* ær
and the anchor there was by set with that he was before
on þa sæ *onsended*
into the sea sent
'and the anchor with which he was previously sent into the sea was thereby set' (OE4, mart2)

c. [ð]a *het* se casere hyne beheafdian ond *weorpan*
then commanded the emperor him to-behead and to-throw
þone lychaman ond þæt heafod on sæ
the body and the head into sea
'The emperor then commanded him to behead and to throw the body and the head into the sea' (OE4, mart2)

The two instances that are indefinite both occur after the verb while the one definite directional phrase occurs before the verb. This is the exact pattern that we expect if newness plays a role in determining word order. Admittedly, *on sæ*

can be construed as an idiomatic expression. However, the fact that it appears in the same text both with and without a definite determiner combined with the fact that it occurs in different positions indicate that newness may still play a role, even where idiomatic expressions are concerned.

The above examples give mixed results on newness and word order: it seems that newness does play a role in some of the cases but not in others. The Fisher-Yates test indicates that newness does not play a role. Table 2.9 shows the combined distribution of definite versus indefinite directional phrases per position in OE2&OE3 as well as for OE4&ME1. The data in the first column

	OE2 & OE3		OE4 & ME1	
	DV	VD	DV	VD
Definite	9	17	3	32
Indefinite	7	4	4	14

Table 2.9.: Position and Newness in Directional Phrases in English

show no clear tendency: definite directional phrases are 1.9 times more likely to occur postverbally than preverbally whereas indefinite directional phrases are only 0.6 times more likely. The second column does show a strong tendency, but one that is the opposite of what we would expect: definite directional phrases are 10.7 times more likely to occur postverbally than preverbally while indefinites are only 3.5 times more likely. Given these odds, newness is more likely to play an important role in OE4&ME1 though not in the way we would have expected. A statistical analysis, however, does not show a significant difference in the distributions within any individual period nor in any combination of the periods. This indicates that newness is not an important factor in determining the word order of directional phrases in any period of English.

2.5.4. Discussion

In this section, I will address the research questions posed in 2.2. The first set of questions concern the distribution of the directional phrases over time. We saw in subsection 2.5.1 that it is possible to distinguish three different periods: OE2, OE4&ME1, and ME3&ME4. It was not clear, however, where to place OE3: it fits between two distinct periods and was not significantly different from either, suggesting that it is some sort of transition period between the two. This allows the possibility of placing it together with either OE2 or OE4&ME1. For the presentation of data, I grouped it with OE2, but in the various statistical tests, I tried grouping it with both periods to see what effect that may have. In the end, the inclusion or exclusion of OE3 did not have an effect on the outcome of any the statistical tests in any of the periods as all of them turned out to be

insignificant. This, of course, makes it difficult to decide where best to place OE3. I will reserve deciding until the comparison of Dutch and English in the following section. Hopefully, comparing English to the situation in Dutch may reveal the best place for OE3. The logistic function of these data showed that the slope of the S-curve is 1.34. The midpoint of the shift is the middle of OE2, around 900.

Heaviness was the object of the second set of research questions. The potential effects of both lexical and structural heaviness were investigated by looking at the distribution of word order patterns across the various periods. Moreover, structural heaviness was defined in two ways: a strong definition whereby only two types of directional phrases were considered complex and a weak definition where two additional types of directional phrases were added to the first group. In addition, I checked for the presence of a preverbal restriction on directional phrases as well as a postverbal constraint. As discussed in subsection 2.5.2 above, heaviness, whether analyzed lexically or structurally or defined strong or weak, does not play an important role in determining the position of directional phrases in any period of English nor in any combination of periods.

The third set of research questions addressed the influence of newness on word order. Newness was defined according to definiteness: indefinite directional phrases were considered new and definite ones old. In none of the individual periods nor any combination thereof was the distribution of newness over the two word orders significantly different, suggesting that it does not play a role in determining the position of directional phrases, at least when newness is defined by definiteness.

The data above point toward three distinct periods: OE2 where DV is clearly the preferred word order; OE4&ME1 where VD is more common but DV is still available as an alternate order; and ME3&ME4 where VD is the only order. The only distinguishing characteristic of these periods is the frequency of DV versus VD orders. As mentioned above, OE3 proves problematic because it is not significantly different from either OE2 and ME1, two periods that clearly belong to different stages. Moreover, OE3 appears between these two distinct stages, and the fact that there are no further characteristics of either stage does not help in determining where best to place OE3.

This research can be greatly augmented in a number of ways, many of which are just as relevant for Dutch discussed above. One issue that is specific to English, however, is the rise of the "double" preposition *into*. The combination of *in* and *to* exists even in Old English, but the combination becomes more consistently used to denote direction in later stages of English, though it is still possible to use the bare preposition for direction. Further research should investigate the influence this double preposition may have had in the word order possibilities over time.

