West Germanic OV and VO : the status of exceptions

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1. Introduction

There is fairly general agreement within the literature that the oldest stages of West Germanic can best be characterized as so-called OV languages; see for instance Gardner (1971), Stockwell (1977), Van Kemenade (1987), Pintzuk (1999), Fischer *et al.* (2000), Kroch & Taylor (2000), Bech (2001), and Trips (2002) among others for Old English and Bossuyt (1978), Van den Berg (1980), De Meersman (1980), Weerman (1989), De Schutter (1988), Burridge (1993), and Blom (2002) among others for Middle Dutch.[1] In spite of this assumed OV-base order, quite a number of investigators, including many of those mentioned above, have noted that the OV order shows a considerable amount of 'leakages' or VO-like orders even in the oldest stages of the West Germanic languages (see, for instance, Weerman (1987) and Neeleman & Weerman (1999) in addition to the references mentioned above). So next to clear OV orders as in the Old English example in (1, taken from Van Kemenade (1987)), there are also VO-like orders as in (2, also taken from Van Kemenade (1987)).[2]

(1) a. *þæt* ic þas boc of Ledenum gereorde to Engliscre spræce
that I those books from Latin language to English tongue
awende
translate
'that I translate those books from Latin into English'

(2) a. *þæt* hit *sie* feaxede steorra
that it may-be long-haired star
'that it may be a long-haired star'

Any element can appear before or after the verb with the exception of a few elements such as pronouns that usually appear before the verb. Various motivations have been given for the extraposition: heaviness, newness, number of elements in the clause, etc. However, there are a number of counterexamples to these motivations. Example (1) above, for instance, which has three constituents, *þas boc* 'those books', *of Ledenum gereorde* 'from the Latin language', and *to Engliscre spræce* 'into the English language', between the subject and the verb

[1] Some linguists argue, basing themselves on Kayne (1994), that all OV-languages must ultimately be derived from a universal VO word order; see for instance Biberauer & Roberts (2005) for Old English and Zwart (1997) for Modern Dutch.

[2] Refer to subsection 1.4.2 for an explanation of the conventions adopted in this study to distinguish the elements in examples.

in a subordinate clause, suggests that the number of elements in a clause might not have a strong influence on the position of the elements while example (2), which has a lexically "light" element (comprising only two words) to the right of the verb, demonstrates that the (lexical) heaviness of an element need not influence its position.

Modern Dutch, which is also generally characterized as an OV language, also shows 'leakages' though the nature of these extraposition phenomena appears to be quite different from what we find in the earlier stages of West Germanic. VO orders are only possible if the object is clearly emphatic or contrastive, for instance, when the object forms part of a list, as in (3).

(3) Ik *overweeg* je *te geven* een pen, een potlood, een schrift en een gum
I consider you to give a pen a pencil a notebook and an eraser
'I am considering giving you a pen, a pencil, a notebook and an eraser'

Even though there is agreement about the occurrence of these leakages in the oldest periods, this is hardly true as far as the analysis of these leakages is concerned. A number of approaches to the problem, which do not necessarily exclude one another, have been proposed.

The aim of this study is to evaluate various analyses of VO phenomena in OV languages that are also able to throw light on the diachronic developments in each language. Note that the developments in the two languages are quite different: while both Dutch and English begin with flexible, underlyingly OV word orders and develop to have quite rigid syntax, Dutch becomes a strict OV language whereas English becomes a strict VO language. In Dutch, the word order patterns get reduced over time but the underlying structure of the language remains the same. This situation contrasts with the shift in the underlying structure that we find in English. Comparing the two languages will bring light on the reasons why the two languages develop so differently.

In section 1.1, I briefly describe the different proposals describing (older) West Germanic syntax. This is followed by the research questions of this study in section 1.2. I describe the three constructions investigated in this study in section 1.3, and the methodology of this study, including the selection of texts and the criteria for choosing clauses, is treated in section 1.4. The chapter concludes with section 1.5, which presents the organization of this book.

1.1. Approaches

In the following section, I briefly describe the three basic approaches to older West Germanic word order by summarizing a representative analysis per approach. The three approaches are the construction-specific approach, represented

by Van Kemenade's (1987) analysis of Old English, the construction-related approach, represented by the Flexible Syntax approach of Neeleman & Weerman (1999), and the competing-grammars approach, represented by Pintzuk's (1999) analysis of Old English. Both the construction-specific and construction-related approaches contrast with the competing-grammars approach by assuming only one underlying order. The difference between the first two is the mechanism(s) they do or do not have to account for deviant orders. In the construction-specific approach, constituents can only appear in a non-underlying position when various factors, such as heaviness, newness, or discourse, play a role. This predicts that each construction will develop at a different rate because the factors influencing its word order patterns will depend on the specific characteristics of that construction. In contrast, in the construction-related approach, the appearance of a constituent in a non-underlying position is not *restricted* by such factors, which is not to say that these factors do not increase the incidence of non-underlying orders, since the extraposition of a constituent is related to other properties of the language; in the case of Flexible Syntax, this property is morphological case. This approach, then, predicts that different constructions will evolve at a similar rate over time. The last approach, competing grammars, assumes two underlying grammars, OV and VO in the case of Old English, that compete with one another until one eventually becomes more common and the other is eventually lost. Of the three accounts, the first two, namely construction-specific and construction-related, have been proposed for the earlier stages of West Germanic while the last, competing grammars, has only been defended for Old English. I treat each of the accounts in the following subsections and end with a summary of the strengths and weaknesses of these accounts.[3]

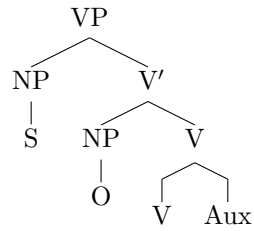
1.1.1. Construction-specific

This is the traditional analysis of word order in the earlier stages of the West Germanic languages and has been supported by, for instance, Van Kemenade (1987) for Old English and Van den Berg (1980), Burridge (1993), Blom (2002) for Middle Dutch. The basic underlying word order of West Germanic in accounts using this approach is assumed to be S-O-V-Aux. A simplified syntactic tree of this underlying clausal structure looks something like the tree given in (4) below. Leakage phenomena are thus seen as a movement from a base-generated position to the left of the verb and adjunction to the right of the verb, as shown

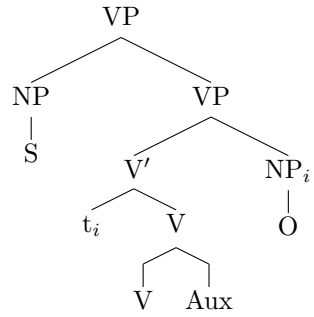
[3]Note that while the approaches discussed in this study assume an underlying OV word order for early West Germanic syntax, there are also analyses based on Kayne (1994) that assume underlying VO order. The three approaches discussed in this study can in principle be applied to these types of analyses as well. I stick to OV approaches in order to streamline the discussion and because these seem to be more generally accepted in the literature.

in (5) below.

(4)



(5)



In much of the previous literature from this perspective, various motivations for this movement have been proposed, two of which will be discussed in more detail in the following subsections, namely heaviness and newness.

