

PROSODY AND INFORMATION STRUCTURE IN OLD ENGLISH: TESTING THE FRAMEWORK*

Chiara De Bastiani
Ca' Foscari University of Venice – Bergische Universität Wuppertal

ABSTRACT

This article focuses on the properties of Old English clause structure in order to test Hinterhölzl's (2014) hypothesis, namely that constituents at the left and at the right side of the VP surface pre- or post-verbally according to the interaction between information structure and prosody: it is predicted that the relevant constituents may be spelled out either pre-verbally (movement) or post-verbally (in-situ), their mapping being driven by information structural and prosodic interface conditions. In this respect, I show that variation arises in Old English texts: Earlier stages of Old English show information-structural mapping of constituents, while prosody counted mostly for particularly complex constituents. By the 12th century, the prosodic option gains ground, favoring light constituents in pre-verbal position. The variation is compounded by an asymmetry between main and subordinate clauses, the former favoring a prosodic mapping of constituents.

Key words: Old English, information structure, prosody.

1. INTRODUCTION

The change from OV to VO in English is a topic of long debates in diachronic syntax studies (see the discussion in Section 2). The question to which this paper contributes concerns the role of information structure in this change: To what degree the mapping of discourse pragmatics (e.g., given and new referents, focus) impacted the changes of word order?

I approach this question from a new perspective, namely, by adopting Hinterhölzl's (2014) theory that the constituents with discourse pragmatic information may occur either in pre-verbal or post-verbal position. More precisely, cross-linguistically, the option for one or the other location depends not only on the mapping of givenness/focus in the pre- and post-verbal area, but also on the prosody involved at the spellout. Hence, the spellout reflects the processing at the LF interface or at the PF interface. In the framework, it is predicted that both information structural and prosodic interface conditions govern the spellout of constituents in the pre- and post-verbal domain.

In this paper, I measure the options for one or the other type of processing in the clause structure of Old English (OE) texts. For this purpose, I selected a sample of texts for which I

* This paper is part of my PhD project, which is being carried out between the Ca' Foscari University of Venice and the Bergische Universität Wuppertal; I am indebted to my supervisors Roland Hinterhölzl, Marina Buzzoni and Svetlana Petrova for their helpful advice. All errors are mine.

provide a statistical analysis. The pre-verbal constituents surveyed are those that move to the middle field (i.e., above vP but lower than C). As far as the CP is concerned, it has already been demonstrated by Petrova and Speyer (2011) that it can host contrastive focus in subordinate clauses. The pre-verbal and post-verbal domains, on the other hand, present wider variation.

Since my text sample is limited and regards the subordinate clauses, this study is only preliminary and requires further confirmation (work in progress). However, on the basis of the qualitative and quantitative measurements I present, my conclusion is that a change occurs between the early OE, when spellout is driven by information structural mapping conditions, irrespective of how heavy or light constituents are; and the OE of around the 12th century, when the spellout is driven by a prosodic mapping condition. Moreover, some preliminary data regarding matrix clauses seem to point at the conclusion that these options operate differently in matrix and subordinate clauses.

The paper is organized as follows: Section 2 introduces the theoretical framework. Section 3 presents the sample and the research methods. The results are discussed in Section 4 for the quantitative analysis, and in Section 5 for the qualitative analysis. The impact of prosody is discussed in Section 6, and the asymmetry of word order between matrix and subordinate clauses is presented in Section 7. Section 8 summarizes the findings and concludes the paper.

2. THEORETICAL FRAMEWORK

The spread of the VO word order in English is a long-standing debate in the literature. On the one hand, Pintzuk's (1999) double-base hypothesis accounts for the simultaneous presence of VO and OV orders by proposing two grammars that differ in the directionality of V and I heads. On the other hand, anti-symmetric accounts (Roberts 1997, Biberauer & Roberts 2005) have been proposed, whereby the grammar is constantly VO, but constituent movement to pre-verbal position derived the OV instances. The main points of this debate are summarized below.

For the double-base hypothesis, the word order variation in OE can be accounted for by postulating the presence of an OV and a VO base grammar in competition. A well-known fact about the OE language is that it displays word orders which are typical of both an OV and a VO grammar, namely S-O-V-Vfin, S-Vfin-O-V, S-Vfin-V-O.

Along these lines, Pintzuk proposes that the variation in the headedness of the IP and VP results in the syntactic variation observed in the OE language. Even though the hypothesis of phrase structures in competition may account for the majority of the different word orders attested in OE, the so-called mixed word orders cannot be captured neither by postulating a pure VO grammar, nor by postulating a pure OV grammar. Hence, it is not clear what factors led to the stabilization of a pure VO order. Lately, Pintzuk & Taylor (2012a-2012b) proposed that information structure requirements and prosodic heaviness (which is measured in number of words) were more influential in the pure OV grammar than in the concurrent VO grammar.

Fuss & Trips (2002) retain the idea of the grammars in competition, but propose a more refined account of the parametric variation within the OE language, postulating that the parametric variation is to be ascribed to the presence/absence of the vP shell and to the possibility of over vs covert V-to-v movement. Moreover, the authors elaborate Kayne's (1994) anti-symmetry by assuming that only functional heads are universally head initial, while lexical heads can either be head-final or head-initial. The grammar competition is re-stated by postulating a grammar with a head-final VP and no vP projection, a grammar with a head-final VP, but overt movement of V to

the head of the vP, and a “pure” VO grammar comprising a vP node dominating head-initial VP shells. The advantage of this analysis is that the order S-V-O-V_{fin}, which is generated by the double-base grammar but not attested in OE, cannot be generated. Fuss & Trips identify language contact with the Scandinavian settlers as the factor prompting the reanalysis of the later grammar.

In the same Kaynian framework, Roberts (1997) showed that the mixed word orders can be accounted for by postulating a uniform VO grammar and a series of movement operations which can also be found in Modern German and Dutch. Even though these movement operations can account for the observed word order variation, these are taken to be optional. Biberauer & Roberts (2005), building on Roberts (1997), propose that these movement operations are driven by EPP features. Within their framework, a key notion is that of pied-piping: what is moved to [Spec, TP] can be either the full vP, only the DP or the remnant movement of the vP after DP stranding; these options account for the different word orders attested in the OE language.

More recently, Petrova-Speyer (2011), Hinterhölzl & Van Kemenade (2012), and Pintzuk & Taylor (2012a-b) pointed out that constituent placement in OE was also influenced by information structure, not only by grammatical features. In this sense, the activation state of the referents and constituent placement are correlated, e.g. given constituents are placed pre-verbally, while focused or new constituents are placed post-verbally. Moreover, Petrova & Speyer (2011) claim that English had a position associated with contrastive focus in the left periphery of the subordinate clause.

For the purpose of this paper, I adopt the anti-symmetric approach in Roberts (1997) and Biberauer & Roberts (2005), but I adapt it to information structure theories. That is, prosodic and information structural interface conditions are the determining factors responsible for the pre- and post-verbal spellout of constituents, thus providing a cue to word order variation. In the anti-symmetric accounts summarized above, no cue is postulated to motivate the choice between pied-piping and stranding of the EPP-driven projections.

The information structure analysis follows the pattern proposed in Hinterhölzl (2014). He proposes that interface conditions govern the spellout options, and takes the movement operations found in Modern German and Dutch to also be obligatory in OE.

The movement operations are listed in (i).

- (i) a. Licensing movement of arguments into a Case position;
- b. Licensing movement of verb particles into the specifier of a lowAsp position;
- c. Licensing movements of predicative elements into a Predicative phrase.

It is postulated that interface conditions intervene to regulate the spellout of the higher or lower copy after movement has taken place. Hinterhölzl motivates the spell-out of the lower copy by observing that Chomsky (1995) proposes that in a checking operation, a feature is checked and deleted in all occurrences of the re-merged copy; thus it is not necessarily the lower copy that needs to be deleted. Furthermore, he argues that the copy that is interpreted at PF need not be the one which is interpreted at LF, a statement which is supported by empirical evidence about the scopal interaction of arguments and adjunct in English (cf. Hinterhölzl 2014 for a wider discussion).

To account for the pre-verbal placement of light elements (such as pronouns, verbal particles and stranded prepositions) in OE, Hinterhölzl proposes a default rule, that requires that constituents be spelled out in their checking position rather than in their base position, unless interface conditions intervene and demand their spellout in the base position. These interface conditions arise from the possibility for a given domain to be either PF-transparent or LF-transparent. If a

domain is PF-transparent, it is subject to weight conditions, while an LF-transparent domain is not subject to weight conditions.

An LF-transparent domain is the C-domain, where the spellout of a wh-phrase is not restricted from its prosodic weight. PF-transparent domains, such as the I-domain, are subject to conditions regarding their prosodic weight. In order to account for prosodic weight, the novel definition in (ii) is proposed.

- (ii) A syntactic phrase XP counts as heavy if both its head X and the complement of X contain lexical material. Heavy phrases must be mapped on a strong branch.

A syntactic phrase that can be defined as heavy according to the definition above must reside in the V-domain, where it would be mapped onto a strong branch in prosodic structure. Light elements, such as pronouns, are spelled out in a weak branch in prosodic structure, unless other interface conditions apply. The information structural interface conditions responsible for the pre- and post-verbal mapping of constituents are listed in (iii).

- (iii) a. G(ivenness)-Transparency: a given constituent must occupy a weak position in prosodic structure.
 b. F(ocus)- Transparency: A constituent representing new information must occupy a strong position in prosodic structure.

The post-verbal position is a strong position in this framework: to satisfy the G-transparency condition, a given object must move outside the V-domain, while a focused constituent is spelled out in its base position inside the VP, resulting in a VO word order. Hinterhölzl assumes that in OE focus is displayed PF-transparently, while givenness is displayed LF-transparently via scope. This means that focused constituents are spelled out post-verbally, while given constituents (both pronouns and given DPs) are spelled out in pre-verbal position.

The following predictions can be drawn from the framework:

- A given constituent is spelled out in pre-verbal position;
- A focused constituent is spelled out in post-verbal position;
- Pronouns and other light elements (such as demonstratives, bare nouns and modified nouns) are spelled out in pre-verbal position;
- Heavy constituents are spelled out in post-verbal position.

Furthermore, it is postulated that the prosodic interface conditions gain ground, due to the blurring of the information structural interface conditions. In the literature, it has been observed that the discourse configurability of the OE language is blurred at the end of the OE period, leaving the ground for a more rigid ordering of constituents (cf. Van Kemenade & Los 2006, and Van Kemenade 2009). Van Kemenade and Los (2006) and Van Kemenade (2009) have investigated the properties of a system of deictic elements, which they label *discourse markers*. They show that, in subordinate clauses, given constituents are moved to the left of the discourse marker, whereas focused constituents are found on its right. According to Van Kemenade & Los, the blurring of the discourse configurability constraints is due to the demise of the system of demonstratives and discourse markers, which takes place at the end of the OE period. If information structure devices

and requirements are blurred at the end of the OE period, we expect the prosodic interface condition to gain ground over information structure mapping.

In light of this theoretical background, this paper tests the theoretical claims in Hinterhölzl (2015) and the predictions in Van Kemenade & Los (2006). The overall analytical pattern for clause structure and movement conforms to the Kaynian approach in Roberts (1997).

3. DATA AND METHODS

The text sample for this paper comes from the York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE), built by Taylor, Warner, Pintzuk, and Beths (2003). The sample consists of subordinate clauses that display a complex verb form, a subject and an object. The subordinate clauses with these features, extracted from the YCOE corpus and analysed for the present study amount to 121. In addition, the total number of subordinate clauses presenting these features were extracted from the text of the West Saxon Gospels¹, which amount to 27. Furthermore, the whole text of the Anglo-Saxon Chronicle, MS. A² was queried for both matrix and subordinate clauses with the features given above. The matrix clauses resulting from the query amount to 26, whereas the subordinate clauses arising from the query amount to 13.

We thus come to a total amount of 161 subordinate clauses³; Sections 4 – 6 deal with the sample of subordinate clauses, whereas Section 7 deals with the matrix clauses of the Anglo-Saxon Chronicle, MS. A.

