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CHAPTER 2

From OV to VO in English

How to Kroch the nut

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The paper addresses word order change in the history of English and proposes a novel account arguing that an intricate combination of two factors led to the pertinent changes. In particular, I will address the data and generalisations in Kroch and Taylor (2000) and outline a scenario that may be seen as a first step towards cracking the nut posed by them. To this end, I argue that the grammaticalization of the definite determiner at the end of the Old English (OE) period in combination with the loss of Case in early Middle English (eME) destroyed the balances in a system in which mixed word orders were determined by information structural and prosodic conditions and led to a reanalysis in the interface between syntax, prosody and information structure.

1. Introduction

The change of word order in the history of English is one of the most studied issues in diachronic generative syntax. While the standard account (van Kemenade 1987; Lightfoot 1991; Fuß 1998) assumed a sharp divide in word order between Old and Middle English (OE and ME), Pintzuk (1991 and much subsequent work) has established that already in the OE period, the language displayed mixed OV/VO word order, suggesting that there was a gradual change from a language with flexible word order towards a system with fixed (or rigid) word order, rather than a simple parameter change based on a catastrophic reanalysis in the 12th century, as has been argued for by Lightfoot (1999).

The factors that were held responsible for the presumed parameter change are the contact with Norse (cf. Weerman 1993; Fuß & Trips 2002) and the loss of Case morphology at the end of the OE period (cf. van Kemenade 1987; Fuß 1998). The first hypothesis is rather popular, but problematic and is part of the double base hypothesis to which I will return below. The latter hypothesis is rather appealing, but raises some doubts, if seen as the sole factor in this change, when we consider

the development of Icelandic and Dutch, with the former preserving Case morphology but nevertheless changing to basic VO order and with the latter losing Case morphology but preserving OV word order. This left the account in terms of the double base hypothesis and grammar competition as the only game in town.

While the subsequent research on the topic brought forward a number of excellent quantitative studies on this change (cf. Kroch & Taylor 2000; Pintzuk & Taylor 2006) that describe in detail what changes in which numbers in which texts, the question of why these changes occur is basically still unanswered.

The present paper will address this lacuna and propose an account in which the impact of an intricate combination of two factors arguably led to the changes reported in the quantitative studies just mentioned. In particular, I will address the data and generalisations given in Kroch & Taylor (2000) and outline a scenario that accounts for the facts reported and may be seen as a first step towards cracking the nut posed by Kroch and Taylor. To this end, I argue that the grammaticalization of the definite determiner at the end of the OE period in combination with the loss of Case in eME destroyed the balances in a system in which mixed word orders were determined by information structural and prosodic conditions and led to a reanalysis in the complex interaction between syntactic structure, prosody and information structure. The paper is organized in the following way. Section 2 discusses word order variation in OE. Section 3 presents the complex system of prosodic and information-structural conditions that can be taken to account for this variation. Section 4 outlines a scenario in which the major changes in eME word order reported by Kroch & Taylor are related to the loss of Case and the prosodic impact of the grammaticalisation of the definite determiner. Section 5 summarizes the paper.

2. Word order variation in OE

As is well known, OE displays word orders that are familiar from strict OV languages, as in (1a), as well as word orders that are typical of strict VO languages, as in (1b). We also find so-called mixed word orders that combine properties of OV-languages with properties of VO-languages, as illustrated in (2).

- (1) a. O V Aux
gif heo þæt bismor forberan wolde (Taylor & Pintzuk 2012: 1)
 if she that disgrace tolerate would
 ‘if she would tolerate this disgrace’
- b. Aux V O
swa þæt heo bið forloren þam ecan life (Taylor & Pintzuk 2012: 1)
 so that it is lost the eternal life
 ‘so that the eternal life is lost’

- (2) a. V Aux O
þæt he friðian wolde þa leasan wudewan (Taylor & Pintzuk 2012: 1)
 that he peace-make would the false widow
 ‘that he wanted to appease the false widow’
- b. Aux O V
Ac he sceal þa sacfullan gesibbian (Pintzuk & Taylor 2006: 1)
 But he must the quarrelsome reconcile
 ‘But he must reconcile the quarrelsome’

The correct analysis of this variation is a highly disputed issue. Note, for instance, that the word order in (1a) and (2b) can be accommodated within an OV-grammar (the latter as a case of verb projection raising), (1b) calls for the presence of a VO-grammar, while (2a) can neither be accommodated in an strict OV-grammar of the modern German type nor in a strict VO-grammar of the modern English type. This is so, since German does not allow for extraposition of non-complex arguments and English does not allow for the preposing of non-finite verbs. Taylor and Pintzuk (2012) argue that the data call for variation in the head-complement parameter in the VP (or vP, in modern terminology) and in the IP.