2.6. Comparison

Now that we have a clear understanding of the evolution of directional phrases in Dutch and English, we can more accurately compare the two and see what this reveals about the two languages themselves as well as about language change in general. I will treat the subsections in the same order as they appear in the previous two sections.

2.6.1. Word Order

The evolution of the word order patterns of directional phrases in Dutch and English have clear and opposite developments. In the early period of Dutch (13C&14C&15C&16C), both DV and VD orders are allowed with a high frequency of VD patterns. Then, there is a drastic change in 17C whereby DV orders become the only available order. The English OE2 period, contrary to the first period of Dutch, has a low frequency of VD patterns (around 30%) with a noticeable increase in VD orders in OE3 to 67%, which is comparable to the frequencies found in the initial period of Dutch. This high frequency of VD orders eventually gives way to a rigid VD order.

It is striking that the raw Dutch data show no intermediate period where both orders are possible with DV occurring more often; this is perhaps an effect of the number of texts available. What is also striking is the high frequency of VD orders in the early period of Dutch, from 62% in 16C up to 91% in 14C. If, as we assumed in Chapter 1, Dutch has no period of competing grammars, then it would seem that even an underlyingly DV language can allow a very high percentage of VD orders. How, then, do the frequencies of the early periods in Dutch compare to those of the different stages of English? If we take the total distribution of DV and VD orders in 13C, 15C, and 16C and compare it to the individual periods in English where there is variation between both orders, we notice that it is only significantly different from OE4 ($p = .008$), the variable period in English with the highest frequency of VD. This suggests that the system underlying 13C, 15C, and 16C Dutch is not significantly different from that underlying early English, with the exception of OE4. When we include 14C into the rest of the Dutch data, we see that the entire combined Dutch period is significantly different not only from OE4 ($p = .03$) but also from OE2 ($p = .02$). Here, the introduction of 14C changes the outcome of the statistical analysis—this suggests that 14C should probably be considered syntactically different from the other centuries.

In comparing the combined data of 13C, 15C, and 16C to the combined data of the periods established for English (OE2&OE3, OE3&OE4&ME1, and OE4&ME1), we notice that the Dutch data are not significantly different from the first or second period, but they are significantly different from the third ($p = .009$). If we add 14C to the Dutch data, the results stay the same: the

Dutch data are not significantly different from the first or second period, but they remain significantly different from the third period ($p = .05$).

What these data taken together suggest is that the system underlying the early periods of Dutch and the early periods of English are not significantly different from one another. The similarities among the word order patterns of the early stages of Dutch and English and the similarity in the rate of change in both languages seem to indicate that the underlying word order for both languages are best viewed as the same. The one exception is OE4, which is significantly different from the early Dutch periods; even the inclusion of 14C, the century with the highest percentage of VD orders, does not change the statistically significant difference. It would seem that at least this period in English can be considered as having competing DV and VD grammars. If this is the case, then we would also expect ME1 to have competing grammars since it is not significantly different from OE4. However, ME1 is not significantly different from any of the combinations of the Dutch data, nor is it significantly different from either OE3 or OE4. How, then, can we explain ME1? The oddity of ME1 can probably best be accounted for by considering the nature of the texts. Remember that there were no texts written in the Southwestern dialect of Middle English in either ME1 or ME2 that were available in PPCME2. In order not to have a gap of two periods, I decided, based on Kroch & Taylor (2000) and Kroch *et al.* (2000), to use texts from the West Midlands, a dialect area to the north of the Southwestern dialects under investigation in this study. Because this area, i.e., the West Midlands, was not controlled by the Vikings, it lacks many of the innovations found in more northerly and easterly texts. The texts from this area, however, also preserve more of the West Saxon scribal tradition, which would probably make the language in the texts more conservative than the spoken language at that time. This may be part of the reason why the data from ME1 are similar to both OE3 and OE4.

2.6.2. Heaviness

Heaviness was investigated according to two definitions: lexical and structural. By counting the words in directional phrases on either side of the verb, I found that longer directional phrases do not have a significantly stronger preference for VD order than shorter directional phrases, and no word length occurs significantly more often before or after the verb than the overall average for the period. This confirms that the lexical heaviness of directional phrases does not have an influence on position in any stage of Dutch or English.

Structural heaviness was defined in two ways. In the strong definition, directional phrases were considered structurally heavy when they were conjoined with another directional phrase, when two noun phrases were conjoined under one preposition, or when the directional phrase was modified by a relative clause. These were included in the strong definition because of their ability to split

from the main directional phrase. In the weak definition, directional phrases modified by prepositional phrases or by genitive noun phrases were also counted as structurally heavy. Having two definitions of structural heaviness allows pinpointing the most accurate definition of structural heaviness. In addition to the strong and weak definitions, two potential effects of structural heaviness on word order were investigated: the preverbal restriction and the postverbal constraint. The presence of the preverbal restriction does not necessarily mean that complex directional phrases will have a higher percentage of VO orders since split directional phrases would be counted as OV even though part of them occur after the verb. The presence of the postverbal constraint, on the other hand, does mean that complex directional phrases will occur more often after the verb than before. The data in Dutch and English show differences with respect to the influence of structural heaviness on word order.