Koster (1973, 1975, 1999, 2001) proposes a rule called 'PP over V' to describe leakages in Modern Dutch, whether in main or subordinate clauses. NPs very rarely leak in Modern Dutch while PPs leak quite regularly whereas in Middle Dutch and Old English, NPs leak quite regularly. Based on data gathered from the early Old English poem *Beowulf*, Pintzuk & Kroch (1989) suggest that the leakage of PPs, which they term "extraposition," and the leakage of NPs, which they term "heavy NP-shift," are indeed different processes. If this analysis could be combined with Koster's analysis, then Middle and Modern Dutch would differ in that Modern Dutch loses "heavy NP-shift" while keeping "extraposition". This, however, is also problematic because Modern Dutch does still have a heavy NP-shift rule albeit much more restricted than what we see in Middle Dutch. Perhaps the biggest disadvantage of Koster's analysis, however, is that the PP-over-V rule lacks any sort of motivation: it just says *that* PPs leak but does not give any indication for *why* they do. Because this analysis does not have any sort of motivation for leakages, it also does not explain why some types of PPs are much more likely to leak than other types and why some cannot leak at all, for example, PPs of direction. Some scholars, who will be discussed below, have attempted to motivate this rightward movement by relating it to various factors—two of these factors, heaviness and newness, will be discussed below. Since the construction-specific approach does not limit

or motivate leakages, with the exception of the 'PP over V' rule proposed by Koster, it can accommodate the leakage of the various elements quite easily.

From a diachronic perspective, this analysis is also problematic because it is too rigid. It assumes that a language is either OV or VO; there is nothing in between. As is well known, there was a shift from OV to VO in the history of English (or, one could say that word order in English has gradually become stricter over time). According to this rightward movement analysis, however, this change must be drastic as there is no possible in-between stage: English was an OV language at one point in time and a VO language the next. But many studies show that it is not so cut-and-dry: for instance, Moerenhout & Van der Wurff (2005) showed that negative and quantified objects productively occur to the left of the verb until 1550, long after the "switch" to VO. Moreover, we find a syntactic shift in the history of Dutch. Even though Dutch has remained an OV language over time, Modern Dutch syntax has lost a lot of the possibilities that were once available in older stages of the language; changes in the frequency of leaked PPs suggest that the change is more complex than having merely lost the ability to leak NPs.

This construction-specific approach is the most widely discussed and has perhaps the widest support in the literature among the three under investigation. How accurate, however, is this approach? I investigate this approach by focusing this study on three specific constructions over time. If this approach is correct, we expect to see differences in how these constructions develop over time.

Heaviness

Heaviness has been invoked by a number of people to explain leakages in both Dutch and English, among them Pintzuk & Kroch (1989), Burridge (1993) and Blom (2002). The claim is that an element leaks because it is too "heavy" to be contained in the sentence brace as seen in the following Modern Dutch example.

(6) In Parijs *is* op 49-jarige leeftijd *overleden* de Belgische chansonnier
In Paris is on 49-year age passed-away the Belgian singer
Jacques Brel.
Jacques Brel
"The Belgian singer Jacques Brel passed away in Paris at the age of 49"
(Haeseryn *et al.* 1997)

The fact that subordinate clauses almost always leak is generally taken to be support for this observation.

Heaviness, however, has always been and continues to be a rather elusive concept: it is always possible to say that one constituent is 'heavier' than another, but it is often difficult to determine whether a particular constituent is itself heavy. The lack of a satisfactory definition is one of the problems with heaviness as an explanation: how heavy must an element be in order for this

rule to apply? Moreover, should heaviness be determined by phonetic, lexical, functional or structural considerations?[4] Or a combination of these? (6) above is both phonetically heavy (it has nine syllables) and lexically heavy (it contains five words). It could also be construed as structurally heavy in that the leaked constituent is composed of two noun phrases in apposition. Is it the combination of all these that contributes to its leakage? It is difficult to gauge as it seems to be heavy in all possible ways. The following example from Old English where the leaked element is a pronoun, however, is in no way phonetically, lexically, or structurally heavy.

(7) Hwi *noldest* ðu hyt *secgan* me
why not-wanted you it say me
'Why did you not want to say it to me?' (Koopman 1990: 170)

It may have contrastive focus, which would make it functionally heavy, but more of the context is needed to determine this. Another example, this time taken from Middle Dutch, shows how complicated defining a heavy NP can be:

(8) *daerin ghesoden sal siin* serapinum
wherein boiled shall be serapinum
'...in which serapinum shall be boiled' (Burridge 1993: 101)

This example is neither structurally nor lexically complex as it is composed of only a bare noun phrase. Is it phonetically heavy? At four syllables, it is indeed heavier than many other bare nouns. But does this make it heavy enough to cause it to leak?

Burridge (1993) observes that there is a tendency that the more words a sentential constituent contains, the more likely it is to leak. This does not necessarily suggest anything about the structure of the element; it can be a noun phrase modified by a number of adjective phrases or a noun phrase modified by a relative clause. This tendency would seem to support a lexically based definition of heaviness. Blom's (2002) finding that Middle Dutch objects modified by a relative clause always leak, however, seems to point toward a more structure-based definition of heaviness. However, the fact that virtually all instances of NPs modified by a relative clause were found outside of the sentence brace in Blom's data suggests that it might be due to another factor—perhaps it is not the "heaviness" of the NP but the presence of a subordinate clause, which generally appears after the verb anyway, that motivates the movement.

Another issue that needs to be worked out, as already mentioned, with regard to heaviness is the fact that longer constituents have a tendency to split, with part of the constituent staying before the verb and the other part coming after; (9) demonstrates this in Modern Dutch.

[4]The 'functional' consideration I am talking about is newness/focus and will be discussed further below. I am mentioning it here because one could say that the addition of focus to a constituent increases its heaviness, or in this case importance, in a clause.

(9) *dat* je geen bewijs *hebt* van zijn schuld
that you no proof have of his guilt
'that you have no proof of his guilt'

A phonetically, lexically, and structurally heavy element *geen bewijs van zijn schuld* 'no proof of his guilt' is split. How should such examples be analyzed? Is it the heaviness of the entire constituent that causes part of it to leak or is it due to separate factors? If other factors are involved, what might they be?

Heaviness as a factor is also weakened by the fact that constituents that would be considered heavy on a phonetic, lexical and structural level do not always leak as the following Old English example shows:

(10) ealles swiþost mid þæm *þæt* manige þara selestena cynges þena
of-all most with that that many of-the best king's thanes
þe þær on londe wæron *forþferdon* on þæm þrim gearum
that there in land were died in those three years
'Most of all by the fact that many of the king's best thanes who were in the land died in those three years.' (Stockwell 1977: 307)

In this example, an already fairly long noun phrase *manige þara selestena cynges þena* is modified by a relative clause *þe þær on londe wæron*. Despite the length of this complex constituent, it is still to the left of the verb. Either heaviness does not play a role in leakage, or it can be overridden by another as yet undetermined factor.

When we look at heaviness as a factor in light of previous research, we see that certain elements, namely PPs and subordinate clauses, are consistently "heavy" on more than one level. These are also the constituents that leak most often. A minimal PP or subordinate clause has at least two syllables, is almost always composed of at least two lexical items, and is structurally complex. In contrast, bare AdvPs, AdjPs, and NPs need only be a single, one-syllable lexical item without much structural complexity. Of course, one can continually add to these phrases to make ever larger elements, but my point is that when only their essential parts are considered, i.e., the bare bones of each, PPs and subordinate clauses still show greater phonetic, lexical, and structural complexity than the other types. The difficulties, however, of defining heaviness as discussed above greatly undermine its use as a factor for leakage.

As has already been mentioned, heaviness has been proposed as a reason for the extraposition of elements by a number of scholars. However, defining heaviness has always been rather vague, and there are also numerous counterexamples that seem to bring into question the influence of heaviness on word order patterns. I will examine heaviness in greater depth and try to define it more precisely if it does indeed play a role in determining the position of sentential constituents.