The decision to select clauses with a complex versus simple verb form reflects my purpose to control for V-to-T movement: in complex forms, the verb stays in-situ, which provides a reliable criterion for assessing the locations of constituents, as being either in the functional domain or in VP. The presence of both a subject and at least one direct object is also necessary in order to determine the positions occupied by constituents in relation to each other.

Although the sample may look small, it covers the OE periods and the writing genres. Keeping the sample small allowed me to thoroughly scrutinize the context for the selected sentences, which is important to establish if and how the information structure is involved, and whether the information is given or new.

For the semantic classification of the information, I adopted the criteria generally accepted in the literature and promoted in Lambrecht (1994) and Krifka (2007). That is:

- constituents which have been mentioned in the immediate context are labeled as given;
- constituents which are reactivated are labeled as new;
- constituents in direct speech, which are new for the addressee but may be given in the context are labeled as new;
- bridging inferables are labeled as new if they are presented at that point in the context;
- constituents in headings or presenting the content of a passage are labeled as new, unless the sentence introducing them explicitly points at the fact that these are known or often heard of;

¹ The sentences are extracted from the YCOE file *cowsgosp.O3*, while the analysis of the context surrounding the sentences resulting from the corpus query was conducted on Skeat's (1871) edition of the text.

² The sentences are extracted from the YCOE file *cochronA*, while the analysis of the context surrounding the sentences resulting from the corpus query was conducted on Bately's (1986) edition of the text.

³ 121 subordinate clauses extracted from the YCOE corpus, covering the different time frames and different text types contained in the corpus, to which the 13 subordinate clauses of the Anglo-Saxon Chronicle and the 27 subordinate clauses of the West Saxon Gospels are added.

- constituents in direct speech which are also already introduced in the direct speech are labeled as given;
- constituents in sentences which hint at the fact that the concept are well known or heard of, are labeled as given.

As regards the prosodic weight of the constituents, the definition provided in (ii) is used to distinguish between light and heavy constituents. In addition, I build prosodic domains and measure the relative weight of the domains thus built, following, for examples, the rules proposed in Uhmman (1991) for the assignment of the focus accent.

4. QUANTITATIVE ANALYSIS

For the quantitative analysis I use an absolute definition of prosodic weight. That is, right branching constituents are analysed as heavy. Moreover, I am looking at any types of constituents occurring in the middle-field and in the post-verbal field: these range from pronouns, DPs and PPs.

DPs may or may not contain demonstratives. If they do, I indicate them as DemPS. Demonstratives are analysed as occupying [Spec, DP], whereas the definite article is analysed as occupying the D head (Van Gelderen 2007, Coniglio & Schlachter 2014). The grammaticalization of the definite article is argued by Breban (2012) to be complete at the beginning of the ME period, for this reason a different labelling has been chosen. It also follows that DemPS are light, since the head is empty, while DPs with a definite article in D and the NP in their complement are prosodically heavy. OE did not have a fully grammaticalized determiner, so DemPS are systematically light.

In my sample, I found 237⁴ constituents relevant to the information structural and prosodic analysis I am conducting, and I classified them in Table 1 according to their pre- or post-verbal position. By pre-verbal position I mean a position within the middle field of the clause, not in the CP. The reason is that the constituents occurring in the CP, and which are not subjects, are insignificant; that is, I found only seven such constituents for the texts of the 9th and 10th century, zero for the subordinate clauses of Chronicle A, nine for the texts of the 11th century, five for the West Saxon Gospels, and eight for the texts of the 12th century. Moreover, in the present framework it is argued that the CP is not subject to weight conditions, allowing for the mapping of focused and heavy phrases. The data in the CP, then, are not relevant to the present analysis, since I aim to determine the relevance of the information structural and prosodic interface conditions in the middle-field and in post-verbal position.

Along these lines, Table 1 lists the percentages of pre- and post-verbal constituents that bring given or focus information. The data is chronologically separated, plus there is a separate listing for the Anglo-Saxon Chronicle and the West Saxon Gospels.

⁴ As was stated in Section 3, the data presented in Sections 4-6 refer to the sample of 161 subordinate clauses. Section 7 deals with the 26 matrix clauses extracted from the Anglo Saxon Chronicle, MS. A.

Table 1: Distribution of constituents for information structure and heaviness

Subordinate clauses	
9th and 10th Century	
Pre-verbal constituents	35
Total of given constituents⁵	88,6% (31/35)
Of which light ⁶	74,2% (23/31)
Of which heavy	25,8% (8/31)
Total of new constituents	11,4% (4/35)
Of which light	75% (3/4)
Of which heavy	25% (1/4)
Total of light elements⁷	74,3% (26/35)
Total of heavy elements⁸	25,7% (9/35)
Post-verbal constituents	33
Total of given constituents	30,3% (10/33)
Of which light	40 % (4/10)
Of which heavy	60 % (6/10)
Total of new constituents	69,7% (23/33)
Of which light	17,4% (4/23)
Of which heavy	82,6% (19/23)

⁵ In the table, the percentage numbers of given, new, light and heavy constituents are calculated on the basis of the overall number of constituents in pre-verbal and post-verbal position respectively. In the sub-sections which define the percentage number of light constituents among the given ones, heavy constituents among the given ones, light constituents among the new ones, and heavy constituents among the new ones in the pre-verbal and post-verbal domains, the percentage number is calculated on the overall number of given or new constituents in the domain under consideration.

In the first time period, for example, the pre-verbal constituents are 35, the percentage numbers about the amount of given, new, light and heavy constituents are calculated on the basis of 35 (so the proportion of 31 given constituents out of 35 pre-verbal ones gives the percentage number 88,6%). The percentage number of light constituents among the given and pre-verbal ones is calculated on the basis of 31, which is the overall number of given constituents in the pre-verbal domain (so the proportion of 23 light constituents out of the 31 given and pre-verbal ones gives the percentage number 74,2%). The same method is applied to both the pre- and post-verbal constituents of all the time periods and texts illustrated in the table.

⁶ Among the count of the light constituents, pronouns, bare demonstratives and left branching constituents are included.

⁷ This percentage number refers to the whole number of pre-verbal constituents in this time frame, which are prosodically light. This includes both given and new constituents that share the feature of prosodic lightness; the details about the information structural value of the constituents are given in the preceding lines. The same structure is applied to the post-verbal constituents and to each time frame and text.

⁸ This percentage number refers to the whole number of pre-verbal constituents in this time frame, which are prosodically heavy. This includes both given and new constituents that share the feature of prosodic heaviness; the details about the information structural value of the constituents are given in the preceding lines. The same structure is applied to the post-verbal constituents and to each time frame and text.

Total of light elements	24,2% (8/33)
Total of heavy elements	75,8% (25/33)
Anglo-Saxon Chronicle, MS. A	
Pre-verbal constituents	13
Total of given constituents	92,3% (12/13)
Of which light	91,6% (11/12)
Of which heavy	8,4% (1/12)
Total of new constituents	7,7% (1/13)
Of which light	0% (0/1)
Of which heavy	100% (1/1)
Total of light elements	84,6% (11/13)
Total of heavy elements	15,4% (2/13)
Post-verbal constituents	5
Total of given constituents	20% (1/5)
Of which light	0% (0/1)
Of which heavy	100% (1/1)
Total of new constituents	80% (4/5)
Of which light	25% (1/5)
Of which heavy	75% (4/5)
Total of light elements	20% (1/5)
Total of heavy elements	80% (4/5)
11th century	
Pre-verbal constituents	23
Total of given constituents	78,3% (18/23)
Of which light	72,2% (13/18)
Of which heavy	27,8% (5/18)
Total of new constituents	21,7% (5/23)
Of which light	40% (2/5)
Of which heavy	60% (3/5)
Total of light elements	65,2% (15/23)
Total of heavy elements	34,8% (8/23)
Post-verbal constituents	46
Total of given constituents	34,8% (16/46)

Of which light	31,25% (5/16)
Of which heavy	68,75% (11/16)
Total of new constituents	65,2% (30/46)
Of which light	30% (9/30)
Of which heavy	70% (21/30)
Total of light elements	30,4% (14/46)
Total of heavy elements	69,6% (32/46)
West Saxon Gospels	
Pre-verbal constituents	22
Total of given constituents	68,2% (15/22)
Of which light	86,6% (13/15)
Of which heavy	13,4% (2/15)
Total of new constituents	31,8% (7/22)
Of which light	71,4% (5/7)
Of which heavy	28,6% (2/7)
Total of light elements	81,8% (18/22)
Total of heavy elements	18,2% (4/22)
Post-verbal constituents	7
Total of given constituents	42,8% (3/7)
Of which light	33,3% (1/3)
Of which heavy	66,7% (2/3)
Total of new constituents	57,2% (4/7)
Of which light	0% (0/4)
Of which heavy	100% (4/4)
Total of light elements	14,2% (1/7)
Total of heavy elements	85,8% (6/7)
12th century	
Pre-verbal constituents	36
Total of given constituents	88,8% (32/36)
Of which light	68,75% (22/32)
Of which heavy	31,25% (10/32)
Total of new constituents	11,2% (4/36)
Of which light	75% (3/4)

Of which heavy	25% (1/4)
Total of light elements	69,5% (25/36)
Total of heavy elements	30,5% (11/36)
Post-verbal constituents	17
Total of given constituents	41,2% (7/17)
Of which light	28,6% (2/7)
Of which heavy	71,4% (5/7)
Total of new constituents	58,8% (10/17)
Of which light	60% (6/10)
Of which heavy	40% (4/10)
Total of light elements	47,1% (8/17)
Total of heavy elements	52,9% (9/17)

The raw percentages indicate a preference for given constituents to be mapped in pre-verbal position in all the different texts and time frames (cf. 88,6% in the texts of the 9th and 10th century, 92,3% in the Anglo-Saxon Chronicle, MS. A⁹, 78,3% in the texts of the 11th century, 68,2% in the West Saxon Gospels and 88,8% in the texts of the 12th century).

In the post-verbal domain, there is a preference for new constituents, being the percentage numbers 69,7% in the texts of the 9th and 10th century, 75% in the Anglo-Saxon Chronicle, MS.A, 65,2% in the texts of the 11th century, 57,2% in the West Saxon Gospels and 58,8% in the texts of the 12th century.

Moreover, one can also notice that for the pre-verbal constituents, it is the information structural (henceforth IS) parameter which yields the strongest difference for the positioning of constituents in the texts of the 9th, 10th and 11th century, and in the Anglo-Saxon Chronicle, MS. A. In these texts, in fact, the difference in percentage points between the parameters *given* and *new* is higher than the difference in percentage points between the parameters *light* and *heavy*. In the West Saxon Gospels, the situation is reversed; the discrepancy between light and heavy constituents in the pre-verbal domain is higher than the discrepancy between the given and the new constituents. The percentage numbers for this text are namely 68,2% and 31, 8% of given and new constituents in the pre-verbal domain respectively versus 81,8% and 18,2% of light and heavy constituents in the pre-verbal domain respectively.

In the post-verbal domain, the differences in points between the information structural and the heaviness parameter is not significant. Moreover, the results for the 12th century are not clear cut as regards the post-verbal constituents, with an almost equal distribution of heavy, light or new and given constituents.

It has to be noted, moreover, that there are some constituents both in the pre- and in the post-verbal domains which are problematic for the theory postulated, namely given constituents in the post-verbal domain and new constituents in the pre-verbal domain.

⁹ In sections 4-6, where the results from the subordinate clauses are discussed, when I refer to the Anglo-Saxon Chronicle I refer to the subordinate clauses. The results from the matrix clauses of this text will be discussed in Section 7.

Recall that the Givenness transparency and the Focus transparency conditions in 3 a-b predict that a given constituent must be spelled out in its checking position in the middle field, while a focused constituent must be spelled out in a strong position in prosodic structure, i.e. in the post-verbal domain.