Pintzuk (1999) was the first to argue that OE must have had a VO-base, since one can find light arguments and light adverbs in postverbal position, which are not subject to extraposition in OV-languages like modern German or modern Dutch. To account for the preverbal occurrence of arguments and predicates, Pintzuk (1999) proposed the presence of an additional OV-basis that is in competition with the VO-basis (cf. double base hypothesis).

Roberts (1997) showed how mixed OV/VO orders in OE can be derived from a unique VO-base plus a number of optional leftward movement operations familiar from modern German and Dutch. I assume that these movement operations are obligatory in OE and propose that word order variation is due to spell-out options (in the copy theory of movement) that are fixed by interface conditions (cf. also Nunes 2004). Thus I analyse (all) superficial OV-orders as the object being spelled out in (a licensing position in the) IP and (all) superficial VO-orders as the object being spelled out in its base position in the VP. Furthermore, I assume, following Cinque (1999) that adverbs are base generated in the specifiers of dedicated functional heads in the IP. I adopt Chomsky’s (2001) notion of phases, in which the vP and the CP constitute strong phases and the IP a separate phase. Finally, I adopt a refinement of phase theory made in Hinterhölzl (2009), in which the domains projected by predicates on the event argument constitute separate phases. This means that adjuncts and subjects in the T-domain constitute separate phases from the phases projected by the verb and its arguments. This distinction will be relevant when we discuss the conditions on prosodic domain formation in Section 3.2.

In Section 3, I outline the interface conditions assumed to fix these spell-out options. Below, I will discuss in more detail two factors being held responsible for word order variation in older Germanic, namely prosody and information structure (cf. Hróarsdóttir 2000 for OI; Hinterhölzl 2010 for OHG; Taylor & Pintzuk 2010 for OE), reporting on the empirical results of Taylor & Pintzuk (2012).

2.1 The effect of information structure

There is a vast literature on the role of information structure on word order. While focused elements tend to strive towards the right edge of the clause, elements belonging to the background of an utterance tend to move leftwards.¹ It is still an open issue whether this rough generalization is the result of prosodic conditions operating on the PF-side of the derivation or due to genuine information structural conditions that operate on the LF-side of the derivation. This is so since given elements belonging to the background of an assertion are typically prosodically weak, unstressed elements realized in terms of (light) pronouns, while focused elements receive an accent and alone for this reason may not only be weighty from an informational point of view but may also count as heavy from a prosodic point of view.

Taylor and Pintzuk (2012), henceforth T&P, consider the impact of the category discourse status on word order, that is, the distinction between given and new, which is roughly comparable to the distinction between background and focus but not identical to it, since given elements can be focused, as illustrated in (3).

- (3) A: *Would you like to have tea or coffee?*
B: [*I would like to have*] *tea.*

In the answer in (3B), the direct object is both discourse-given and focused (it is a case of selective focus). Furthermore, discourse status only applies to (referential) categories and leaves out the information status of verbs and cases of wide focus. As we will see below, this choice may have led them to erroneous conclusions.

T&P investigate the post-verbal or pre-verbal placement of referential non-pronominal objects in V Aux and Aux V clauses and find that the discourse status indeed has the expected effect on word order, namely that new objects favour post-verbal position. However, they note that the difference between given and new is much greater and only significant in V Aux clauses: while only 9.7% of given

1. An anonymous reviewer points out that this rough generalization runs up against the observation that many languages exhibit left-peripheral focus positions. This is basically correct in so far as contrastive focus is concerned while constituents representing new information (focus) typically remain in situ in those languages, as in Hungarian and Italian (cf. literature).

objects appear post-verbally in V Aux clauses, 20.5% of new objects appear post-verbally in this clause type. It is interesting to note that the number of post-verbal objects (both given and new) is much higher in Aux V clauses, with 45% of given objects and 50.3% of new objects appearing in post-verbal position. In this respect, it would be interesting to investigate whether the higher number of post-verbal objects in Aux V clauses is due to a wide focus interpretation of verb and object.