Newness

A number of scholars, among them De Schutter (1988), Burridge (1993) and Blom (2002), have proposed that the leakage of constituents is related to their status as either focused or new information. Reasons for this proposal include the postposing of the objects of naming verbs such as *heten* 'to call' and *noemen* 'to name' in Middle Dutch (Burridge 1993; Blom 2002), the postposing of the objects of genre-specific formulae in Middle Dutch official and religious texts (Blom 2002), and the length of leaked constituents, which being new information require a more detailed description and hence more modifiers (Burridge 1993).

Besides investigating the relationship between leakage and clause length, De Schutter (1988) examines the pragmatic factors related to leaked elements in Middle Dutch. He proposes that leaked constituents have stronger focus, stating, "A general principle of the linearization in sentences is namely that the left-right ordering is worked from the known or integrated (topical) to the new, salient (and thus focal)" (394, my translation). His preliminary expectation is that indefinite nouns, which generally refer to something new in the discourse, are more likely to be found outside of the sentence brace (hence focused) than definite nouns, which generally concern items already mentioned elsewhere in the discourse. His data, however, show otherwise—around 62.4% of the indefinite nouns and around half of the definite nouns are found in the sentence brace. He modifies this initial prediction by claiming that indefinite nouns, by their very nature, are focused; therefore, their occurrence inside or outside of the sentence brace is inconsequential, allowing him to concentrate on definite NPs. Further examination of leaked and non-leaked definite nouns shows, according to De Schutter, that "extraposition of definite constituents is directly tied to greater prominence, and almost always with strong focality. Placement in front is the rule when the constituent names an entity that has a solid anchoring in the cotext or context" (397-398, my translation). This may be what his data show, but his analysis is unattractive because it disregards indefinite nouns.Though it is true that indefiniteness generally introduces something new into the discourse, simply stating that whether an indefinite noun leaks or not does not matter is not a satisfying conclusion.

Burridge (1993) examines exbraciated constituents with respect to pragmatic considerations, namely new versus old information. Constituents that leak, according to Burridge, are likely to be "unknown information, that which cannot be understood from the context and which is not shared by the speaker and the hearer" (107). This links, to some extent, to De Schutter's proposal. Burridge also relates this to constituent length, mentioned in the previous section. She claims that new information and longer constituents go hand in hand: if you are introducing a new item into the discourse, you want to make it as clear and specific as possible so you are more likely to add more modifiers to describe it.

In addition to heavy NP shift, Blom (2002) also finds evidence that focus

triggers leakage of direct objects in Middle Dutch. The direct objects of naming verbs (*heten* and *noemen*) and of genre-specific formulae in official and religious texts regularly appear postverbally. In these instances, one can imagine that whatever is being talked about would receive more attention than other items.

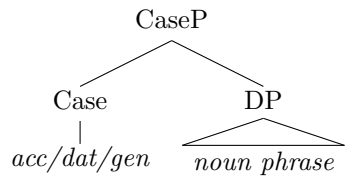
Van Kemenade & Los (2006a) show for Old English that discourse factors influence the position of sentential elements with respect to the discourse particles *þa* and *þonne*, both of which mean 'then'. New information has a tendency to occur to the right of these particles while the position to the left is reserved for given information. Whether this distinction holds for the same positions with respect to the verb has not yet been adequately investigated.

To summarize, newness, defined in various ways, has been proposed as another motivation for the extraposition of sentential elements. None of these, however, seems able to capture the observed extraposition phenomena. I focus on one particular definition of newness, namely indefiniteness, and see to what extent this plays a role in determining the position of elements.

1.1.2. Construction-related

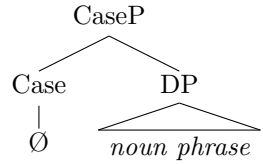
In an attempt to formulate a theory that can account for word order variation both diachronically and cross-linguistically, the Flexible Syntax approach of Neeleman & Weerman (1999) relates the various word order phenomena in a number of languages, among them Middle and Modern Dutch and Old and Modern English, to the presence or absence of morphological case. Like the construction-specific analysis discussed above, Flexible Syntax assumes that Old English, Middle Dutch, and Modern Dutch are underlying OV and that Modern English is VO. The differences between the word order patterns in Middle Dutch and Modern Dutch as well as Old and Modern English are attributed to the loss of morphological case. In this system, all DPs have a CaseP shell,[5] as shown in (11) and (12). Both Old English and Middle Dutch have a rich system of nominal inflection that manifests itself not only on articles and adjectives modifying nouns but also on the nouns themselves. Modern English and Modern Dutch, on the other hand, have virtually lost all case marking with the exception of personal pronouns. The result is that the head of CaseP is filled in Old English and Middle Dutch, as shown in (11), while it remains empty in Modern English and Modern Dutch, as shown in (12):

(11)



[5]Nominative nouns are an exception and will be discussed later.

(12)



The appearance of a Middle Dutch or Old English element in a non-underlying position can be attributed to its morphological case—because of this, the frequency of extraposition among different constructions should be similar, all things being equal. This model, however, does not negate the possibility that other factors, such as heaviness and newness discussed above, can play a role in extraposition; the interplay of these factors would potentially increase the occurrence of non-underlying orders.

Morphological case (or the lack thereof) interacts with the Empty Category Principle (ECP) to account for word order restrictions in Modern Dutch and Modern English that are not present in Old English and Middle Dutch. The definition of the ECP as given in Neeleman & Weerman (1999: 59) is, "A non-pronominal empty category must be properly head-governed." What this means for Old English and Middle Dutch, both of which have quite robust case systems, is that the appropriate case would have filled the head of CaseP. DPs are then properly governed and do not need to rely on the verb to avoid violating the ECP, allowing them the freedom to appear on either side of the verb. In Modern English and Modern Dutch, however, the CaseP is empty, resulting in a greater potential for improperly governed DPs; the DPs are thus restricted to certain positions in order to be properly head-governed.

This naturally brings up the question of how DPs in Modern English and Modern Dutch *are* properly governed so that there is no violation of the ECP. For this, two related parameters are important: the direction of this government (to the right for VO languages and to the left for OV languages) and the domain of head government. In Modern English, which has become underlying VO unlike its earlier stages, the direction of government is to the right, and it has a limited government domain that requires that two elements be contained in the same phonological phrase, represented by the symbol ϕ. To determine the boundary of a phonological phrase, the following mapping principle applies: close ϕ when encountering $]_{\text{XP}}$. This essentially means that an object, for instance, needs to appear adjacent to a verb. In Modern Dutch, which has remained underlying OV like earlier West Germanic, the direction of government is to the left, and it has a larger domain of head government (m-command, i.e., the maximal projection, XP, dominating the verb must also dominate the object).