If on the one hand we can motivate given but heavy constituents in the post-verbal domain in light of the prosodic weight condition, it has to be noted that we find also given and light constituents in the post-verbal domain, albeit in a smaller number. On the other hand, we still find given and heavy constituents in the pre-verbal domain, which would be motivated by the Givenness Transparency condition but not by the prosodic condition and new elements in the pre-verbal domain, which are motivated neither by the Givenness Transparency nor by the Focus Transparency condition.

Concluding this section, even though the raw percentage numbers show that given constituents tend to be mapped in pre-verbal position, and that new constituents tend to be mapped in post-verbal position, the presence of given constituents in the post-verbal domain and of new constituents in the pre-verbal domain cannot be motivated satisfactorily on the basis of this quantitative search.

I now turn to the qualitative analysis of the constituents to see if it can shed some light on the interface conditions responsible for the spell-out of constituents. In particular, it may explain why given constituents may appear in the post-verbal domain and new constituents in the pre-verbal domain since the earliest texts.

5. QUALITATIVE ANALYSIS

5.1. Given constituents

Table 1 shows that given and heavy constituents are mapped both in the pre- and post-verbal domain. This result is theoretically challenging, in light of Hinterhölzl (2014): given but heavy constituents in the pre-verbal domain may not be problematic, but their presence in the post-verbal domain is unexpected. In this section, I argue that other factors interact with the information structure mapping beside givenness or heaviness.

First, the term *heavy* needs to be addressed: how complex must a constituent be in order to qualify as heavy? The data from the OE sample indicate that the post-verbal given constituents are more complex than the pre-verbal ones in the texts of the 9th, 10th and 11th century, and in the Anglo-Saxon Chronicle, MS.A.

Crucially, the pre-verbal given but heavy constituents are, for the most part, PPs. Moreover, some of them are temporal and local adjuncts with adverbial meaning. As a result, one may argue that the pre-verbal position is syntactically motivated, if we assume that all adverbials, including adverbial PPs, occupy specifier positions at the left periphery of the verbal shell (Cinque 1999).

Examples of given and heavy pre-verbal constituents are provided in (1) for the texts of the 9th and 10th centuries.

- (1) a. oðerne he lærd ðæt he onginne sume sconde be **dæm oðrum**
 other he teaches that he begin some infamy be the other
 oððe sprecan oððe don.
 or speak or do.
 ‘The one he advises to begin to speak or do something disgraceful against the other.’¹⁰
 [cocuraC,CP_ [Cotton]:33.224.22.98]
- b. Cwæp he þæt ic þær sy eft oþre sipe **on rode**
 Said he that I there be again other time on cross
 ahangen.
 hung
 ‘There he said that I should subsequently at another time there be hanged on the cross.’
 [coblick,LS_32_ [PeterandPaul[BiHom_15]]:191.356.2483]

In example (1a), the referent *the other* is given in the context, the whole passage deals around the theme of dispute between two people; in example (1b), the referent *cross* has already been introduced, since it was announced to Saint Peter that he would be hanged there.

As far as their structural composition is concerned, the constituents in (1) are branching, but given. It follows that at this stage of the language, a given constituent must be mapped in the pre-verbal domain. For the prosodic condition to apply and keep the constituent post-verbal, the constituent must be more complex than a bare bones PP. Such examples exist, as in (2), and they involve a complex DemP within PP (2a) and coordinated phrases (2b).

- (2) a. Ond Sanctus Arculfus sæde þæt þær hangade upmæte leohtfæt, ond ðæt
 And Saint Arculf said that there hung immense lamp and that
 wære a byrnende dæges ond nihtes **ofer þara Drihtnesfota swada.**
 was a burning day’s and night’s over the Lord’s feet trace
 ‘And Saint Arculf said that there hung an immense lamp, and that was burning day and
 night over the trace of the Lord’s feet.’ [comart3,Mart_5_ [Kotzor]:My5,A.33.748]
- b. þæt wæs forþy ðe hi wæron benumen ægþer **ge dæs ceapes**
 that was because that they were deprived both also the cattle’s
ge þæs cornes þe hi gehergod hæfdon
 also the corn’s that they plundered had
 ‘That was because they were deprived both of the cattle and of the corn that they
 hadplundered.’ [cochronC,ChronC_ [Rositzke]:895.1.946]

In example (2a), a church is described, in which a statue of Christ is found and is described as having its feet adorned with brass wheels (cf. example 14b. below, which precedes this sentence in the text); the statue and the mention of the Lord’s feet constitute given information in sentence (2a). In example (2b), the plundering is described in the previous portion of the text, and the

¹⁰ The glossing of the examples is done by the author of the paper; the translation between quotation marks is taken from the editions by Morris (1874) for the *Blickling Homilies* (YCOE file coblick.O23), Miller (1890) for *Bede’s Ecclesiastical History of the English People* (YCOE file cobede.O2) and Sweet (1871) for *King Alfred’s West Saxon Version of Gregory’s Pastoral Care* (YCOE file cocuraC). For the remaining examples, also the translation between quotation marks is provided by the author of the paper.

reference of *cattle* and *corn* is taken up again in the example under examination; other cues for the given status of the constituents are represented by the use of the demonstratives and the content of the relative clause, which refers back to the actions previously described.

Similar observations can be drawn for the data of the 11th century, in which we can find right branching, but given pre-verbal constituents, as in (3).

- (3) a. N- is æfre ænig man þe sylf gebencan cunne oðþon
 Not is ever any man that self conceive can or
 oðrum areccan mæge hwylce þa mærða & ða
 other express may which the greatness and the
 myrðða syn þe God **on heofonum** gegearwod hæfd þam ðe
 delight be that God in heaven prepared has those that
 his willan gewyrð her on life.
 his will performs here in life.

‘There is no man who can alone conceive and may express to another which greatness and delight God has prepared in heaven for the one who does his will here in this life.’

[cowulf, WHom_7:152.496]

- b. heo gefor xii nihtum ær middan sumera binnan Tamaweorþige
 she died 12 nights before mid summer within Tamaweorþige
 ðy eahtopan geare þæs ðe heo Myrcna anweald **mid**
 the eighth year that that she Mercians’ power with
riht hlaforddome healdende wæs.
 rightful lordship holding was.

‘She died twelve nights before Midsummer in Tamaweorþige, in the eighth year that she was holding power over Mercia with rightful lordship.’

[cochronC, ChronC_ [Rositzke]:918.5.1127]

Example (3a) repeats concepts given in the previous discourse, and the reference of *heaven* is given, also the reference of *lordship* in example (3b) is already active at the point under examination.

In the same time frame, the post-verbal given constituents are more complex, including DemPs that include a relative clause, as in (4a), or iterated adjectives, as in (4b).

- (4) a. Forlæt me and me þa leave forgif to
 Permit me and me then permission grant to
 geopenigenne þone ingang þinre þære halgan cyrcan,
 open the entrance your the holy church’s
 þæt ic ne wurðe fremde geworden þære **deorwurþan**
 that I not be estranged become the precious
rode gesihðe on þære gefæstnod wæs ealles middaneardes
 cross’ vision on that placed was all middle-earth’s
 Hælend.
 Saviour.

‘Give me leave to open the entrance of your holy church, that I do not become estranged of the vision of the precious cross, on which the Saviour of all the world was crucified.’

[comary, LS_23_ [MaryofEgypt]:442.285]

- b. Eala, micel magon manega git herto eacan eade bebencan
 Alas, great may many yet hereto increaseor remember
 þæs þe ic ana on rædinge ne mihte fullice
 that that I only on reading not might fully
 asmeagan, hu earnlice hit gefaran is nu ealle hwile
 ponder how miserably it proceededis now all while
innan þisse earman forsingodreþeode
 in this wretchedsinful people.

‘Alas, many may yet increase or remember the greatness upon now that only in reading I cannot fully do justice to, how miserably it is proceeded now at all times among this wretched sinful people.’ [cowulf, WHom_20.2:158.1734]

Even though both the reference of *cross* in (4a) and of *people* in (4b) is given, they are found in complex structures, which are mapped in post-verbal position according to the prosodic mapping condition.

The examples in (1) to (4) show a consistent distribution of given constituents in the texts of the 9th to the 11th century. When a given constituent is not particularly heavy or contrasted, it is mapped in pre-verbal position in these texts, as the following examples show:

- (5) Þa sume dæge rad se cyng up bi þære eæ, 7 gehawade
 Then some day rode the king up by the river and examined
 hwær mon mehte þa ea forwyrca, þæt hie ne mehton þa
 whereone might the river obstruct that they not might the
 scipu ut brengan. 7 hie ða swa dydon, worhton ða tu
 ships out bring and they then so did built then two
 geweorc on twa healfe þære eas. Þa hie ða þæt **geweorc**furþum
 forts on two halves the river’s as they then the fort first
 ongunnen hæfdon, 7 þærto gewicod hæfdon þa onget se
 begun had and there encamped had then realised the
 here þæt hie ne mehton þa scipu ut brengan.
 army that they not might the ships out bring

‘Then one day the king rode along the river and examined where one might obstruct the river, so that they could not bring out the ships. And so they did, they built two forts on each side of the river. As they had begun the first fort, and had encamped there, then the army realized that they could not bring out the ships.’ [Chron A, YEAR ENTRY 895]¹¹

¹¹ This example is taken from Bately’s (1986) edition of the Anglo-Saxon Chronicle, MS. A.

- b. & sæt on þam biscoprice þe se cyng him ær
 and sat on the bishopric that the king him before
 geunnan hæfde **be his fulre leafe.**
 granted had by his full leave.
 ‘And he sat on the bishopric that the king had previously granted him with his full permission.’
 [cochronE,ChronE_[Plummer]:1048.14.2251]

In example (8a), the pronoun contained in the PP refers to an active referent, whereas in example (8b) the whole relative clause refers to actions and referents already introduced in discourse. Similarly for the examples in (7a-b) the mapping of these constituents does not seem neither to be motivated by information structural not by prosodic mapping conditions.

The mapping of given and heavy constituents in the post-verbal domain has been motivated through the prosodic mapping condition for the examples of the 9th – 11th century. It has been noticed above, however, that there are given and light constituents in the post-verbal domain as well. These constituents will be shown below to be contrasted. Since they receive contrastive focus accent, their post-verbal mapping is consistent with the Focus-Transparency condition, as example (9) shows:

- (9) swa hit bið swa ge biddað, and miccle ma, forþam ge
 so it be so you ask and much more, because you
 wæron winnende **on godan life,** and ge wæron forþyldiende
 were winning on good life, and you were suffering
mænigfealde costnunga, and swa- þeahn- æron oferswiþde.
 many temptations and so still not were overpowered.
 ‘Let it be so as you ask, and much more, because you were winning on good life, and you were suffering many temptations, and despite that you were not overpowered.’
 [coeust,LS_8_[Eust]:444.465]

In this example, that the addressees of the direct speech had suffered many temptations is a piece of information which has been already introduced in discourse; however, the referent *temptations* is contrasted in this example with *good life*.

In other cases, light given post-verbal constituents build a complex constituent which is distributed in a discontinuous fashion between the middle field and the post-verbal field, as in the following example:

- (10) Ðæt godspell geendað nu on þisum wordum þuss: Eall fulne
 The Gospel ends now on these words thus: All full
 mid gyfe & mid soðfæstnysse. On þære menniscnysse he
 with grace and with faithfulness. On the incarnation, he
 hæfde swa micela gyfe þæt he wæs soð God & soð
 had so great grace that he was true God and true
man geboren, **Dauides cynnes**, of þam clænan mædene, an
 man born, David's kin's, of the clean maiden, one
 Crist wuniende on twam edwistum
 Christ living on two substances.

‘The Gospel ends now with these words: fully complete with grace and faith. From the incarnation he had such a great grace, since he was born true God and true man from the kin of David, from the clean maiden, a Christ abiding in two substances.’