2.2 The effect of grammatical weight

In the traditional literature on word order in Germanic, word order variation is argued to be due to stylistic factors. Most prominent among these proposals is Behaghel's law of growing members (Behaghel 1932), which states that word order is largely determined by the grammatical/prosodic weight of a constituent. The basis of the law is the generalization given in (4).

- (4) Pronouns and unmodified nouns precede the verb, while modified nouns, PPs and other heavy phrases tend to follow the verb in OI, OE and OHG

T&P measure grammatical weight in terms of numbers of lexical words (putting aside the impact of functional words) and note that for each additional open class word, an object is more likely to appear post-verbally in both V Aux and Aux V clauses. In this case the effect is significant for both clause types. To have an idea of the concrete numbers: for one-word objects, 5.3% appear post-verbally in V Aux clauses and 34.8% in Aux V clauses; for two-word objects, 25.9% appear post-verbally in V Aux clauses and 56.4% in Aux V clauses, and for three-word objects, 35.7% appear post-verbally in V Aux clauses and 88.5% in Aux V clauses. T&P, however, do not discuss what might cause the differential effect of the factor weight in Aux V and V Aux clauses.

2.3 The interpretation of these effects

We have seen in the previous section that the impact of the two factors considered differs crucially for V Aux and Aux V clauses. T&P argue that this difference is hard to reconcile with a grammatical analysis in which all post-verbal objects are triggered by the same discourse/performance constraints and propose that this fact calls for the consideration of a third independent factor which they identify with the on-going change from head final TP to head initial TP. The latter they consider as a prerequisite for the change from head final VP to head initial VP. They do not consider that the higher number of post-verbal objects in Aux V clauses could be

due to the factor grammatical weight, given that verb and object seen as a constituent are at least one word heavier than the average object in parallel V Aux clauses.

In other words, they argue that the impact of information status is confined to V Aux clauses and do not consider the possible role of grammatical weight in the higher numbers of post-verbal objects in Aux V clauses. Instead they postulate an independent factor, namely the rise of Aux V clauses that allows for more subsequent VO orders (given that the order V O Aux is excluded in principle). To be concrete, they argue that the different numbers of post-verbal objects in V Aux clauses and Aux V clauses is due to two types of object positions: in V Aux clauses a post-verbal object is subject to postposition, while in Aux V clauses a post-verbal object is either postponed or in its base position in a head initial VP. Their data also show that there is a steady rise of post-verbal objects in Aux V clauses throughout the OE period (a rise that is also visible in V Aux clauses, but less acute). They acknowledge the decisive impact on word order of grammatical weight but do not assign it any role in the increasing use of head-initial orders. I surmise this is so, since in their analysis of Aux V O orders they do not assume that V O may be a constituent that needs to be evaluated in its positioning in the main clause with respect to the factors IS and grammatical weight. In the following section, I will argue that it is indeed the factor grammatical weight that is responsible for the parallel rise of VO and Aux V word orders.

3. On the complex interaction between syntax, prosody and information structure

In this section, I provide an outline of the interface between syntax, prosody and information structure and argue for a number of mapping conditions that provide relevant conditions on word order in English. In Section 3.1, I will argue that grammatical weight needs to be captured in terms of a metrical condition on the mapping between syntactic structure and a prosodic structure. In Section 3.2, I show how this condition can be embedded in a general account of the interface between syntax and prosody. In Section 3.3, I outline the complex interaction between information structure and prosody.

3.1 The weight condition as a prosodic condition

Event-related adverbs that may occur between the subject and the verb are subject to a condition in modern English that is absent in German, as is illustrated in (5). The restriction in (5) is reminiscent of a parallel restriction in the nominal domain,

illustrated in (6) and first discussed by Emonds (1976) and Williams (1982). The empirical generalization seems to be that an adjunct may not be extended to the right, if it precedes the modified verbal or nominal phrase, while no such restriction applies in the post-verbal or post-nominal domain. Williams (1982) accounted for these so-called head final effects (HF-effects) with the head final filter, given in (7).