A quick comparison of ϕ-formation in English and Dutch shows why two definitions of head government are needed. (13a) is a slightly modified version of the example given in Neeleman & Weerman (1999: 25) and (13b) is the Dutch

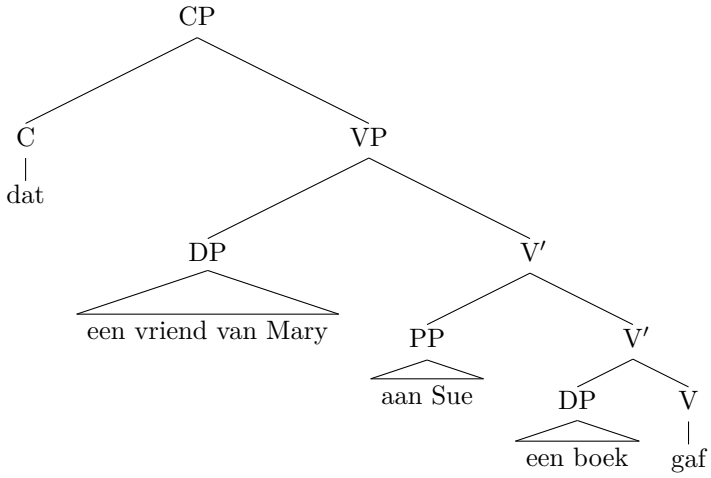
translation:

(13) a. [that [[a friend [of Mary's]] [gave [a book] [to Sue]]]]
{that a friend of Mary's} {gave a book} {to Sue}

b. [dat [[een vriend [van Mary]] [[aan Sue] [een boek] gaf]]]
{dat een vriend van Mary} {aan Sue} {een boek} {gaf}

The mapping principle for ϕ-formation results in three phonological phrases in the English sentence (13a) and four in the Dutch translation of the same sentence (13b). In the English example, the verb and its direct object are contained within the same phonological phrase, and as a result the direct object receives proper government. A disadvantage of this type of government is that no constituent can appear between the verb and its object because it would break up the ϕ. In the Dutch example, the direct object and the verb are not in the same ϕ since the direct object has its own maximal projection and the ϕ boundary closes between it and the verb. With the prosodic definition of head government, an object could never be properly governed in an OV language. For this reason, "if an OV language is to have any objects, it must resort to a dispreferred alternative strategy" so as not to violate the ECP (Neeleman & Weerman 1999: 26), namely by requiring a larger domain of government. The following tree diagram illustrates the m-command relationship between the verb and its direct object:

(14)



The maximal projection dominating the verb *gaf*, VP, also dominates the direct object *een boek*, fulfilling the requirement for an m-command relationship. As can be seen, the indirect object *aan Sue* is also in an m-command relation with the verb. From this analysis, one would expect that a difference between English and Dutch would be that the direct and indirect object are able to switch places in Modern Dutch and not in English, which seems to be the case.

(15) a. that a friend gave a book to Sue.

b. ?that a friend gave to Sue a book.

(16) a. dat een vriend aan Sue een boek gaf.

b. dat een vriend een boek aan Sue gaf.

Though this way of head government is considered a "dispreferred" strategy by Neeleman & Weerman, it has the advantage that objects can occur in more positions since the domain of government is larger.

In this model, the syntactic change in both languages comes down to the loss of case and the resulting choice between two options. Both Old English and Middle Dutch had much freer word order because of their robust system of morphology. Various sentential constituents could appear on either side of the verb because a filled CaseP would properly govern the constituent. Over time, the inflections phonologically weaken, resulting in less and less information being present in CaseP. As this happens, the word order becomes more and more rigid. At a certain point, morphology is totally lost, and each language has to resort to other means to avoid violation of the ECP: English opted for VO ϕ-government and Dutch for OV m-command. The factors influencing this choice must be further investigated in future research.

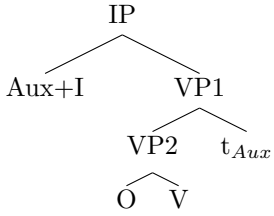
This analysis can, for the most part, account for the leakage of the various parts of speech. Most noun and prepositional phrases are not problematic as they are governed by case, either through morphology in Old English and Middle Dutch nouns or through prepositions. Potentially problematic for this approach, however, are cases of leaked nominative noun phrases as well as leaked adjective and adverb phrases found in both Old English and Middle Dutch. As this proposal does not recognize nominative as a case, a nominative noun phrase is not properly governed and thus should not be able to appear outside of the sentence brace. We do, nevertheless, see cases of leaked nominative noun phrases in Middle Dutch and Old English albeit at very low frequencies. The analysis may be able to account for this fact when we consider that these are almost invariably instances of passive sentences.

As already mentioned above, this approach differs from the construction-specific approach in that extraposition is not necessarily motivated by construction-specific factors. Moreover, this particular approach is attractive because it formalizes the oft-observed correlation between word order patterns and morphological case. If this approach is correct, then we expect that there will not be major differences among the three different constructions under investigation, which will be presented and discussed in subsection 1.3 below, because of the presence of a rich morphological system in Middle Dutch and Old English. As these systems break down, we should see a decline in word order variations.

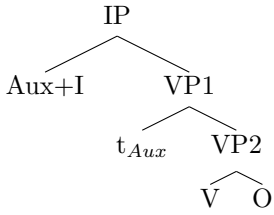
1.1.3. Competing Grammars

Pintzuk (1999) is the representative example of the competing-grammars analysis. She argues that this is the best way to account for the various word order patterns of Old English and also to account for the shift from OV to VO in English. She bases this on, among other evidence, the position of prosodically light elements such as pronominal objects and particles, which do not move from their base-generated position according to her. Because of their stationary position, they can be used as a gauge to determine the underlying position of the verb. Her proposal is that Old English had both head-final and head-initial IPs and VPs, meaning that there are two pairs of grammars competing with one another: the headedness of the IP (nonfinite verb with respect to the finite verb) and the headedness of the VP (object with respect to the verb). The interaction of these results in four possible underlying structures, as illustrated in the tree diagrams below.[6]

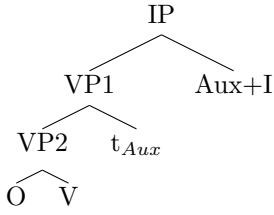
(17) head-initial IP, head-final VP1 and VP2, deriving Aux O V



(18) head-initial IP, head-initial VP1 and VP2, deriving Aux V O

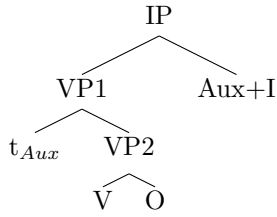


(19) head-final IP, head-final VP1 and VP2, deriving O V Aux



[6] As Old English has robust verbal inflection, Pintzuk assumes that the finite verb always raises to I. These trees show this movement.

(20) head-final IP, head-initial VP1 and VP2, deriving *V O Aux



In this model, some of the instances of VO order are the result of an underlying head-initial VP syntax, so the "leakages" examined in this study are mostly base-generated to the right of the verb and do not move to that position according to competing grammars. Extraposition is still used, however, to explain elements to the right of the main verb where there are two heavy elements (full NPs, PPs, etc.) to the left of the main verb.

It is important to note that in formulating this theory, Pintzuk is keeping in mind later changes in English syntax. With this model, one of the grammars, the head-initial one, eventually dominates and takes over the entire system. The domination of this particular grammar is generally attributed to contact with other languages, of which English has had many. The various word order possibilities are even found in the West-Saxon dialects of Old English, the dialects with the least amount of contact with the Vikings though perhaps one of the areas with a lot of contact with the indigenous Celtic peoples. Did the head-initial IP and VP grammars initially develop within English or as a result of contact with another group of people such as the British Celts? Or is it just a continuation of proto-Germanic syntax? All of the older Germanic languages have much more syntactic flexibility than their modern-day counterparts, so it seems that one syntactic analysis should be able to account for all older Germanic syntax as well as for the developments in the various daughter languages.

Is there a limit to the potential number of grammars available to speakers of a language? It does not seem that a limit on the number of grammars can be set with this approach without being stipulative; this strongly brings into question its usefulness.

One of the advantages of this analysis, its ability to account quite easily for most of the word order phenomena in Old English, also turns out to be one of its disadvantages—it overgenerates. The structure given in (20) is not considered grammatical by Pintzuk though her model generates it. Of course, if one allows variation in the headedness of both the IP and the VP in addition to extraposition, V-to-I movement, and verb second, all of which are optional movements, there are not many word orders that you can*not* account for.