[coaelhom,ÆHom_1:455.235-1:457.237]

The texts of the 12th century, however, can display a light and given constituent in post-verbal position, which is not contrastive:

- (11) bæd hine faran into Cent mit unfrida to Dofran. forþan Eustatius
 asked him travel into Kent with hostility to Dover because Eustatius
 hæfde gecydd þam cyngre þæt hit sceolde beon mare gylt þære
 had told the king that it should be more fault the
 burhwaru þonne his.
 citizens' than his.

‘[he] asked him to travel with hostility to Dover in Kent, because Eustace had told the king that it was more the fault of the citizens than his.’

[cochronE,ChronE_ [Plummer]:1048.35.2277]

To sum up this section, in the earlier stages of OE, a given constituent has to be mapped in the pre-verbal domain, unless it is made up by a complex prosodic constituent, such as DemPs containing relative phrases or coordinated phrases. Hence, we can say that Information Structural Mapping Conditions counted over the Prosodic Mapping Condition, unless exceptional prosodic weight was at work. The later stages of Old English, on the other hand, show neither a clear prosodic nor a clear IS mapping.

5.2. New information

Not only given constituents in the post-verbal domain have to be explained with respect to the framework adopted, but also new constituents in the pre-verbal domain.

According to the Givenness Transparency interface condition, given constituents must be mapped on a light branch, i.e. in the middle field in our framework. The Focus transparency, on the other hand, predicts that new constituents are mapped in post-verbal position; the presence of new and pre-verbal elements, then, deviates from the predictions derived from the framework proposed, and are investigated in this section.

The new and pre-verbal constituents in the examples from the 9th, 10th and 11th centuries consist of either adverbial adjuncts or, such as in example (12a-b) for the 9th and 10th, and 11th

century respectively, of complex predicates, such as examples (13a-b) for the 9th and 10th century, and for the 11th century respectively:

- (12) a. And oft ðeah gebyreð ðæm geðyldegan, ðeah him mon
 and often yeat colonizes the patient, yet him one
 hwæt widerweardesdo, odðe he hwelce scande gehiere be
 what contrary's do, or he which infamyhear by
 him selfum, ðæt he ðonne nanwuht æt ðæm cirre ne ,
 him self that he than nothing at the affair not
 bið astired ac gebærð swæ geðylðelice swelce he hit
 is agitatedbut bears so patiently such he it
 hæbbe **mid ealre heortan** forlæten.
 had with all heart left.

‘And yet it often happens to the patient man that, although he suffers some wrong or hears some shameful report himself, he is not agitated at the time, but comports himself patiently, as if he had dismissed it altogether from his heart.’

[cocuraC,CP_[Cotton]: 33.224.15.92]

- b. Hu þa scillingas wurdon þurh wundor
 How the shillings were through wonder
 agifene þam biddendum.
 given the beggars.

‘How the shillings were given through wonder to the beggars.’

[cogregdH,GDHead_2_[H]:93.22.953]

- (13) a. þa sægde him mon þæt þær wære sum man
 then said him one that there was some man
 earmlice **deape** aswolten swa þæt he hine sylfne awyrde.
 miserablydeath dead so that he him self destroyed.

‘Then they told him that a certain man had died by a miserable death, inasmuch as he had destroyed himself.’ [coblick,LS_17.1_[MartinMor [BIHom_17]]:219.138.2796]

- b. Ac soð is þæt ic secge: þearf is þare
 But true is that I say: need is the
 bote forðam Godes gerihta wanodan nu lange innan
 help's because God's rites reduced now long in
 þisse þeode on æghwilcum ende & folc- laga
 this people on every end and folk- laws
 wisedon, ealles to swiðe & halinessa sindon
 deteriorated all to exceedingly and holinesses are
 to gridlease wide, & Godes hus sindon **to clæne**
 to unprotections widely, and God's houses are to clean
 beripte ealra gerihta & innan bestripte ælcra gerisena
 despoiled all rites and within stripped each decent
 & godcunde hadas wæron nu lange swiðe forsaewene.
 and divine dignities were now long exceedinglydespised.

‘But what I say is true: there is need of help, because God's rites reduced now long among these people in every way, and folk-laws deteriorated all exceedingly and holiness is unprotected widely, and God's houses are entirely despoiled of all rites and stripped of everything decent, and divine dignities had been since long despised exceedingly.’

[cowulf,WHom_20.2:47.1662]

The nominal predicative elements *deape* and *clæne* belong to the verbs and specify their denotation; according to condition (i.c) introduced above, they are mapped in pre-verbal position. The Focus-Transparency conditions predicts that an element representing focus information has to be mapped onto a strong branch, i.e. in the post-verbal domain. However, the distribution of adverbial PPs and parts of complex predicates can be argued to be syntactically motivated if we assume that complex predicates raise to a Predicate Phrase in order to check their features (cf. Section1) and that adverbial elements, including adverbial PPs, occupy functional projections at the left of the vP.

The texts of the 9th – 11th centuries display a consistent behavior, since constituents which are challenging for the information structural interface conditions can be argued to be syntactically motivated.

As the Focus Transparency condition predicts, in the post-verbal domain new arguments can be found, as examples (14 a-b) for the 9th and 10th century and example (14c) for the 11th century show:

- (14) a. Ðæt gelamp sume side þæt he ongan bænan **sum**
 That happened some time that he began burn some
deofolgild, þe mid þæm hæðnum mannum swide
 idol that with the heathen men exceedingly
 weorð & mære wæs.
 valuable and great was.

‘Once upon a time it happened that he began to burn an idol which was held by the heathen in much esteem and distinction.’

[coblick,LS_17.1_[MartinMor [BIHom_17]]:221.169.2819]

- b. Ond he sæde þæt þa Drihtnes fot- lastaswæron
 And he said that the Lord’s foot- steps were
 beworht **mid** **ærne** **hweole.**
 adorned with brass wheels.

‘And he said that the footsteps of the Lord were adorned with brass wheels.’

[comart3,Mart_5_[Kotzor]:My5,A.26.747]

- c. Ac he alysde us þurh his deað of ecan
 But he freed us through his dead of eternal
 deaðe & geswutelode mid his æriste þæt
 death and declared with his resurrection that
 he us gerymed **rihtne** **weg** **to** **ecan** **life.**
 he us manifested right way to eternal life.

‘But he freed us from the eternal death through his [own] death and declared with his resurrection that he has showed us the right path to the eternal life.’

[cowulf,WHom_6:185.365]

The three referents in sentences (14a-c) are introduced at the point under examination and are therefore labelled as new; accordingly, they are mapped in post-verbal position.

In the West Saxon Gospels and in the texts of the 12th century, on the contrary, also new arguments of the verb can appear in the pre-verbal position.

- (15) a. Hwæðer hit wen seo, þæt þu seo se ilca
 Whether it likelihoodbe that you be the same
 Hælend þe Sathanas embe spæc, ure ealder and sægde þæt he
 Saviour that Satan about spoke, our chief, and said that he
 wolde þurh þine deað **anweald**habben ealles midden-eardes?
 wanted through your death power have all's middle- earth's?
 'Could it be possible, that you are the same Saviour, about which Satan, our chief, spoke
 and said that he wanted to have power over all the earth through your death?'
 [conicodC,Nic_[C]:331.319]

- b. Witodlice ic secge eow þæt ic ne drince heonun- forð
 Truly I say you that I not drink henceforth
 of þysum eorðlican wine ær þam dæge þe ic drince
 of this earthly wine before the day that I drink
 þæt niwe mid eow on mines Fæder rice. Ða
 the new with you on my father'skingdom. As
 hig hæfdon **heora lofsang** gesunggene þa ferdon hig uppan
 theyhad their hymn sung then went they up
 Oliuetes Dune.
 Olives' mount.
 'In truth I tell you that I henceforth will not drink of this earthly wine before the day that
 I drink the new one with you in the kingdom of my father. As they had sung their hymn,
 they went up to the Mount of Olives.' [cowsgosp,Mt_[WSCp]:26.29.1876-26.30.1877]

Example (15a) is embedded in a direct speech context; the devils are asking Christ whether he is the same about which Satan had spoken and told that he wanted to have power over all middle earth through his death.

The sentence constitutes new information for the addressee, even though only *anweald* in the complex and split constituent *anweald ealles middaneardes* constitutes a new referent. The post-verbal genitive attribute has already been mentioned also in the direct speech context. In example (15b), the referent *hymn* is introduced at this point in the narration. Unlike in the examples for the 9th – 11th century, where new elements in pre-verbal position are syntactically motivated, in the West-Saxon Gospels and in the examples for the 12th century, we do not only find complex predicates and adverbial adjuncts in pre-verbal position, but also new arguments.

Similarly to the other texts and time frames, however, new arguments in the West Saxon Gospels and in the texts of the 12th century can appear also in post-verbal position and are consistent with the Focus-Transparency condition, as the following examples show:

- (16) a. Þæt we nu astigað to Hierusalem & mannes sunu
 That we now go to Jerusalem and men's son
 bið geseald **sacerda ealdrum** & **bocerum & ealdrum.**
 is given priests old and scribes and old.
 'That now we go to Jerusalem, and the son of man is given to old priests and old
 scribes.'
 [cowsgosp,Mk_[WSCp]:10.33.2985]

- b. & cydde him mid writ & mid worde hu
 and told him with writings and with words how
 his bredre Peada & Wulfhere & se abbot Saxulf
 his brethen Peada and Wulfhere and the abbot Saxulf
 heafden wroht **an minstre.**
 had built a monastery.
 ‘And [he] told him with writings and with words, how his brethren Peada and Wulfhere
 and Abbot Saxulf had built a monastery.’ [cochronE,ChronE_[Plummer]:675.4.532]

In the whole context of the Chronicle, the facts narrated are not new (cf. year entry 656); however, the narration about the monastery is taken up again in this year entry (675) and the passage under consideration is the content of a letter sent to the Pope, in which the news of the building of the monastery is announced to him. For these reasons, and since the NP is preceded by the indefinite article, the sentence is labelled as containing new information.

Summarizing, we notice that the deviations from the Focus-Transparency condition in the texts from the 9th -11th century can be syntactically motivated and show a consistent behaviour; in the West Saxon Gospels and in the texts of the 12th century, however, constituents with a similar syntactic weight and similar information structural value can be mapped both in pre- and in post-verbal position, and their mapping cannot be reconducted satisfactorily to neither the prosodic weight conditions, nor to the information structural interface conditions.

In the following section, the changes at the interface will be discussed.

5.3. Changes at the interface

We can explain the language change by determining which interface conditions were more influential in the different time frames; the apparent exceptions to the assumptions given above display consistencies for the earlier texts, whereas in the texts of the 12th century we can notice that light constituents start to be mapped in pre-verbal position, both in the case they represent given and new information. It is true that from a quantitative point of view, the discrepancy of given vs new constituents in the pre-verbal domain is not very different in the different periods, but when the constituents are analysed also from a prosodic and qualitative perspective, one can notice that the nature of the constituents deviating from the framework postulated changes through time.

If one sets aside complex predicates, adverbial adjuncts and particularly complex PPs, one notices that the constituents in the texts of the 9th to the 11th century, as well as in Chronicle A, are mapped according to their IS value, i.e. given constituents in pre-verbal position and new constituents in post-verbal position. As was shown in the preceding sections, only given but contrasted constituents are mapped in post-verbal position.

We can then conclude that the mapping of constituents in earlier Old English was subject to Information Structural interface conditions, while the prosodic weight condition operated with more complex and heavier phrases than bare bones PPs (cf. examples in section 5.1).

The text of the West Saxon Gospels behaves differently from the other texts of the same time frame; in fact, we can find objects with the same syntactic weight but different IS status in the same syntactic position, as the following examples illustrate:

- (17) Syððan he hæfde **hyra fet** aþwogene he nam his reaf.
 After he had their feet washed he took his robes.
 ‘After he had washed their feet, he took his robes.’ [cowsgosp,Jn_[WSCp]:13.12.6897]

This example is embedded within the episode of the Foot Washing, when Christ washes the Apostles’ feet; the referent *feet* is discourse-given, and it is mapped in pre-verbal position; however, in example (15b), repeated here as (18), the referent *hymn* is introduced at this point in the narration. Nevertheless, it is mapped in the same position as the previous one.