- (5) a. *John (more) often read the book than Peter*
 b. **John more often than Peter read the book*
 c. *Hans hat öfter (als der Peter) das Buch gelesen*
- (6) a. *a (very) proud man*
 b. **a proud of his mother man*
 c. *a man proud of his mother*
- (7) Head Final Filter (HFF):
 A pre-modifier must be adjacent to the modified head

In Hinterhölzl (2014), I have argued that HF-effects should be treated as prosodic in nature. One argument comes from the observation that HF-effects in English disappear if the adjunct is epenthetic, constituting a separate intonational domain, as is indicated by the comma intonation in (8b).

- (8) a. **John more often than Peter visited Mary*
 b. *John, more often than Peter, visited Mary*

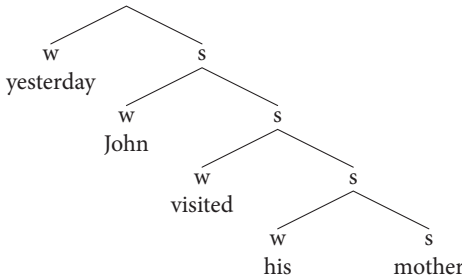
The observation that the HF-effects are ameliorated if adjunct and verb are mapped into separate intonational phrases clearly speaks in favour of a condition that applies in the formation of prosodic constituents. In Hinterhölzl (2014), it is argued that HF-effects derive from a metrical restriction that applies in the mapping between syntactic structure and prosodic structure. The general idea is that there are weight-effects in prosodic domain formation of clauses as there are weight-effects in prosodic domain formation of words, as discussed in Halle & Vergnaud (1987). Like a heavy syllable cannot occupy a recessive branch if prosodic word formation is weight-sensitive, a heavy syntactic phrase must occupy a dominant branch in the prosodic structure that is mapped from syntactic structure in a weight-sensitive domain.

Here the reader may pose the question of what is meant with a weight-sensitive domain. It has been observed that HF-effects at the clausal level never appear with adjuncts or specifiers in the C-domain. This can be made sense of by observing that the C-domain, next to clausal typing, serves to indicate information-structural categories like topic and focus that are relevant for interpretation at the LF-interface. In other words, the spell-out of a wh-phrase, for example, is not restricted by its prosodic weight. This suggests that a given phase may be either LF-transparent or

PF-transparent but not both and that the C-domain is typically LF-transparent barring weight-effects, which may be considered to be due to conditions typically applying in PF-transparent domains.

Returning to the consequences of HF-effects on word order, note that the metrical evaluation of a binary branching, anti-symmetric tree which assigns the metrical label strong (s) to the right branch at each level, immediately makes clear why something like the weight condition should apply to adjuncts to the left and why the effect is dismissed if the adjunct appears to the right of the modified head. In such a metrical tree, constituents to the left of the verb sit on a weak branch, while constituents to the right of the verb sit on a strong branch, as is illustrated for a simple English sentence in (9). The resultant condition, given in (10), is motivated in detail in Hinterhölzl (2014). The reader is referred to this paper for further discussion.

(9) Yesterday John visited his mother



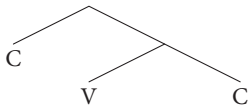
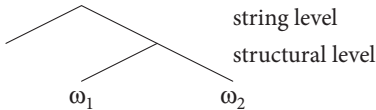
(10) Weight-sensitivity

A specifier in a weight-sensitive domain that constitutes a heavy syntactic phrase must be mapped onto a strong branch in prosodic structure²

At this point the question arises as to when a syntactic phrase counts as heavy in prosodic structure. I propose that there is the following parallelism between syntactic structure and metrical structure (formerly only understood as pertaining to syllables), as is illustrated in (11). Metrically evaluating the string of sounds (σ CVC) means determining on the basis of the structural level that the syllable is bi-moraic (since both nucleus and coda are filled) and hence counts as heavy (H). Metrically evaluating the string (*proud of his mother*) means determining on the basis of the structural level that the phrase is head branching, since both head and

2. An anonymous reviewer asks what happens in the case of a ditransitive verb with two heavy objects, given that one of them would surely violate weight-sensitivity. As I will argue below the v-domain is not weight-sensitive, allowing for the post-verbal placement of given, but heavy objects. Consequently, weight-effects are properly restricted to the I-domain (I also know of no language where weight-effects appear in the C-domain).

complement are filled and thus counts as heavy (H). These considerations suggest the definition of heaviness of a syntactic phrase as defined in (12).