Unlike the other analyses, the competing-grammars approach has only been proposed for Old English. Middle Dutch data collected by De Meersman (1980) and De Schutter (1988) among others show that prosodically light elements

very rarely if ever appear after the verb, suggesting that Middle Dutch does not have competing grammars. By comparing Old English to Middle Dutch, we can evaluate the validity and usefulness of competing-grammars. We would expect that a language with competing grammars, where one grammar is VO and the other OV with argument extraposition, has a higher frequency of VO orders than a language that is only underlying OV with argument extraposition. If the frequency of VO orders is not significantly different in the two languages that are compared, assuming two underlying grammars would not be necessary or useful to be able to capture the word order facts.

1.1.4. Conclusion

As discussed in the previous subsections, there are three main approaches to describing older West Germanic syntax: the construction-specific approach in which a rigid underlying OV word order is matched with extraposition due to various factors, the construction-related approach where a flexible underlying OV word order allows properly case-marked constituents (either through visible case marking or through a preposition) to appear on either side of the verb, and the competing-grammars approach where there are two underlying positions for objects and two for the finite verb.

Many studies on the earliest stages of (West) Germanic syntax are conducted on only one language. In order to gain a more complete understanding of the oldest stages of Germanic syntax as well as its evolution over time in the daughter languages, we should compare as many of the related languages together as we have data for. Comparisons to other Germanic languages have been made in some studies though often on the basis of research conducted by other scholars. This is potentially problematic because of differences in methods of data collection.

Some of the issues of the previous approaches are methodological. A number of the diachronic studies, particularly for Dutch, are not longitudinal; they include data from a few texts in an early stage of a language and then compare these to the modern standard language. Conclusions on syntactic change drawn using this method must be made with caution as data from the period in which the change actually occurs is lacking. The problem with this approach is further compounded by the fact that the modern standard languages are sometimes based on a variety of a language for which we have no or very limited data. The comparison then is, for example, of Middle Dutch from Flanders and Modern Standard Dutch based on the Holland dialect. Longitudinal data on the development of syntax in a particular dialect of a language would offer a more complete picture of the change.

1.2. Research Questions

Each of the analyses described in section 1.1 account well for parts of the data, but they each have their own problem areas. How can we decide which best describes the situation we see in the early West Germanic languages and can account for the changes over time? These questions require five considerations in order to be adequately answered, each addressed in the following paragraphs.

First, at least two West Germanic languages should be compared with one another, particularly two that develop differently over time. This allows for evaluation of the competing grammars approach and will help to give a clearer picture of the state of early West Germanic syntax. To address this issue, I investigate the shifting word order patterns in Dutch and English. These two languages are good starting points because despite the fact that both lose their case system, they develop in quite different directions: from the early West Germanic flexible word order system, Dutch becomes a rigid OV language whereas English develops into a rigid VO language.

Second, a longitudinal diachronic study is essential to gain a better understanding of the shifts over time. This study takes this into account by starting from the earliest texts in each language and covering at least the six centuries that follow; in both languages, the shifts under investigation occur well within this time frame. From these data, we can can address the following questions: what do the shifts in Dutch and English look like, and what do they say about the different analyses?

The third point, which is related to the second, is about dialects. In this study, I limit the texts to one dialect area per language as best I can. In some cases, I had to augment the selection with texts from a neighboring dialect area, which will be discussed in subsection 1.4.1, but I try to minimize this as much as possible. In this way, I can be sure that the differences over time are not due to dialect variation but to changes within the system of one dialect.

Fourth, three specific constructions are investigated. This allows us to distinguish the construction-specific approach from the construction-related approach: in the former case, we expect the three constructions to have different developments since factors influencing the position of the arguments will differ among the three constructions while in the latter case, they should have similar evolutions over time. With respect to the three constructions, I chose to start from the Dutch facts in this study in order to approach the evolution of English syntax in a novel way; a number of studies have already investigated various aspects of English historical syntax, and by approaching it from a Dutch perspective, greater understanding of English syntax may be gained. The choice of the three constructions was made because each of these three constructions has been noted as having an exceptional status in either Modern Dutch or Middle Dutch: prepositional phrases of direction (hereafter *directional phrases*) have the same word order restrictions in Modern Dutch as objects

and not as prepositional phrases as one would expect, and objects modified by relative clauses (hereafter *relative objects*) and objects of naming verbs (hereafter *naming objects*) occur with a noticeably higher frequency of VO orders than other types of objects in Middle Dutch. Moreover, relative objects are perhaps the best element to investigate heaviness as a factor because they are considered heavy by almost all definitions of heaviness, and naming objects are helpful for investigating newness as a potential factor because naming verbs generally introduce a new element into the discourse. Each of these constructions will be described in section 1.3 and in even greater detail in the relevant chapters. By focusing on these three constructions, we will also be able to evaluate some of the theories on word order change: if the shift in these three constructions can be shown to be due to the same set of factors, then this would prove problematic for the construction-specific analysis of older Germanic syntax while offering support of the construction-related approaches.

Fifth, per construction, I investigate the effect of two factors on extraposition: heaviness and newness. This will allow us to see the extent to which these specific factors influence word order. If they are influential, this would support the restricted extraposition approaches. Investigating these factors may also reveal differences between Dutch and English that might hint at why they develop differently.

1.3. Scope of the Study

As previously discussed, three different constructions that have been shown to be exceptional in the history of Dutch have been chosen for analysis: directional phrases, relative objects, and naming objects. Directional phrases are used as a gauge of the "normal" development of arguments. Both relative objects and naming objects on the other hand are, according to the literature on Middle Dutch, special cases; they are characterized by an unusually high frequency of VO orders in Middle Dutch when compared to other types of arguments. In the following sections, I will briefly describe each type of argument and the motivation for its inclusion in this study. A more in-depth discussion of each including relevant literature will be reserved for the chapter on that particular construction.

1.3.1. Directional Phrases

Directional phrases are prepositional phrases that express direction. In Modern Dutch, directional phrases tend to pattern with objects, unlike other types of prepositional phrases. This is demonstrated by the sentences in (21). Notice that both an extraposed direct object, as in (21a), and an extraposed directional phrase, as in (21b), are ungrammatical while an extraposed locational

prepositional phrase, as in (21c) is grammatical.

(21) a. ...*dat* ik een boek koop
...*dat* ik *koop* een boek
'...that I buy a book'

b. ...*dat* ik in de sloot *spring*
...*dat* ik *spring* in de sloot
'...that I jump into the ditch (from a location outside of the ditch)'

c. ...*dat* ik in de sloot *spring*
...*dat* ik *spring* in de sloot
'...that I jump in the ditch (up and down)'

Despite this restriction in Modern Dutch, both directional phrases and other types of arguments appear on either side of the verb in the Middle Dutch period. For this reason, directional phrases will be used as the gauge by which the other two arguments under investigation will be measured. I assume that the patterns emerging from directional phrases will be representative of the development of "regular" arguments in the history of Dutch and English.

Another reason for employing directional phrases as the control group instead of ordinary objects is practicality: directional phrases can be collected lexically on the basis of the preposition. This is particularly helpful in the Dutch texts as they are not parsed. In this study, I will limit myself to directional phrases headed by the preposition *in* and other semantically related prepositions. This is partly a means to restrict the amount of data collected, but it also serves a practical function: of the prepositions used to mark direction, *in* is the one with the fewest spelling variants.