- (18) Witodlice ic secge eow þæt ic ne drince heonun-ford
 Truly I say you that I not drink henceforth
 of þysum eordlican wine ær þam dæge þe ic drince
 of this earthly wine before the day that I drink
 þæt niwe mid eow on mines Fæder rice. Ða
 the new with you on my father’skingdom. As
 hig hæfdon **heora lofsang** gesunggene þa ferdon hig uppan
 theyhad their hymn sung then went they up
 Oliuetes Dune.
 Olives’ mount.
 ‘In truth I tell you that I henceforth will not drink of this earthly wine before the day that I drink the new one with you in the kingdom of my father. As they had sung their hymn, they went up to the Mount of Olives.’

[cowsgosp,Mt_[WSCp]:26.29.1876-26.30.1877]

Despite having a different IS status, these constituents have the same syntactic weight and in this text, are mapped in the same position.

Similar conclusions can be drawn for the mapping in the texts of the 12th century, which is not consistent with the IS status of constituents, but rather with their prosodic weight; let us observe example (15a) again, repeated here as (19):

- (19) Hweðer hit wen seo, þæt þu seo se ilca
 Whether it likelihoodbe that you be the same
 Hælend þe Sathanas embe spæc, ure ealder and sægde þæt he
 Saviour that Satan about spoke, our chief, and said that he
 wolde þurh þine deað **anweald**habben ealles midden-earde’s?
 wanted through your death power have all’s middle- earth’s?
 ‘Could it be possible, that you are the same Saviour, about which Satan, our chief, spoke and said that he wanted to have power over all the earth through your death?’

[conicodC,Nic_[C]:331.319]

As was already pointed out, in the texts of the 12th century and of the West Saxon Gospels, neither the IS mapping condition nor the prosodic mapping condition seem to emerge clearly; however, given the inconsistencies in the language, and the presence of light and new elements in the pre-verbal domain, we can postulate that the prosodic mapping condition was gaining ground, whereas the IS mapping condition was starting to blur.

6. PROSODIC WEIGHT FOR INFORMATION STRUCTURE

In this section, I focus on two issues: One concerns the wider discourse value of the sentence, beyond the constituent level. For example, a sentence containing a given referent can represent, as a whole, new information for the addressee.¹² I want to explore whether the mapping of constituents can be attributed to a higher discourse level, i.e. the communicative function of the sentence. The other issue concerns instances where there is more than one information structure constituent. How are such constituents distributed? The discussion is organized according to the order between auxiliary and verb in complex tenses: V-AUX clauses versus AUX-V clauses, the latter differing in the location of their objects.

6.1. V-AUX CLAUSES

These are subordinated clauses in which the non-finite verb precedes the auxiliary¹³. I found 46 such clauses, out of which 32 belong to the texts of the 9th, 10th and 11th century, while the remaining ones belong to the texts of the 12th century.¹⁴

The main property of these clauses is that they are headed by a certain type of complementizers, listed below:

þæt (*that*)
þa/þonne (*when*)
hu (*how*)
oð (*until*)
(ac) siððan (*after that*)
mid þy þe (*when/since/seeing that*)
þe (*that-rel complementizer*)
for (þan) (*since/as*)
æfter (*after*)
swa (*as/since*)
gif (*if*)

The common property of these complementizers is that they denote a temporal meaning and display a verbal form composed by: (i) the preterite of the auxiliaries *have/be*; or (ii) the present of the auxiliaries *have/be*; (iii) the subjunctive of the auxiliaries *have/ be* and the past participle. About 74% of these sentences serve as background for the action that follows; this function can be illustrated by means of the following example:

¹² An example is provided by Lambrecht (1994):

A: When did you move to Switzerland?

B: When I was seventeen.

Lambrecht argues that there is no new constituent in B's response, being the personal pronoun inherently active, and being the piece of information that B was seventeen at a certain point in her life a proposition shared by the speech participants. It is the interaction between these elements that constitutes new information for A.

¹³ In an antisymmetric approach, the movement of the non-finite verb across the auxiliary needs to be motivated; for the purpose of this paper, I assume the syntactic movements proposed in Biberauer & Roberts (2005).

¹⁴ The numbers given here refer to the YCOE sample of 121 sentences. The examples in the Anglo-Saxon Chronicle pattern with the texts of the 9th to the 11th century, whereas the data in the West Saxon Gospels pattern with the texts of the 12th century.

- (20) þa ðære nihte þe hie þæt fæsten gefæst hæfdon, þa
 When the night that they that fast fast had, then
 wæs Sanctus Michael þæm bisceope on gesihþe æteowed.
 was Saint Michael the bishop on vision appeared.
 ‘Then on the night in which they had completed their fast, St. Michael appeared in a
 vision to the bishop.’ [coblick,LS_25_[MichaelMor [BIHom_17]]:205.170.2632]

The first sentence recalls information given in the preceding passage, at the same time anchoring the narration to a certain point in time, whereas the second sentence sets forth the narration¹⁵.

In 33/34 background sentences the constituents contained consist of given referents, the only sentence containing also new referents is given in the following:

- (21) þa þa he gefylled hæfde **his uhtsang & his gebedu**, þa
 when then he filled had his service and his prayers, then
 eode he to þam abbode;
 went he to the abbot;
 ‘When he had fulfilled his service and his prayers, he went to the abbot.’
 [cogregdH,GD_1_[H]:2.21.3.179]

Even though the referents *service and prayers* are introduced here for the first time, the sentence containing the action which brings further the narration is the main clause, headed again by the conjunction *þa*. The subordinate clause, on the other hand, contains the information which precedes chronologically the new action of the passage and thus collocates it in a point in time. As can be noticed, the new constituent, which also consists of two coordinated PossPs with the same theta role, is moved to the post-verbal domain.

The remaining 12 sentences convey new information with respect to the discourse context; an example is given in the following:

- (22) & mec mine geferan bædon þæt hie **swelcra merþo** bescerede ne
 and me my comrades asked that they such glory cut off not
 wæron.
 were.
 ‘And my comrades asked me that they were not deprived of such glory.’
 [coalex,Alex:33.5.420]

In this sentence, the IS value of the single constituent is given, underlined also by the modifier *such*; however, the subordinate clause is the complement of the verb *ask*, and constitutes the content of the question. For this reason, the whole subordinate clause conveys new information, even though the value of the constituents is given and active in discourse. As can be seen from this example, however, what is influential for the placement of the constituents is their inherent IS value, not the overall discourse value of the clause.

¹⁵ Correlative structures such as these have been examined by Van Kemenade and Los (2006); they attribute to the first conjunction the role of anchoring the narration to a point in time, and to the second conjunction the role to introduce a main clause. For this reason, and for the function of these conjunctions within subordinate clauses, they are labelled *discourse markers*.

Among these sentences, only 6 consist entirely of given referents, whereas the remaining ones contain either only new referents, or both given and new referents, as in the following example:

- (23) Ic secge þis sceortlice, forðan þe ic gesett hæbbe of þisum
 I say this shortly, because that I set have of these
feower bocum wel feowertig larspella on Engliscum gereorde.
 four books well forty homilies on English language.
 ‘I say this in short, since I have set of these four books well forty homilies in the English language.’
 [colsigewZ,ÆLet_4_[SigewardZ]:921.382]

The whole sentence presents new information; the right branching adjunct *of þisum feower bocum* consists of discourse given information, since they refer to the text itself in which the example is found, whereas the complex argument is introduced here and is new in the discourse. As can be noticed, both constituents are found in post-verbal position, their respective hierarchy being right branching given adjunct > new complex constituent.

In the pre-verbal domain, right branching adjuncts can appear; these are typically made up of bare bones PPs. If the right branching constituent is more complex, as example (4b) repeated here as (24), the Givenness Condition is disrupted, and complex phrases are mapped in post-verbal position.

- (24) Eala, micel magon manega git herto eacan eade beþencan
 Alas, great may many yet hereto increaseor remember
 þæs þe ic ana on rædinge ne mihte fullice
 that that I only on reading not might fully
 asmeagan, hu earmlice hit gefaran is nu ealle hwile
 ponder how miserably it proceededis now all while
innan þisse earman forsingodreþeode
 in this wretchedsinful people.
 ‘Alas, many may yet increase or remember the greatness upon now that only in reading I cannot fully do justice to, how miserably it is proceeded now at all times among this wretched sinful people.’
 [cowulf,WHom_20.2:158.1734]

- (25) N- æs na þam anum þe Gode sylfum underþeodde syndon
 Not- is not the ones that God self subjected are
mid myclum hadum, biscopas, & cyningas, and mæsse-
 with great dignities,bishops, and kings, and mass-
preostas, & heah- diaconas, ac eac soþlice hit is
 priests, and high- deacons, but also truly it is
 beboden **sub- diaconum & munecum.**
 commanded sub- deacons and monks.
 ‘And not alone to those that are in exalted positions subject to God, as bishops, kings masspriests, arch-deacons, but is also indeed enjoined upon subdeacons and monks.’
 [coblick,HomU_20_[BIHom_10]:109.42.1385]

The information structural and prosodic composition for example (24) was already discussed above; the post-verbal constituent refers to an already activated referent, but it is mapped in post-verbal position due to its complexity.

In sentence (25) the reference of the post-verbal elements is non-specific, moreover, there is a contrast between those people belonging to high positions in the Church and those who are in lower positions (the contrast is furthermore signaled by the conjunction *ac/but*). As was stated in Section 5.1, contrasted constituents are mapped in post-verbal position in the texts of the 9th to the 11th century.

The composition of the remaining sentences with only one object shows correspondence with the postulations made above: the pre-verbal constituents are either pronouns, demonstratives, left branching or right branching constituents, with the information structural value *given*. Post-verbal constituents are new and complex.

Interesting, however, are sentences (26)-(28), in which light elements are mapped in post-verbal position; in sentence (26), the post-verbal constituent is the lexical counterpart of the pronominal subject.

The context around this sentence does not let decide whether the resumed subject *ure Drihten* is given special emphasis, but on the basis of other more clear-cut examples we can postulate that this constituent is highlighted and receives extra focus stress.

- (26) Þa mid þy þe he þis gecweden hæfde **ure Drihten**,
 when with that that he this said had our Lord,
 þa cleopode semninga þære eadigan Marian lichoma beforan him eallum.
 then called suddenly the blessed Mary's body before them all.
 'When our Lord had spoken this, then suddenly the body of the blessed Mary cried out
 before them all.' [coblick,LS_20_[AssumptMor [BIHom_13]]:147.183.1827]

- (27) And æfter þam þe he gefadod hæfde **eall his werod** swa
 And after that that he arranged had all his army so
 his þeaw wæs, þa ferde he to þam gefeohte.
 his custom was, then went he to the battle.
 'And after that he had arranged all his army, as his custom was, he went to battle.'
 [coeust,LS_8_[Eust]:305.323]

- (28) Þa æfter þam þe hi gewyld hæfdon **eall heora feonda** land
 Then after that that they subdued had all their enemies' land
 [...]. Þa gelamp hit þæt se casere Traianus wæs fordfarenær
 [...]. Then happened it that the emperor Traianus was dead
 before
 þam Eustachius of þam gefeohte come.
 that Eustace from the battle came.
 'Then after that they had subdued all the lands of their enemies, [...], it happened that the
 emperor Traianus died before Eustace arrived from the battle.'
 [coeust,LS_8_[Eust]:388.420]

These two sentences convey given information and both the concepts of *army* and *land of the enemy* are salient in the discourse; the environment does not license a contrastive interpretation, nor is it the case that the two post-verbal referents are re-activated at this point in the narration. Given that there are no textual clues to discourse for these two sentences, the conclusion can only be tentative. The presence of the universal quantifier *eall* can let us postulate that the constituents are emphasized and for this reason receive an extra stress; previous research on OE and ME showed that quantifiers retain pre-verbal order the longest and are re-analyzed as post-verbal later than other types of constituents.