- (11) a. H
(σ CVC)
- 
- b. H metrical evaluation
(φ (ω_1 proud) (ω_2 of his mother))
- 

- (12) A syntactic phrase XP counts as heavy if both its head X and the complement of X contain lexical material

To summarize, weight-effects are derived, if we assume that the mapping between syntactic structure and prosodic structure is weight-sensitive in a given domain. According to the weight condition, light elements, in the absence of other interface conditions, can be spelled out either in the I-domain or in the V-domain, while heavy elements can only be spelled out in the V-domain (in a purely right-branching syntactic structure). To account for the preverbal occurrence of pronouns, verbal particles, and stranded prepositions in OE, I assume the following default rule for the spell-out of constituents that are not subject to any interface conditions, given in (13).

- (13) Preference for the higher copy
A constituent is spelled out in its checking position rather than in its base position, unless interface conditions demand its spell out in the base position

The important question now becomes how the assumptions that I have made about the interaction between syntax and prosody fit into the general picture that has been drawn about the interface between syntax and PF in the literature. To this question we turn in the following section.

3.2 The mapping between syntactic structure and prosodic structure

In this section, I will explore the issue of how this account of weight-sensitivity fits with general assumptions about the interaction between syntax and phonology. I will outline a stress-first based approach to the mapping between syntactic structure

and prosodic structure and discuss how a relation-based approach to this mapping can be modified to achieve a stepwise phase-based mapping that goes in parallel with the syntactic computation.

Since we have seen above that prosodic domain formation is sensitive to the metrical properties of syntactic constituents, a stress-first based approach which assumes that accent placement is determined by the metrical properties of prosodic constituents serves us well. Thus I will adopt this approach without further discussion (cf. Ladd 1996 for arguments against an accent-first based approach along the lines of Selkirk 1995).

In the literature, we find two basic types of approaches to deriving prosodic constituents from syntactic structure: end-based accounts and relation-based accounts. The accounts differ in the assumption of how much syntactic information is necessary and thus visible in the interface.

End-based accounts (cf. Selkirk 1984) assume that it is sufficient for the construction of prosodic constituents that the boundaries of syntactic constituents are visible at the interface, and define general mapping rules (called rules of alignment) that match syntactic boundaries with prosodic boundaries. This type of approach is not suited for our purposes, since we have seen above that in a weight-sensitive mapping, prosody must have access to particulars of syntactic structure. Relation-based accounts (Nespor & Vogel 1986) assume that prosodic constituents are built around lexical heads on the basis of the relations that these heads entertain to adjacent constituents. This approach serves us better, since it allows us to assume that prosodic composition starts with lexical heads, joining arguments and adjuncts in the course of the derivation, opening up the possibility of applying metrical conditions on the output of this mapping procedure at specific points in the derivation.

Furthermore, relation-based accounts assume that prosody must have access to syntactic structure. For instance, several researchers (Gussenhoven 1983; Krifka 1984) have pointed out that a verb can form a prosodic constituent with an adjacent argument but not with an adjacent adjunct, as is illustrated in (14). As a consequence, main stress (which is generally placed on the last prosodic constituent within the intonational phrase) falls on the PP-argument in (14a), but on the verb in (14b). In the following, I will use round brackets to indicate phonological phrases, square brackets to indicate intonational phrases and underlining (of the prosodic word) to indicate main stress.

- (14) a. [(*weil Hans*) (im Zelt *blieb*)]
 since John in the tent remained
 b. [(*weil Hans*) (im Zelt) (rauchte)]
 since John in the tent smoked

If prosody has access to the different syntactic status of complements, specifiers and adjuncts, then specific mapping rules can be formulated for the prosodic composition of a head with these constituents. In the framework that I have been adopting, complements (internal arguments), subjects and modifiers all occupy specifiers in the I-domain, with complements being spelled out in their base positions in VO-languages and in their derived positions in OV-languages. In this approach, prosody cannot make use of these syntactic distinctions. Also directionality parameters like those used by Wagner (2005) should be obviated in anti-symmetric syntax (cf. Kayne 1994; Chomsky 1995).³

To account for the differences illustrated in (14), I propose two modes of prosodic composition which are phase-based, as defined in (15) below. The underlying idea is that adjuncts being separate predicates on the event argument of the verb form separate phases from the phases projected by the verb. Subordination pertains to a lexical head and its arguments – irrespective of their order – that is, to elements that belong to the same phase, while coordination applies to a lexical head and a modifier, that is, to elements that belong to separate phases in the present account. Thus, it is the phase-status that determines the mode of prosodic composition in this approach.