1.3.2. Relative Objects

Relative object refers to any object noun phrase modified by a relative clause, where *object* is understood to refer to any argument noun phrase that is neither a subject nor the complement of a preposition, thereby including predicate nominals as well as direct and indirect objects. Burridge (1993), Blom (2002), and Ribbert (2005) have mentioned that relative objects in Middle Dutch occur with an unusually high frequency in VO orders when compared to other objects; they state that when an object is modified by a relative clause, it always occurs after the verb. In this case, relative objects are useful in investigating the development of word order patterns because they are considered heavy by almost any definition of weight: they are always structurally heavy, and this usually, though not necessarily, results in their being phonologically and lexically heavy.

One of the motivations for analyzing these arguments is that the factor 'heaviness' is then more or less controlled for. As discussed in subsection 1.1.1

and in the paragraph above, relative objects are more readily considered heavy than most other constituents, regardless of the method used to determine heaviness. Assuming that heavy constituents appear outside of the sentence brace, the expectation then is that the majority of these clauses will occur outside of the brace, with or without their NP. It will be especially interesting to analyze instances where this is not the case more closely since a competing factor, whatever it might be, has outweighed heaviness.

A complicating factor of relative clauses is that they modify noun phrases. Though the relative clause and the noun phrase together form an even larger noun phrase, the relative clause often appears to act independently. Because of the close bond between relative clauses and their heads, however, various factors of the head noun phrases will be taken into consideration: number of words as well as location within the clause and in relation to the relative clause.

1.3.3. Naming Objects

Naming object refer to the object of verbs of naming, such as 'to name' or Dutch *heten* 'to be named'. In these constructions, the actual name being given is considered the naming object. Burridge (1993), among a number of other researchers of Middle Dutch, has noted that *naming objects* occur almost categorically outside of the sentence brace. These scholars suggest that this phenomenon is related to pragmatics and information structure: naming objects often introduce new information into the discourse, i.e., the name of a participant. We know that these same naming verbs no longer allow their objects to extrapose in Modern Dutch, as can be seen in (22b) and (22c). The only grammatical option is for the object to occur within the sentence brace, as in (22d).[7]

(22) a. **een lant** *dat gheheiten es* **<u>blomevenne</u>**
a land that called is Blomevenne
'a land that is called Blomevenne' (13C, Alkemade 1293 Nov 25)

b. ***een land** *dat genoemd wordt* **<u>Blomevenne</u>**

c. ***een land** *dat wordt genoemd* **<u>Blomevenne</u>**

d. **een land** *dat* **<u>Blomevenne</u>** *genoemd wordt*

By conducting a diachronic study of naming objects, I will be able to get a better idea of how the various factors determining word order—namely syntax,

[7] In examples with naming objects, I modify the representation of the relevant elements discussed in subsection 1.4.2. I use the following conventions: the namer, i.e., the agent of the naming event, is underlined; the namee, i.e., the recipient of the naming event, is in bold; the name, i.e., the object of the naming event, is underlined and in bold; and the verbs and complementizers are italicized. Note that the *name* is not necessarily a proper name but can also be represented by an ordinary noun, as will become clear in some of the examples below. The term *naming object* refers to the name.

heaviness, and newness—interact throughout the history of Dutch. Naming objects lend themselves quite well to a detailed study of newness as a potential factor in word order patterns. If we assume, as suggested in the literature, that newness is the main factor in the extraposition of naming objects, then we should see that the majority of postverbal naming objects are instances of new information and that at some point, its influence over the position of naming objects decreases and eventually disappears.

1.4. Methodology

1.4.1. Description of Corpora

This is a corpus-based study. Data were gathered from texts throughout the history of both Dutch and English. In this section, I discuss the selection criteria for the texts used in this study. These criteria address the source-of-data problems of other studies, namely longitudinal diachrony, dialect, and genre. The comparative nature, a strength of this study, is demonstrated by the fact that texts from the history of English as well as Dutch will be used.

One of the issues in previous studies is the fact that many diachronic studies, particularly on Dutch, rely on only two synchronic stages of the language, i.e., an earlier period is compared to the modern standard language. Conclusions on syntactic change over time are drawn by comparing these two periods. This method is problematic for two reasons. First, such studies generally ignore the period in which the shift actually occurs. Data from these transition periods are important for a complete understanding of the factors involved in the change as well as of the progression of the change over time. Second, and perhaps more important, the data used to represent the older stages generally come from dialects that are not the basis of the modern standard languages, the variety against which the older data are often compared. Dialects in even the modern languages sometimes differ syntactically from the standard language, for instance, West Flemish varieties of Modern Dutch have verb-projection raising like in Middle Dutch, but this is no longer possible in the modern standard language. This means that anyone comparing, for instance, data from Flemish Middle Dutch texts to the modern standard language, which is primarily based on the more northerly Holland Dutch dialect, should draw conclusions cautiously. In this study, I remedy this by including texts from only one dialect area in each language.

Only prose texts were included in the corpora. Though poetry makes use of a lot of the same syntactic devices normally allowed in prose, there is also a tendency to make creative use of these devices in order to meet the requirements of meter or rhyme. This results in different word order distributions than we would otherwise find or expect in the spoken language. Van den Berg (1991)

discusses, moreover, certain syntactic constructions that are only found in Middle Dutch poetry and not in contemporaneous prose texts. Admittedly, he argues that such constructions are actually instantiations of syntactic rules found in prose texts, but the fact that they are only found in poetry texts demonstrates how the inclusion of such texts can negatively effect the word order distributions, an important part of this study.

Translations of texts were not included in this study because of the potential influence the original language may have had on the word order patterns of the Dutch or English text. Taylor (2006), for instance, found that Old English translations of Latin texts had higher frequencies of head-initial prepositional phrases with pronominal complements than non-translated Old English texts.

This study attempts to remedy the above-mentioned issues by only including non-translated prose texts from six centuries of Dutch and English. For each language, the texts included in the corpora come from the same dialect area (a notable exception is the first period of Middle English, which will be discussed below). These criteria for the inclusion of texts address the issues mentioned above but have a problem of their own; by limiting texts in this way, different genres had to be included in order to have enough data per century. Studies such as Blom (2002) have shown that different prose genres have different word order frequencies.

Dutch

The Dutch texts are taken from three sources: the *CD-rom Middelnederlands* (Van Oostrom 1998), the *Digitale Bibliotheek voor de Nederlandse Letteren* (www.dbnl.nl), and a corpus of Middle Dutch charters from the 14th century described in Van Reenen & Mulder (1993). The first two are not parsed while the last one has limited lexical and morphological coding.

Texts from six centuries were included, from the end of the 13th to the 18th century. In the interest of simplicity, the different centuries are abbreviated with the appropriate number followed by a capital 'C', for instance, *the 13th century* becomes '13C'; these abbreviations are used in the text as well as in all tables and figures. Note that Middle Dutch is usually dated between 1150 and 1550, and Modern Dutch begins thereafter.

As the issue of dialect is a potential problem for diachronic studies, only texts from North and South Holland were included in the corpus. This dialect was chosen as it is the basis of the modern standard language. This means, however, that there are fewer texts to choose from during the Middle Dutch period since the southern part of the Dutch-speaking area was more prosperous at that time.

In the corpora from which the texts of this study were collected, there was not one genre that occurred in all centuries in the history of Holland Dutch (nor for any dialect for that matter). While the texts in this study are restricted to non-translated prose, there is quite a variety of genres among them: official charters,

religious texts, letters, journals, nonfiction, etc. More specific bibliographic information about each text, including the century in which it is contained, its genre, and its abbreviation, is given in Appendix A.

English

The English texts are taken from two related corpora: Taylor *et al.*'s (2003) *York-Toronto-Helsinki Parsed Corpus of Old English Prose* (YCOE) and second edition of the *Penn-Helsinki Parsed Corpus of Middle English* (PPCME2). Both of these are syntactically parsed corpora, as their titles suggest.