The presence of two quantified constituents in post-verbal position, then, cannot be analyzed as unmarked; the sentences of this sample show that the OV word order can be disrupted in case of heaviness or contrastive and new information focus. We can conclude, then, that these two quantified constituents have to receive an extra (emphatic) stress in order to be mapped in post-verbal position.

6.2. AUX-V CLAUSES WITH ONLY PRE-VERBAL CONSTITUENTS

The sentences with only pre-verbal constituents and aux – v order are 22, of which only 2 belong to the texts of the 12th century.

These clauses are headed by the following complementizers:

swelce (*such as*)

þæt (*that*)

þa/þonne (*when*)

þe (*that rel complementizer*)

for (*þan*) (*since*)

swa (*so/as*)

gif (*if*)

The complementizer that is used in the most cases is *þæt* (*that*) (11/22) and these clauses present a wider variety of tenses and auxiliaries, including also modal verbs. The sentences functioning as background constitute the 50% of the overall sample. The sentences labeled as background in this sample differ with respect from the aux-v sentences analyzed above: whereas the majority of the v-aux background sentences are found in correlative structures and followed by a main clause headed by the discourse marker *þa*, the background clauses in this sample recall information given in the previous discourse, without necessarily embedding the new action in the discourse within the narrative context, as correlative temporal clauses typically do.

Of these, only one sentence contains a new constituent, which is however mapped before the inflected verb. The remaining 11 sentences in the sample convey new information in the discourse, of these, 8 consist of given elements, whereas two contain either both a new and a given constituent, as in sentence (30), or only a new constituent, as in sentence (13a), repeated here as (29):

- (29) þa sægde him mon þæt þær wære sum man
 then said him one that there was some man
 earmlice **deape** aswolten swa þæt he hine sylfne awyrde.
 miserably death dead so that he him self destroyed.
 ‘Then they told him that a certain man had died by a miserable death, inasmuch as he
 had destroyed himself.’ [coblick,LS_17.1_[MartinMor [BIHom_17]]:219.138.2796]

The whole sentence is labeled as conveying new information, since the clause constitutes the complement of the verb *seccgan* – to say.

As was argued in Section 5.2, the sentence consists of the complex predicate *deáðe sweltan*, whose nominal part is labeled as new.

- (30) & forþam þe we þyses gewunan n- ænne ealdordom n- abbað
 and because that we this custom no- one eldership not- have
 afandod.
 found.
 ‘Because we have experienced this custom in no eldership.’
 [cochdrul,ChrodR_1:51.16.679]

As can be observed in this sentence, the new and negated object is found before the inflected verb, following the subject and the topicalized object. These sentences constitute evidence for a rich left periphery also in subordinate clauses, which is however argued not to be subject to weight restrictions.

The sentences containing more than one constituent are 10; as the framework postulates, there are no complex heavy constituents in these sentences comparable to the very complex and post-verbal constituents found in the sentences of the v-Aux sample. These right branching constituents refer to given discourse referents. Let us observe their composition, as well as the prosodic composition of the sentences in which they are found.

In example (31) a heavy constituent precedes two lighter ones; these two lighter constituents, are, however, arguments of the verb and form one prosodic cluster with it. The prosodic clusters thus determined turn to be of equal heaviness. Also in example (32) the right branching adjunct precedes the bare noun; *gafol bedan* means *to offer a tax*; from a search in the Bosworth-Toller dictionary it does not emerge whether *gafol* and *bedan* form a collocation and thus a complex predicate, but in its composition it reminds of *deáðe sweltan* analysed above. Another case in which the light > heavy hierarchy is disrupted is example (33), in which the lexical subject precedes the pronoun. The two prosodic domains – indicated by round brackets - are of equal size.

- (31) [forþan (we ealle byð) (on þæs fulhtes bæðe), (Gode to bearnen
 Because we all are on the baptism’s bath, God to children
 gehalgode)]
 consecrated.
 ‘Since we are all consecrated as children to God on the baptismal bath.’
 [coalcuin,Alc_[Warn_35]:49.39]

- (32) Ealle þas ungesælda us gelumpon þurh unrædes. [þæt (mann n- olde
All those misfortunes us happened through ill-advice that one not- wanted
him) (to timan) (gafol bedan)].
them to time tax offer.
'All those misfortunes happened to us through ill-advice, that no one wanted to offer them
in time the tax.'
[cochronE,ChronE_[Plummer]:1011.10.1808]
- (33) forþon heo ongeat [þæt (se lifigenda Godes Sunu) (hie hæfde gesoht),]
because she perceived that the living God's Son she had sought
'For she perceived that the living son of God had sought her.'
[coblick,HomU_18_[BIHom_1]:11.161.140]

The sentences containing only one constituents display either left branching or right branching constituents, or bare nouns, which are given.

An interesting example is the following:

- (34) [þa (hie¹⁶) ða (hæfdon) (feorðan dæl þære ea geswummen)], ða
becwom
When they then had fourth part the river's swum, them befell
sum ongrislic wise on hie.
some horrible thing on them.
'As they had swum across one fourth of the river, a horrible thing befell them.'
[coalex,Alex:15.12.139]

This sentence displays a heavy and given constituent in pre-verbal position; this unit is argument of the verb and is the only constituent which occupies the pre-verbal domain. If its relative weight is compared to other sentences, the pre-verbal domain is no heavier than sentences containing for instance a light argument and a right branching adjunct.

Concluding this sub-section, we have seen that the overall discourse information of the sentence is not influential for the placement of constituents; in fact, these sentences consist of overwhelmingly given discourse referents, which are mapped in pre-verbal position. The only exceptions are represented by constituents in the C-domain, which we have argued to host a wider array of pragmatic functions, or a complex predicate, which is syntactically motivated.

Furthermore, we have seen that the absolute weight of a constituent alone is not decisive in its mapping, being it subject to the information structural value of the constituents on the one hand, and on the relative weight of the prosodic domains, of which the sentences examined consist, on the other hand.

6.3. AUX-V CLAUSES WITH ONLY POST-VERBAL CONSTITUENTS

The sentences presenting AUX-V order and only post-verbal constituents are 31, of which only 7 sentences belong to the texts of the 12th century. These sentences are introduced by the following complementizers:

¹⁶ Since the subject and the finite verb are separated by the discourse markers *þa*, I have assigned them to two separate prosodic domains.

þæt (*that*)

þa/þonne (*when*)

þe (*that rel complementizer*)

for (*þan*) (*since*)

gif (*if*)

hu (*how*)

The two most frequent complementizers are *þæt* and *forþam* (respectively 12/31 and 6/31) and it is interesting to note that all of the sentences constitute new information in the overall discourse context. The constituents in these sentences do not consist exclusively of new referents, but there are also sentences containing given referents; these are given in the following, recall examples (2a-b), (9) and (11) above:

(35) a. Ond Sanctus Arculfus sæde þæt þær hangade upmæte leohtfæt, ond ðæt
 And Saint Arculf said that there hung immense lamp and that
 wære a byrnende dæges ond nihtes ofer þara Drihtnes fota swada.
 was a burning day's and night's over the Lord's feet trace
 'And Saint Arculf said that there hung an immense lamp, and that was burning day and
 night over the trace of the Lord's feet.' [comart3,Mart_5_[Kotzor]:My5,A.33.748]

b. þæt wæs forþy ðe hi wæron benumen ægþer ge ðæs ceapes
 that was because that they were deprived both also the cattle's
 ge þæs cornes þe hi gehergod hæfdon
 also the corn's that they plundered had
 'That was because they were deprived both of the cattle and of the corn that they had
 plundered.' [cochronC,ChronC_[Rositzke]:895.1.946]

(36) swa hit bið swa ge biddað, and miccle ma, forþam ge
 so it be so you ask and much more, because you
 wæron winnende on godan life, and ge wæron forþyldiende
 were winning on good life, and you were suffering
 mænigfealde costnunga, and swa- þeahn- æron oferswipde.
 many temptations and so many still not were overpowered.
 'Let it be so as you ask, and much more, because you were winning on good life, and you
 were suffering many temptations, and despite that you were not overpowered.'
 [coeust,LS_8_[Eust]:444.465]

(37) bæd hine faran into Cent mit unfrida to Dofran. forþan Eustatius
 asked him travel into Kent with hostility To Dover because Eustace
 hæfde gecydd þam cyngre þet hit sceolde beon mare gylt þære
 had told the king that it should be more fault the
 burhwaru þonne his.
 citizens' than his.
 '[he] asked him to travel with hostility to Dover in Kent, because Eustace had told the king
 that it was more the fault of the citizens than his.'
 [cochronE,ChronE_[Plummer]:1048.35.2277]

In the first two sentences, the post-verbal and given constituents are heavy, being a complex right branching constituent in the first example, and two coordinated PPs with a dependent relative clause in the second one.

In the third example, on the other hand, the given and post-verbal constituents are contrasted, whereas the fifth example presents a given constituent in the post-verbal domain, which is neither particularly heavy, nor contrasted. Sentences (35)-(36) are coherent with the postulation of a prosodic interface condition.

In sentence (37), however, the referent *king* is active in the text under examination, and it is mentioned also in the sentence preceding the example under consideration, whereas the new information is contained in the complement clause; it has to be noted, though, that this example belongs to the Manuscript E of the Chronicle and, as far as I could see, this episode is narrated only here. It is possible, since this episode was allegedly composed under no influence from the other manuscripts, that the syntax already contains an important innovation, namely the grammaticalization of the definite determiner.

According to the analysis put forth by Breban (2012), the English definite determiner is grammaticalized at the beginning of the ME period. Even though this part of Chronicle E is contained attributed to the OE period, its text, being in the last parts composed not much later than the episodes narrated happened, may contain already the innovations that are registered in later texts.

Moreover, both the referent *king* and the complement clause contained in this sentence constitute the two arguments of the ditransitive verb *cyþan*, to announce.

Of the sentences in this section, 9 contain more than one constituent. These sentences present a difference in the information structural value of the constituents, being these for the most part new. The most constituents are either new and receive extra focus stress, or are more complex than the constituents found in the sentences with only pre-verbal objects (as in the examples shown above). Moreover, these sentences present in some cases a higher number of prosodic domains, such as in example (38a), where the whole post-verbal domain consists in the new information of the clause, being it the content of a will. Interestingly, a new subject is mapped in post-verbal position, cf. example (38b).

- (38) a. Ond nu we beodað in Godes almihtiges naman, [...],
 And now we ask in God's almighty's name [...],
 þæt twelf hida land æt Stoce butan ælcum widercwide
 that twelve hides land at Stoke except each contradicter
 sio agefen **to Wigornacestre þam bisceop- stole for**
 are given to Worcester the bishop- seat for
Ædelred ealdormon & for ealle Merce him to
 Ethelred alderman and for all Mercians him to
ecre ælmessan.
 eternal almsgiving.

‘And we ask in the name of God almighty that twelve hides of land at Stoke, apart from each contradicter, are given to the episcopal seat of Worcester for Ethelred the alderman and for all Mercians, to him in eternal almsgiving.’

[codocu3,Ch_218_ [HarmD_12]:27.9]

b. Be	ðam	sagað	Sanctus	Arculfus	þæt	he	gesawe		
by	that	says	Saint	Arculf	that	he	saw		
medmicle		cirican	butan	Bethlem	þære	ceastre,	in	ðære	
moderate		church	outside	Bethlehem	the	city,	in	that	
wæs	geseted	byrnende	leohtfæt	ge	dæges	ge			
was	set	burning	lamp	also	day's	also			
	nihte								
	night's.								

‘About that Saint Arculf says that he saw a small church outside Bethlehem, in which a burning lamp was placed day and night.’ [comart3,Mart_5_ [Kotzor]:Se30,A.3.1906]

In example (38a), the content of a will is presented; even though the referents constitute part of the encyclopaedic knowledge, they are labelled as new because they are introduced at this point in the discourse and because they constitute the content of the will, which is presented at this point in the narration. In Example (38b), the referents under examination are part of the description of a church, which is introduced for the first time in this passage; the post-verbal subject and the coordinated adverbial expression *day and night* are introduced at this point in the narration and a labelled as new.