(15) Modes of prosodic composition

- a. subordination: (DP) + V → ((DP) V)
- b. coordination: (PP) & V → (PP) (V) where PP is an adjunct

While subordination creates a single prosodic constituent, coordination simply maps these phrases into separate prosodic constituents that may be joined into a single prosodic constituent at the sentence level, that is, within one intonational phrase.

It is important to note that subordination as defined in (16a) creates recursive prosodic structures and thus violates the Strict Layer Hypothesis (cf. Selkirk 1984; Nespor & Vogel 1986). However, Ladd (1986), Selkirk (1995), Peperkamp (1997) and Truckenbrodt (1999) provide arguments for the availability of recursive prosodic structures in certain languages.

Here, I propose that syntax derives an initial recursive prosodic phrasing which at a later level may be flattened by language-specific rules that either delete outer or inner boundaries according to global prosodic parameters like rhythm, length and branchingness of constituents and the like.

3. In Hinterhölzl (2012) it is shown that obligatory restructuring between a verb and its argument in German is necessitated by metrical restrictions on stress assignment.

Prosodic constituents need to be headed. I assume that there are two types of procedures that determine the head of a prosodic constituent, extrinsic heading and intrinsic heading, as is illustrated in (16) and (17).

(16) *Extrinsic heading (default value):*

In prosodic composition, the right-hand member is metrically strong

(17) *Intrinsic heading:*

In the combination of two prosodic constituents that differ in their prosodic status the constituent that is higher in the prosodic hierarchy⁴ is assigned the metrical value strong⁵

Extrinsic heading constitutes the default procedure in which the members of a prosodic constituent assume the metrical values provided by tree geometry. This means that in the default case the heading procedure is insensitive to the metrical values of sub-constituents.

Intrinsic heading is only possible if two prosodic constituents are asymmetric, as is the case in subordination when the first argument is joined with its selecting head. In this case, a prosodic constituent can be headed according to the inherent metrical values of its sub-constituents. Subordination of the first argument with its head is asymmetric if we assume that prosodic domain formation proceeds in a phase-based fashion. Given that a DP argument constitutes a phase that has been completed at the point of the derivation when it is merged with the verb, it will have been prosodically evaluated and in the regular case will have been mapped onto a phonological phrase, while the verb corresponds to a phonological word. In this case, the phonological phrase counts as inherently metrically strong, with the verb being assigned the metrical value weak in consequence.⁶

4. Here I refer to the prosodic hierarchy embodied in the Strict Layer Hypothesis (SLH) by Selkirk (1984), consisting of the prosodic categories syllable, foot, prosodic word, phonological phrase, intonational phrase and utterance phrase. According to the SLH, only prosodic constituents of the same level can be combined. In this case, the head of the combined prosodic category is determined by extrinsic heading. But exceptions to the SLH exist. For instance in the case of clitics, as in the English sentence *I hit'im* ('I hit him'), a phonological word is combined with a syllable, with the head of the combined metrical category being the phonological word – a case of intrinsic heading.

5. I will refer to this effect as strength-sensitivity parallel to the case of weakness-sensitivity triggered by discourse-given constituents to be discussed in the following section.

6. Metrical prominence is a relational property. That the verb is analyzed as metrically weak does not imply that a prosodic constituent comprising only the verb is generally weak (cf. Example (14b) above). It just means that a head is prosodically weak compared to a (branching) phrasal complement.