To address the issue of diachrony, I will analyze texts from the mid-10th to the 15th centuries. I refer to the different periods of English using the dating system of the Helsinki Corpus. In this system, each period of English (Old, Middle, and Early Modern) is divided into four subperiods, each subperiod spanning roughly 100 years. In this study, the subperiods included are OE2 (850-950), OE3 (950-1050), OE4 (1050-1150), ME1 (1150-1250), ME3 (1350-1420), and ME4 (1420-1500). Note that ME2 is missing; this is due to a general dearth of texts in this period and in particular to a lack of texts in the dialects considered in this study.

As most of the Old English data come from the West Saxon dialect, spoken in the southwest of England, I will focus as best I can on this dialect area. A problem with this dialect arises, however, in the Middle English period, when there are very few texts from this area and none available from ME1. To remedy this, I will follow Kroch & Taylor (2000) in considering Middle English texts from the West Midlands dialect area as well, but only in ME1.

As mentioned above for Dutch, the criteria used to select texts in this study resulted in a corpus composed of different prose genres. The genres include homilies, laws, religious texts, chronicles, and medical texts, among others. More specific bibliographic information about each text, including its genre, is given in Appendix B.

1.4.2. Collection and Organization

In this section, I will discuss the criteria employed in collecting relevant data for this study.

Word Order

The 'sentence brace' is the primary criterion used to collect appropriate data for this study. 'Sentence brace' refers to the boundaries of a clause in Germanic languages, and only clauses in which the sentence brace is visible are included. The boundaries of the sentence brace depend on the type of clause. In main clauses, as demonstrated by the examples in (23), the left boundary of the

clause is a finite verb, given in italics. The right boundary of the clause, also italicized, can be marked by a second verb (either an infinitive (23a) or a past participle (23b)), a verbal particle (23c), or zero-marking (23d).

(23) a. Jan *wil* een boek *kopen*.
Jan wants a book to-buy
'Jan wants to buy a book'

b. Jan *heeft* een boek *gekocht*.
Jan has a book bought
'Jan has bought a book'

c. Jan *las* een boek *uit*.
Jan read a book out
'Jan finished reading a book'

d. Jan *leest* een boek *o*.
Jan reads a book
'Jan is reading a book'

In all of these examples, the direct object *een boek* 'a book' is contained within the sentence brace. For this study, clauses of the type given in 23a and 23b are included.

The boundaries of the sentence brace in subordinate clauses differs from that of main clauses, as demonstrated by the following subordinate-clause versions of the sentences above.

(24) a. (Ik denk) *dat* Jan een boek *wil kopen*.
I think that Jan a book wants to-buy
'(I think) that Jan wants to buy a book'

b. (Ik denk) *dat* Jan een boek *heeft gekocht*.
I think that Jan a book has bought
'(I think) that Jan bought a book'

c. (Ik denk) *dat* Jan een boek *uitlas*.
I think that Jan a book out-read
'(I think) that Jan finished reading a book'

d. (Ik denk) *dat* Jan een boek *leest*.
I think that Jan a book reads
'(I think) that Jan is reading a book'

Note that the left boundary is a subordinating conjunction, *dat* 'that' in these examples, while the right boundary is the verbal cluster.

Given these differences, all subordinate clauses will be considered, but because of the potential effects of verb-second in main clauses, main clauses will only be included if they have a nonfinite main verb. The boundaries of the clauses, i.e., the sentence brace, are given in italics and the relevant constituents are

underlined in the examples throughout the text. The terms 'leakage' and 'extraposition' and all of their derivatives are used interchangeably throughout this text to refer to the location of a sentential element outside of the sentence brace. By using these terms, I do not necessarily mean to imply a movement from an initial position inside the sentence brace to a position outside. I am merely using these terms to describe the position of a given element.

Indirect objects introduced by a preposition are not included in the study because the addition of the preposition gives the whole phrase more flexibility with respect to its clausal position as can be seen by comparing the Modern Dutch examples in (25) with those in (26).

(25) a. Jan *heeft* het meisje (dat hij leuk vond) het boek *gegeven*.
Jan has the girl that he cool found the book given
'Jan gave the girl (who he liked) the book.'
b. *Jan *heeft* het boek het meisje (dat hij leuk vond) *gegeven*.
c. *Jan *heeft* het boek *gegeven* het meisje (dat hij leuk vond).

(26) a. Jan *heeft* aan het meisje (dat hij leuk vond) het boek *gegeven*.
b. Jan *heeft* het boek aan het meisje (dat hij leuk vond) *gegeven*.
c. Jan *heeft* het boek *gegeven* aan het meisje (dat hij leuk vond).

Whereas the indirect object in (25) can only appear before the direct object, the one in (26) can appear before or after the direct object (26a and 26b respectively) or after the past participle (26c).

Heaviness

Heaviness can be defined in a number of ways, and in this study, I focus on two of these: lexical and structural. In order to get an impression of the lexical heaviness of various constructions per century, I count and compare the distribution of word lengths 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, Middle English *hym self* 'himself' counts as two words, and I counted identifiable words written together as separate words, for example, Dutch *vander* 'from-the' counts as two separate words. I also included prepositions and relativizers in the word count.

Structural heaviness is defined by the internal structure of the relevant elements, and each instance was determined to be either simplex or complex. I distinguished simplex and complex phrases based on two separate definitions, which I call *strong* and *weak* respectively, in order to be able to define the constraints of structural heaviness as accurately as possible. In the strong definition of structural heaviness, I only count elements modified by relative clauses (example 27a) and conjoined elements (examples 27b–27d) as structurally

heavy elements, i.e., complex elements. Note that conjoined elements are not limited to elements combined with conjunctions, as demonstrated by (27c).

(27) a. ond hys lychama *wæs alæded* of Indeum on þa ceastre
and his body was led from India into the castle
þe ys nemned Edyssa
which is named Edyssa
'And his body was led from India into the castle named Edyssa' (OE4, mart2)

b. Ich habbe iblend men & ibroken ham þe schuldren. & te
I have blinded men and broken them the shoulders and the
schonken. i fur *iwarpen* ham & i water
legs into fire thrown them and into water
'I have blinded men and broken their shoulders and their legs and thrown them into fire and into water' (ME1, julia)

c. Ende als si alle dinghen hadden vuldaen na die wet ons
and when they all things had completed after the law our
Heren, *siin* si weder *ghekeert* in Galylee in hare porte
Lord are they again returned into Galilee into her gate
te Nazareth
at Nazareth
'And when they had completed all things according to the law of our Lord, they returned again into Galilee, into its gate at Nazareth' (14C, a'damlect)

d. dese vorghenoemd[e] commendeur ende broedere .... die
these above-mentioned commander and brethren .... who
ghevallen *moghen* ende *in comen* in zuethollant.
fall may and in come into South-Holland
northollant. [k]innemarlant. vrieslant. ende in zelant
North-Holland Kennemerland Frisia and into Zeeland
'...this above-mentioned commander and his entourage ... who may fall and enter into South Holland, North Holland, Kennemerland, Frisia, and into Zeeland' (13C, hgk 1290 may 22)

These elements are included under the strong definition of structurally heavy elements because relative clauses and conjoined elements appear to 'detach' quite freely from their head. This is an indication that they themselves have an inherent heaviness that contributes to the entire element.

In the weak definition, I include elements that are modified by genitive noun phrases (example 28a) and/or prepositional phrases (example 28b) in the count of complex elements.