In this subsection we have seen that the constituents which are found in post-verbal position represent either focus information, or consist of complex phrase. Moreover, we have seen that the prosodic composition of the post-verbal domain is more complex than the composition of the pre-verbal domain.

6.4.AUX-V CLAUSES WITH BOTH PRE- AND POST-VERBAL CONSTITUENTS

The sentences containing both pre- and post-verbal constituents are 22, of which 5 belong to the texts of the 12th century.

These sentences are introduced by the following complementizers:

þæt (*that*)
(ac) þa/þonne (*when*)
hu (*how*)
ac
þe (*that-rel complementizer*)
for (þan) (*since/as*)
ærþam (*before*)

The most part of the sentences are headed by the complementizer *þæt* (10) and only three sentences convey information given in the overall discourse context of the sentence.

From these examples it can be noticed that the pre-verbal domain tends to be filled with lighter and/or given constituents, whereas the post-verbal domain tends to be filled with heavier constituents, as example (39) shows:

- (39) Broþor þa leofestan, gehyrþ ge me nu ealle þæt ic beo
 Brethren the dearest, hear you me now all that I am
þys morgenlican dæge gongende of lichoman.
 this of-tomorrow day going of body.
 ‘Dearest brethren, all of you now hear that to-morrow I shall depart from the body.’
 [coblick,LS_20_[AssumptMor [BIHom_13]]:141.80.1742]

In this example, Mary announces to the apostles that she is going to die the following day; the temporal adjunct DemP *þys morgenlican dæge* is found in pre-verbal position, whereas the right branching argument of the verb is found in post-verbal position.

Another example in which the relative weight of the pre- and post-verbal domains can be observed is (4a), which is repeated here as (40):

- (40) Forlæt me and me þa leave forgif to
 Permit me and me then permission grant to
 geopenigenne þone ingang þinre þære halgan cyrcan,
 open the entrance your the holy church’s
 þæt ic ne wurde fremde geworden þære **deorwurþan**
 that I not be estranged become the precious
rode gesihde on þære gefæstnod wæs ealles middaneardes
 cross’vision on that placed was all middle-earth’s
 Hælend.
 Saviour.

‘Give me leave to open the entrance of your holy church, that I do not become estranged of the vision of the precious cross, on which the Saviour of all the world was crucified.’
 [comary,LS_23_[MaryofEgypt]:442.285]

In this example, we can clearly see that the pre-verbal domain is filled by the nominal predicate *fremde*, which is light, but represents new discourse information, whereas the post-verbal domain is filled by a heavy and given phrase, which has a relative clause as its complement.

There are some cases in which one constituent is split between the pre- and the post-verbal domain, such as in examples (41 a-d), where the constituents are split between a lighter pre-verbal part and a heavier and focused genitive attribute. The only exception to this schema is example (41d), where the post-verbal genitive attribute denotes a given entity, which is however preceded by the universal quantifier *eall*; similarly for the examples discussed in the section of v-aux clauses, there is no textual clue to interpret the post-verbal constituent as contrasted, but the similarity to other examples in which the post-verbal genitive attribute is focused lets us postulate that also this genitive attribute preceded by the universal quantifier is emphasized.

- (41) a. Ciconia in Gallia hatte þæt land þær beoð **men** acenned
 Ciconia in Gallia is-namedthat land there are men born
preosellices hiwes, þara heafda beoð gemona swa leona
 wonderful's appearances's, their heads are having-mane so lions'
 heafdo.
 heads.
 'Ciconia is called that land in Gallia, where men of a wonderful appearance are born,
 whose head has a mane such as the heads of lions.' [comarvel,Marv:12.1.70]
- b. Ðæt godspell geendað nu on þisum wordum þuss:
 The Gospel ends now on these words thus:
 Eall fulne mid gyfe & mid soðfæstnysse. On þære
 All full with grace and with faithfulness. On the
 menniscnysse he hæfde swa micele gyfe þæt he wæs **sod**
 incarnation, he had so great grace that he was true
God & sod man geboren, **Dauides cynnes,** of þam clænan
 God and true man born, David's kin's, of the clean
 mædene, an Crist wuniende on twam edwistum
 maiden, one Christ living on two substances.
 'The Gospel ends now with these words: fully complete with grace and faith. From
 the incarnation he had such a great grace, since he was born true God and true man
 from the kin of David, from the clean maiden, a Christ abiding in two substances.'
 [coaelhom,ÆHom_1:455.235-1:457.237]
- c. Þa onget Smaragdus, [...], þæt se **dæg** wæs to becumen
 then perceived Smaragdus, [...], that the day was to befall
hire geleorednysse.
 her transmigration.
 'Then Smaragdus realized, [...], that the day of her departure was to come.'
 [coeuphr,LS_7_ [Euphr]:284.297]
- d. Hweder hit wen seo, þæt þu seo se ilca
 Whether it likelihoodbe that you be the same
 Hælend þe Sathanas embe spæc, ure ealder and sægde þæt he
 Saviour that Satan about spoke, our chief, and said that he
 wolde þurh þine deað **anweald**habben ealles midden-eardes?
 wanted through your death power have all's middle- earth's?
 'Could it be possible, that you are the same Saviour, about which Satan, our chief, spoke
 and said that he wanted to have power over all the earth through your death?'
 [conicodC,Nic_[C]:331.319]

This section has shown that not only is information structure responsible for the mapping of constituents in the pre- and post-verbal position, but also that the information structural mapping conditions can be disrupted in case the pre-verbal prosodic domain would be filled with a heavy constituent. Moreover, it was shown that the overall discourse value of the clause is not influential for the placement of constituents, being their mapping driven either by their information structural

value and prosodic weight at the constituent level. In other words, if a sentence represents new information in the discourse context, but contains given referents, these are mapped in pre-verbal position according to their information structural content (cf. Section 6.2).

In section 5 it was furthermore shown that in the last stages of OE, information structural interface conditions were not influential anymore, with the presence of new but light arguments in pre-verbal position, which unlike complex predicates and adverbial adjuncts are not syntactically motivated in our framework; in the next section, we will see that the main clauses of Chronicle A present a similar composition: information structure is not influential, while the prosodic interface condition seems to regulate the spell-out of constituents in the pre- and post-verbal domains.

7. MATRIX CLAUSES

The YCOE file of the Anglo-Saxon Chronicle, MS. A, was also searched for matrix clauses with a complex verbal form, a subject and an object. The search produced a total of 26 sentences with the features specified. The percentage numbers collected for these data are in Table 2.

Table 2: Information structure constituents in matrix clauses¹⁷

Total Number of constituents	60
Of which in the CP domain ¹⁸	10
Of which pre-verbal	27
Of which post-verbal	23

Pre-verbal constituents	27
Total of given constituents¹⁹	33,3% (9/27)
Of which light	88,8% (8/9)
Of which heavy	11,2% (1/9)
Total of new constituents	66,7% (18/27)
Of which light	94,5% (17/18)
Of which heavy	5,5% (1/18)

¹⁷ This table collects the raw number of constituents in the matrix clauses of the Anglo-Saxon Chronicle, MS. A. The percentage numbers about the pre-verbal and post-verbal constituents refer to 50 constituents, since constituents in the CP are not regarded.

¹⁸ As for the analysis of the subordinate clauses in Sections 4-6, the constituents in the CP domain are not included in the following table; as was argued above for the sample of subordinate clauses, the focus of this article is on the constituents occurring in the middle-field and in post-verbal position.

¹⁹ This table is organized exactly as Table 1: The percentages about the given, new, light and heavy constituents are calculated on the overall number of pre-verbal and post-verbal constituents respectively. The percentage numbers about the combinations of the parameters is calculated on the number of the total elements in the relevant subsection (for example, the ratio of given and heavy elements in the pre-verbal field is calculated on the overall number of given constituents in the pre-verbal field).

Total of light elements	92,5% (25/27)
Total of heavy elements	7,5% (2/27)
Post-verbal constituents	23
Total of given constituents	26,1% (6/23)
Of which light	16,6% (1/6)
Of which heavy	83,4% (5/6)
Total of new constituents	73,9% (17/23)
Of which light	35,3% (6/17)
Of which heavy	64,7% (11/17)
Total of light elements	30,4% (7/23)
Total of heavy elements	69,6% (16/23)

When looking at the raw percentages of the table, one can immediately notice that it is syntactic weight which is influential for the pre- and post-verbal mapping of constituents. In fact, the discrepancy between the information structural and the prosodic weight parameter in the pre-verbal domain is high: 92,5% of constituents in the pre-verbal domain consist of light elements, whereas only 33,3% of the pre-verbal constituents refer to given referents.

The distribution of constituents in the post-verbal field is not very different from the distribution in the subordinate clauses, with a predominance of new and heavy constituents. The study on the subordinate clauses has highlighted, however, that the presence of complex given phrases is constant throughout the different time frames and text types.

What differentiates main clauses from subordinate clauses is the middle-field; albeit with different distributions through the time frames and texts, the middle-field in the subordinate clauses is reserved for given information. The evidence in the matrix clauses of Anglo-Saxon Chronicle, MS. A., shows on the contrary that the middle-field is not reserved to given constituents, but predominantly to light constituents.

The presence of new constituents in the pre-verbal domain may be motivated by considering on the one hand that main clauses set forth the narration, whereas subordinate clauses anchor the narration to a specific point in time (such as the *þa* clauses) or recall given information about a discourse referent (such as relative clauses). On the other hand, it can be argued that since the pre-field is limited in the subordinate clauses, given constituents cannot move higher than the middle-field²⁰.

In matrix clauses, on the other hand, given constituents can move to the left periphery. Even though this dataset is restricted, it raises a number of research questions; in light of these findings, we want to ask whether there is an a-symmetry between matrix and subordinate clauses, as regards the interface conditions responsible for the mapping of constituents in the middle field and in the post-verbal domain.

The investigation on the subordinate clauses has shown that the mapping of constituents in the earlier texts was driven by information structural interfaces, with the prosodic weight condition intervening in case of constituents more complex than bare bones right branching PPs.

²⁰ I owe this observation to Svetlana Petrova (p.c.).

A second research question arising from this observation aims at investigating the factors responsible for this a-symmetry; how can they be motivated?

Finally, the third question addresses the diachronic development of the VO word order in the English language; we have seen that the information structural interface conditions are not influential in the last stages of the Old English language, whereas a distribution consistent with the postulation of a relative weight condition can be found. Considering that the preliminary investigation on matrix clauses has highlighted that the weight condition is influential for the placement of constituents already at an early stage, one might wonder whether the weight condition has transferred to the subordinate clause and why, and whether this could be one of the factors triggering the grammaticalization of the VO word order.

An important innovation takes place at the beginning of the Middle English period, namely the grammaticalization of the definite determiner. If all branching constituents are then analysed as heavy and start to be mapped in the post-verbal position, then we would expect that DPs with a definite determiner start to be mapped in post-verbal position due to their heaviness, leaving only non-branching constituents in the middle field, which is subject to the weight condition.

In order to answer these questions, a wider sample of matrix clauses will be collected and analysed; moreover, also a sample of clauses coming from the different Early Middle English dialectal areas will be analysed.

8. CONCLUSIONS

In this paper, a preliminary sample of 161 subordinate clauses and a sample of 26 matrix clauses containing a subject, at least one object and a complex verbal form were examined, in order to determine whether the mapping of constituents in the pre-verbal and the post-verbal domain can be derived by information structural and prosodic mapping interface conditions, within an antisymmetric approach.

After discussing the theoretical framework and the methods, Sections 4-6 were devoted to the analysis of the subordinate clauses.

The quantitative analysis in Section 4 has shown that the pre-verbal domains in the different time frames and texts favour given and/or light elements, whereas the post-verbal domains show a preference for focused and/or heavy constituents; even though the statistical findings are in line with the postulations presented in Section 2, it has been noted that there are constituents which deviate either from information structural interface conditions, namely given constituents in the post-verbal domain and new constituents in the pre-verbal domain, as well as from the prosodic mapping condition, namely heavy constituents in the pre-verbal domain and light constituents in the post-verbal domain.