The early stage of Dutch, we find, has the preverbal restriction according to the weak definition: directional phrases (or a portion thereof) occurring preverbally are significantly more likely to be simplex than complex. This does not, however, mean that structurally complex directional phrases are significantly more likely to occur postverbally: the option of splitting is also a common way to avoid the preverbal restriction. We found that Dutch does not have a postverbal constraint, so complex directional phrases are *not* significantly more likely to occur postverbally than preverbally.

In contrast, English does not have the preverbal restriction or the postverbal constraint by any definition of structural heaviness nor is there any indication of a tendency toward any of the restrictions. This suggests that structural heaviness does not play a role in determining the word order of English directional phrases.

Dutch and English differ with respect to the influence of structural heaviness on word order as evidenced in the above discussion. Given the nature of the restriction in Dutch, however, we do not expect there to be a significant influence on the word order distributions. Even though the portion of a directional phrase occurring preverbally is not complex, it does not mean that complex directional phrases appear postverbally, as we saw in the above discussion.

2.6.3. Newness

In this study, newness is defined by indefiniteness according to Van Kemenade & Los (2006a). If newness plays an important role in word order, then we would expect indefinite directional phrases to occur after the verb significantly more often than before the verb. The qualitative analysis of the effect of newness in Dutch was not promising: the data suggested that newness does not play a role in determining word order. The statistical analysis confirmed that this was the case. The data not only show that there is no significant difference in the distribution of definite and indefinite directional phrases across word orders but also shows a very slight, albeit insignificant, tendency toward the opposite of

our expectations: the factor by which definite directional phrases were more likely to occur postverbally than preverbally (2.7) was slightly greater than that for indefinite directional phrases (1.8). Again, this difference is statistically insignificant but reinforces the idea that newness does not play a role.

In English, the qualitative analysis of the data seemed a little more promising, though not completely. In some examples, newness seemed to have an influence on the position of the directional phrase while it did not in other cases. The statistical analysis showed that newness is not an important factor in any of the periods of English or combinations thereof. As was the case in Dutch, the OE4&ME1 period indicated the opposite tendency we expected: the factor by which definite directional phrases were more likely to occur postverbally than preverbally (10.7) was greater than that for indefinite directional phrases (3.5). Again, this seems to reinforce the lack of influence newness has on word order.

This summary shows that the two languages are similar when considering the influence of newness (or lack thereof) on the position of directional phrases.

2.7. Concluding Remarks

We have seen in the previous discussion that the word order patterns of directional phrases are similar in the various stages of Dutch and English. The frequencies in the early period of Dutch do not significantly differ, for the most part, from the frequencies in OE2–ME1 in English. Only one of the periods of variable word order in English, namely OE4, significantly differs from the early period in Dutch; additionally, the combination OE4&ME1 is also significantly different from the combinations of variable periods in Dutch. This indicates that this period of English should perhaps best be analyzed as a period of competing grammars with respect to this construction.

The development that directional phrases undergo in Dutch is similar to what we expect for objects: they occur on either side of the verb in the Middle Dutch period and thereafter gradually become more and more restricted until the preverbal position is the only one possible. The position of other types of prepositional phrases, on the other hand, does not become as restricted as directional phrases, as we can see in present-day Dutch where they can occur on either side of the verb. In English, however, the picture is not as clear—directional phrases undergo a shift toward a restricted VO order like objects, but this also happens with other types of prepositional phrases.

We also saw that Dutch and English differ with respect to the influence of structural heaviness. The early period of Dutch clearly has a restriction on the complexity of directional phrases allowed before the verb, though the complexity of directional phrases does not cause them to appear after the verb more often than splitting. This tendency toward splitting of complex elements suggests there is a tendency toward OV orders already present in the earliest stages

of Dutch. English directional phrases, on the other hand, do not seem to be influenced by structural heaviness in any way. Already here, we observe some differences between Dutch and English, which may be indicative of the later opposite developments in the languages.

While there were clear differences in the role played by structural heaviness in the two languages, the influence of newness on directional phrases was the same: in neither language did newness play a significant role.

There are a number of ways in which this research could be augmented. The most obvious is by investigating the development of other directional adpositions. It would also be useful to compare the development of the directional uses of prepositions versus their locational use and to compare these multifunctional prepositions with prepositions that are only used either for location or for direction. A corollary of this is the investigation of case and its influence on the position of directional prepositional phrases. Further research should also be concerned with the patterns in the various dialects of each language as well as the interaction of the speakers of these dialects to see what influence this may have had.