(28) a. want hi hier *neder is ghecomen* uut den scoet sijn Vaders
because he here down is come out the lap his father's
inden lichaem Marien om di
into-the body Mary's about you
'...because he has come down here out of the lap of his father into the body of Mary for you' (15C, pseudo)

b. ende ic *sal* u *leden* int lant van Israel
and I shall you lead into-the land of Israel
'and I shall lead you into the land of Israel' (14C, a'damlect)

These are not included in the strong definition because they rarely, if ever, separate from their head. 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 generalizations or brings them into question.

The influence of (structural) heaviness can be conceptualized in two ways. In the first, which I will call *preverbal restriction*, there may be a restriction on the heaviness allowed in a particular position, for instance, a restriction on conjoined directional phrases or ones modified by relative clauses occurring to the left of the verb. This would perhaps be related to the desire of subjects to occur as near as possible to the verb, with which it must agree, or for general processing restrictions. In the second, which I will call *postverbal constraint*, a structurally complex directional phrase may be "forced" into a position to the right of the verb because of its complexity. These two are related, but note that they are not necessarily mutually inclusive: complex elements sometimes split with the head or the first conjunct occurring to the left of the verb while the modifying relative clause or the conjoined phrase occurs to the right as seen in (27b) above, repeated here as (29).

(29) Ich habbe iblend men & ibroken ham þe schuldren. & te
I have blinded men and broken them the shoulders and the
schonken. i fur *iwarpen* ham & i water
legs into fire thrown them and into water
'I have blinded men and broken their shoulders and their legs and thrown them into fire and into water' (ME1, julia)

The complex directional phrase *i fur & i water* 'into fire and into water' is split here, with the first conjunct appearing in preverbal and the second in postverbal position. In itself, the first conjunct is simplex and as such seems to satisfy the preverbal restriction, but the (complex) phrase as a whole does not satisfy the postverbal constraint as only part of it appears postverbally.

How can these two different constraints be differentiated and statistically tested? Since the difference boils down to the status of split complex directional phrases, I count the data in two ways. Remember that examples are coded for two items: their position (OV or VO) and their complexity (simplex or complex). When investigating the preverbal restriction, clauses like the one in (29) above, for example, are counted as OV because the head of the phrase or the first conjunct is to the left of the verb and *simplex* because the part of the phrase that occurs to the left of the verb is simplex. When investigating the postverbal constraint, however, this same clause is still OV because of the location of the head or the first conjunct, but it is counted as *complex* since the entire complex phrase is taken into account. If either of these constraints is an important factor, then we expect to see significant differences between the distribution of simplex and complex phrases across word orders in any particular period.

Newness

The investigation of newness is examined from a quantitative and a qualitative perspective. I define newness in this study as indefiniteness since indefinite noun phrases usually introduce a new entity into the discourse and definite noun phrases tend to represent given items in the discourse. I consider the ratio of definite to indefinite elements per position per period, using the following criteria in determining the definiteness of an element. If the element contains a definite article, a demonstrative, a possessive pronoun, a noun in the genitive case modifying the head noun phrase, or a name, I count it as definite. I also consider instances of the word 'heaven' and 'hell' as definite noun phrases even if they are not preceded by articles or demonstratives because they are always treated as names in my examples. If an element contains an indefinite article or no determiner element, I count it as indefinite.

The qualitative evaluation involves a more detailed examination and comparison of repetitions of the same element. This is helpful in determining the differences or similarities in the contexts in which the element occurs. If newness plays an important role in determining word order, then we expect that the first instance of a noun phrase or prepositional phrase will be postverbal whereas the second instance should be preverbal.

1.4.3. Analysis

In order to compare my data, I use a number of different statistical tests. Because these are used throughout this study, I will briefly describe each, mentioning what it measures, what the values mean, and any limitations the test may have. Whenever I use the term *significant* without further modification in this study, I mean 'statistically significant'. In this study, statistical significance is taken to

be a two-tailed p-value of 0.05 or less—note that the smaller the p-value, the more significant a difference is, i.e., the less likely it is that the difference can be attributed to chance. For more detailed information about these and other statistical tests, refer to Hatch & Farhady (1982) or any other general statistics book.

The test that I use most frequently is the Fisher-Yates test. It is similar to the better known χ^2 test but is corrected in order to be able to deal more accurately with small amounts of data. This test is used to compare frequencies among two sets of variables. In my study, this would be, for example, the variables word order (OV versus VO) and time (century or period, for instance 13C versus 14C). When data are plugged in, the result is a 2×2 square that shows the frequency of OV versus VO orders in 13C and 14C. More often than not, these frequencies will be different. The Fisher-Yates test allows one to calculate the likelihood that the differences in frequency between two variables can be attributed to chance. If the frequencies are so different from one another that they cannot be attributed to chance, then we have statistical significance. The likelihood is expressed by the p-value mentioned in the previous paragraph.

Another statistical tool I use in this study is the logistic function. Unlike the previous test, which only considers two time periods at once, the logistic function takes the data for all the periods and maps out the development over time, making an S-curve. A number of items are derived from this calculation: the rate of change, the amount of time over which the change takes place, and the midpoint of the change. The rate of change is expressed by the slope of the curve. The slope can range anywhere between 0 (a horizontal line, no change) to a value near 2 (a vertical line, an instantaneous change); a slope of 1 is the halfway point between the two. Note that whether the slope is positive or negative does not change the rate but the direction of the change. So a slope of -1 represents the same rate of change as a slope of 1, just in the opposite direction. A potential problem with this approach is that it calculates the slope based on the assumption that the change starts from a period with 0% occurrence of the construction to 100%, or vice versa. This poses a problem in the case of the shift from flexible word order patterns to more rigid ones that we find the Germanic languages because most scholars assume that the earliest stages of Germanic were not rigidly OV, thus, there was never an initial stage of 100% OV. Despite these problems, however, logistic functions are still useful by providing an indication of the rate of change over time and will therefore be cautiously used in this study.

The t-test is the final statistical test that I employ in this study. This test compares the averages of two different groups and lets us know whether the averages are significantly different from one another. It takes into consideration the number of items in each group and the standard deviation in addition to the averages. After calculating these, we get a t-value. To know whether the calculated t-value is significant or not, we look at a t-value chart. On the chart,

we find the value that corresponds to the degrees of freedom of the comparison (the total number of items being compared minus 1) and the p-value we are interested in (two-tailed 0.05 in this study). If the calculated t-value is lower than the number we find on the chart, then the difference between the two groups is not statistically significant. If it is higher, then the difference is statistically significant. This test is used for testing lexical heaviness as a factor in relative objects.

1.5. Organization of the Study

In this chapter, I have laid the foundation for the rest of this study. In Chapters 2, 3, and 4, I examine each of the constructions, namely directional phrases, relative objects, and naming objects, respectively. Each of these three chapters begins with a general introduction and more detailed discussion of each of the constructions as related to Dutch and English. This is followed by a section that recaps the research questions of this study as well as research questions that are particular to the relevant construction. Any adaptations to the methodology or other methodological considerations specific to the relevant construction are discussed in the following section before the results are presented in two data sections: one for the data from Dutch and one for the English data. This was the best way to keep the presentation clear and understandable. In these language-specific sections, I try to avoid making references to the results of the other language, rather saving a comparison of the Dutch and English situations for the final concluding section. In this way, readers who are primarily interested in either the Dutch data or the English may refer to that particular language-specific section without having to resort to the other perhaps less familiar section. These three construction-specific chapters are followed by Chapter 5 in which I compare the results of the three different constructions to one another; the format of this comparative chapter roughly follows that of the construction-specific chapters. The observations are summarized and conclusions are drawn in this final chapter.