The study in Section 5 aimed to find whether a qualitative analysis of the sentences could shed light on the constituents challenging our theoretical claims. In Section 5.1, the given constituents are analysed; it emerges that for the texts of the 9th to the 11th century the given and post-verbal constituents, challenging the Givenness Transparency condition, consist of complex phrases, heavier than bare bones PPs, or are contrasted. The heavy and complex given phrases are consistent with the Prosodic conditions, whereas the contrasted constituents are consistent with the Focus-Transparency condition, since they receive contrastive focus accent. The remaining given constituents, provided they are not complex or contrasted, are mapped in pre-verbal position, confirming the postulation of a Givenness-Transparency condition.

Section 5.2. was devoted to the study of the new constituents; also in this Section, it emerges that for the texts from the 9th to the 11th century the constituents challenging our claims show a consistent behaviour: pre-verbal and new constituents have a precise nature; they consist either of nominal parts of complex predicates or adverbial adjuncts. It was argued that their mapping is driven by syntactic requirements.

When one abstracts away from these precise cases, the mapping of new constituents is consistent with the Focus-Transparency condition, and they are found in post-verbal position.

However, in both sections 5.1 and 5.2 it emerges that the text of the West Saxon Gospels and the texts of the 12th century show a different behaviour from the texts of the 9th to the 11th century. In fact, in these texts also given post-verbal constituents can be found, which are neither extremely complex or contrasted, as well as new and pre-verbal arguments of the verb. It has been noted, however, that these texts show a distribution of constituents which favours lighter arguments in the pre-verbal domain and heavier ones in the post-verbal domain, regardless of their Information Structural status.

In Section 5.3 it was argued that the earlier texts show a distribution of constituents consistent with the postulation of information structural interface conditions, their disruption being only possible when constituents more complex than bare bones PPs are found. The later texts do not show a clear mapping, but it was concluded that the sentences show a preference for lighter constituents in the pre-verbal domain and heavier constituents in the post-verbal domain, probably signalling the blurring of Information Structural requirements and the emergence of a prosodically conditioned grammar.

Sections 6.1 – 6.4 were devoted to the prosodic composition of the sentences: not only was the weight of the single constituents measured, but also the distribution of prosodic domains in the clause. Moreover, the whole discourse content of the sentence was taken into consideration.

In Section 6.1 sentences presenting the order V-Aux were analysed: they consist for the most part of given referent, which are mapped in post-verbal position in case they are made up of complex constituents. New constituents are mapped in post-verbal position.

In section 6.2. sentences presenting the order Aux-V and only pre-verbal constituents are analysed; despite the fact that some of these sentences represent overall discourse information, the constituents contained represent given referents. The prosodic analysis shows that right branching constituents are not excluded from these sentences, but they either form a prosodic cluster of equal size with respect to the other ones, or they middle-field is not occupied by other prosodic domains.

Section 6.3 presents sentences with the order Aux-V and only post-verbal constituents; the constituents found in these sentences are either heavy, or focused. Moreover, these sentences also present a higher number of prosodic domains and a more complex organization of the clause.

Section 6.4 presents the analysis for the sentences with both pre- and post-verbal constituents; these are arranged according to the hierarchy lighter constituents > v > heavier constituents.

Section 6 has therefore shown that, even though information structural interface conditions were influential for the placement of constituents, also the weight of the constituents and the formation of the prosodic domains are influential for the organization of the clause. The prosodic interface condition, as stated in (ii), has proved to partially motivate the mapping of constituents. This definition, in fact, treats right branching constituents as being equally heavy; however, the examination of the prosodic domains and the comparison of the pre- and post-verbal constituents has shown that a right branching constituents is not excluded from the pre-verbal domain, provided

it is not complex or the prosodic domain in which it is contained is of equal size with respect to the prosodic clusters found in the same sentence.

Finally, Section 7 has presented the quantitative evidence for a sample of 26 matrix clauses, taken from the text of the Anglo-Saxon Chronicle, ms. A. These preliminary results highlight that the information structural mapping conditions are not influential in the matrix clauses, with a high presence of new elements in the pre-verbal domain; however, the pre-verbal domain shows a clear preference for light elements. This Section raises a number of questions regarding a possible asymmetry between matrix and subordinate clauses on the one hand, and the development of the VO order which has taken place in the transition from OE to ME on the other hand.

Concluding, this paper shows that both Information Structural and Prosodic interface conditions are responsible for the placement of constituents in the OE subordinate clauses, with a marked preference in the earlier texts for the information structural interface conditions. The prosodic condition is better captured as a condition on the relative weight of the constituents and of the prosodic domains in the pre- and post-verbal domains, rather than an absolute requirement on the branchingness of constituents.

Since the sample is restricted, further research is needed on matrix clauses and on the subsequent development of the ME language in order to test further the adequacy of the model.

REFERENCES

- Bately, Jane. 1986. *The Anglo-Saxon Chronicle, A collaborative edition, 3, MS. A: a semi-diplomatic edition with introduction and indices*, Cambridge: Boydell & Brewer Ltd.
- Biberauer, Theresa & Roberts, Ian. 2005. Changing EPP parameters in the history of English: Accounting for variation and change. *English Language and Linguistics*, 9(1), 5-46. doi:10.1017/S1360674305001528
- Biberauer, Th.- Roberts, I. 2012. Towards a Parameter Hierarchy for Auxiliaries: Diachronic Considerations. *Cambridge Occasional Papers in Linguistics*, 6, 267-294. ISSN 2050-5949
- Bosworth, Joseph. *An Anglo-Saxon Dictionary Online*. Ed. Thomas Northcote Toller and Others. Comp. Sean Christ and Ondřej Tichý. Faculty of Arts, Charles University in Prague, 30 Mar. 2014.
- Breban, Tine. 2012. Functional Shift and the Development of English Determiners. In Meurman-Solin, Anneli, López-Couso, Maria Jose & Los, Bettelou (eds.), *Information Structure and Syntactic Change in the History of English*, Oxford: Oxford University Press, 271-300.
- Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. Oxford: Oxford University Press.
- Clark, Cecily. 1970. *The Peterborough Chronicle*, Second Edition, London: Oxford University Press.
- Coniglio, Marco & Schlachter, Eva. 2014. Referential Properties of the full and reduced forms of the definite article in German: A diachronic survey. In Bech, Kristin & Eide, Kristine Gunn (eds.), *Information structure and Syntactic Change in Germanic and Romance languages*, Amsterdam: John Benjamins Publishing Company, 142-171.
- Crisma, Paola. 2011. The emergence of the definite article in English: A contact-induced change?. In Sleeman, Petra and Perridon, Harry, *The Noun Phrase in Romance and Germanic*:

- Structure, variation and Change*, Amsterdam: John Benjamins Publishing Company, 175-191.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge: MIT Press.
- Fuss, Eric & Trips, Carola. 2002. On the validity of the Double Base Hypothesis. In *Journal of Comparative Germanic Linguistics* (4), Kluwer Academic Publishers, 171–224.
- Hinterhölzl, Roland. 2014. On the interaction between syntax, prosody and information structure: An interface approach to word order developments in Germanic. *Information Structure and Syntactic Change in Germanic and Romance Languages*, Amsterdam: John Benjamins Publishing Co., vol. 213, pp. 341-376.
- Hinterhölzl, Roland. 2015. An interface account of word-order variation in Old High German. In Biberauer, Theresa & Walkden, George (eds.), *Syntax over Time* (15), Oxford: Oxford University Press, 299-318.
- Hinterhölzl, Roland & Petrova, Svetlana. 2009. *Information Structure and Language Change: New approaches to word order variation in Germanic*, Berlin: Mouton de Gruyter.
- Hinterhölzl, Roland & van Kemenade, Ans. 2012. The interaction between syntax, information structure, and prosody in word order change. In Nevalainen, Terttu & Traugott, Elizabeth (eds.), *The Oxford Handbook of the History of English*, Oxford: Oxford University Press, 803-821.
- Hróarsdóttir, Thorbjörg. 2000. *Word Order Change in Icelandic: From OV to VO*. Amsterdam: John Benjamins Publishing Company.
- Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge: MIT Press.
- Komen, Erwin. <http://erwinkomen.ruhosting.nl/software/CorpusStudio>, Radboud University Nijmegen, Centre for Language Studies.
- Krifka, Manfred. 2007. Basic notions of information structure. In Féry, Caroline, Fanselow, Gisbert & Krifka, Manfred (eds.), *Interdisciplinary Studies on Information Structure* (6), Potsdam, 13-55.
- Lambrecht, Knud. 1994. *Information structure and sentence form: Topic, focus and the mental representations of discourse referents*, Cambridge: Cambridge University Press.
- Mitchell, Bruce. 1985. *Old English Syntax: Concord, the Parts of Speech and the Sentence*. Oxford: Clarendon Press.
- Mitchell, Bruce & Robinson, Fred C. 2001. *A guide to Old English. Sixth Edition*. Oxford: Blackwell Publishers.
- Miller, Thomas. 1890 (1959). *The Old English Version of Bede's Ecclesiastical History of the English People*. The Early English Text Society. London: Oxford University Press.
- Morris, Richard. 1874 (1967). *The Blickling Homilies*. The Early English Text Society. London: Oxford University Press.
- Petrova, Svetlana & Speyer, Augustin. 2011. Focus Movement and Focus Interpretation in Old English. In *Lingua* (121), www.elsevier.com/locate/lingua, 1751-1765.
- Philippi, Julia. 1997. The rise of the article in the Germanic languages. In van Kemenade, Ans & Vincent, Nigel (eds.), *Parameters of Morphosyntactic Change*, Cambridge: Cambridge University Press, 62-93.
- Pintzuk, Susan. 1999. *Phrase Structures in Competition: Variation and Change in Old English Word Order*, New York: Garland.
- Pintzuk, Susan & Taylor, Ann. 2012a. Verb Order, Object Position and Information Status in Old English, *York Papers in Linguistics*, Series 2, 29-52.

- Pintzuk, Susan & Taylor, Ann. 2012b. The effect of Information Structure on Object Position in Old English: A Pilot Study. In Meurman-Solin, Anneli, López-Couso, Maria Jose & Los, Bettelou (eds.), *Information Structure and Syntactic Change in the History of English*, Oxford: Oxford University Press, 47 – 65.
- Roberts, Ian. 1997. Directionality and Word Order Change in the History of English. In van Kemenade, Ans & Vincent, Nigel (eds.), *Parameters of Morphosyntactic Change*, Cambridge: Cambridge University Press, 397–426.
- Skeat, Walter William. 1871(1970). *The Four Gospels in Anglo-Saxon, Northumbrian and Old Mercian Versions*. Cambridge: CUP.
- Sweet, Henry. 1871 (1973). *King Alfred's West Saxon Version of Gregory's Pastoral Care*. The Early English Text Society. London: Oxford University Press.
- Taylor, Ann -Warner, Anthony. – Pintzuk, Susan. – Beths, Frank. 2003. The York-Toronto-Helsinki Parsed Corpus of Old English Prose (YCOE), University of York, Heslington, York England YO10 5DD
- Uhmann, Susanne. 1991. *Fokusphonologie. eine Analyse deutscher Intonationskonturen im Rahmen der nicht-linearen Phonologie*. Tübingen: Niemeyer.
- Van Gelderen, Elly. 2007. The Definiteness Cycle in Germanic. *Journal of Germanic Linguistics*19: 275–308.
- Van Kemenade, Ans & Los, Bettelou. 2006. Discourse Adverbs and Clausal Syntax in Old and Middle English. In van Kemenade, Ans & Los, Bettelou (eds.), *The Handbook of the History of English*, Oxford: Blackwell Publishing.
- Van Kemenade, Ans. 2009. Discourse relations and word order change. In Hinterhölzl, Roland & Petrova, Svetlana (eds.), *Information structure and language change: new approaches to word order variation in Germanic*, Berlin: Mouton de Gruyter, 91-117.