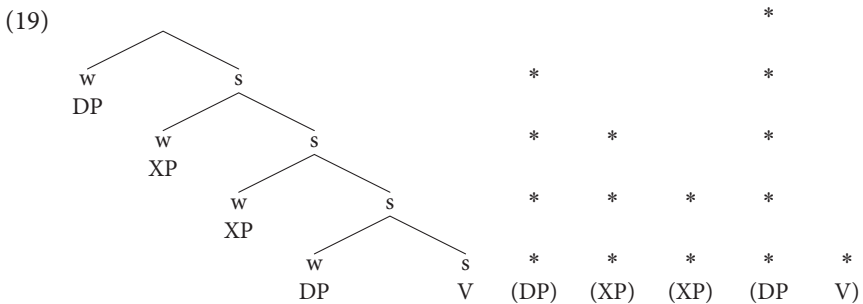
For modern German, intrinsic heading must be assumed to derive the correct assignment of main stress to the direct object, as discussed with respect to Example (14a) above. Intrinsic heading constitutes another case – next to weight sensitivity – where the prosodic mapping of a syntactic constituent is sensitive to a metrical property of a sub-constituent.

3.3 Focus, prominence and rules of accent placement

Adopting a stress-first based account (cf. Ladd 1994), I assume that accent assignment applies after prosodic domain formation and assigns an accent tone to each prosodic constituent. In particular, I assume that a word-level accent is assigned to each prosodic word, a phrase-level accent is assigned to each phonological phrase and a sentence accent, usually called the nuclear accent, is assigned to each intonational phrase of the utterance, according to the principle in (18).

- (18) The accent must fall on the metrically most prominent syllable in a prosodic domain

If we assume along the lines of Halle and Vergnaud (1987) that the labelled tree is converted into a bracketed grid representation during prosodic evaluation, the relative strengths of the several accents in the clause are derived by aligning the head of a prosodic constituent at line x with an asterisk on line $x+1$. This is illustrated for a putative German sentence comprising a subject DP, two adjunct XPs, a direct object DP and the verb in (19).



However, prosodic structure is not only determined by and derived from syntactic structure, as illustrated in (19), but it is also crucially determined by information structure (IS). In particular, the following condition must be assumed for the mapping between accent and focus in intonational languages like German and English.

- (20) The focused constituent must contain the most prominent accent in the clause

In a stress-based approach, in which the relative strength of an accent depends on its metrical value in the clause, this implies that there exists a mapping relation between metrical constituents and IS-categories. Since it is observed that given elements in the languages under discussion are typically prosodically weak and often de-stressed, I will propose the interface condition in (21).

(21) G-Transparency:

A given constituent must occupy a weak position in prosodic structure

There are basically two ways of satisfying the condition in (21). A) A given argument moves out of its post-verbal (strong) base position and is spelled-out in a preverbal position, which necessarily counts as metrically weak. This derives the strong tendency in languages to realize given elements to the left of the verb. B) The default value assigned in prosodic composition to a given post-verbal constituent is overridden by projecting its intrinsic prosodic value, namely weak, in prosodic composition. We have a case of de-accenting in situ, which in the present system represents the third case of sensitivity to inherent metrical properties in prosodic domain formation, as is illustrated in (22) and defined in (23) below.

The empirical result of this option is that stress and main accent will shift locally to the left-hand prosodic sister of a given constituent, as is illustrated in (22). In (22), main stress falls on the verb, as is indicated by underlining. The respective prosodic constituents have the metrical values given in (22B). In (22), the verb is assigned the metrical value *strong*, since its prosodic sister is projecting its intrinsic value *weak* according to its discourse-given status.

(22) A: *Did Peter visit his sister?*

B: *No, John wrote to his sister*

((John)^w (s wrote ^w(to his sister)))

(23) Weakness-sensitivity:

A given constituent projects its inherent metrical value *weak* (w) independently of its metrical position in the structure

Parallel to the condition in (21), we can assume an interface condition for elements representing new information, as given in (24).

(24) F-Transparency:

A constituent representing new information must occupy a strong position in prosodic structure

There are basically two ways of satisfying the condition in (24). First, a focused constituent is spelled out in its base position in the vP. Since prosodic domain formation starts with the verb, constituents joined to the left side of (the prosodic

constituent containing) the verb occupy a weak branch, while constituents joined to the right of (the prosodic constituent containing) the verb occupy a strong branch, implying that constituents representing new information focus should be realized to the right of the verb.

The second option consists in the insertion of a functional head in the syntax, typically called Focus and mostly found in the left periphery of the clause, which next to its LF-function of introducing alternative values for an open proposition (cf. Rooth 1992; Krifka 2008) assigns the metrical value *strong* to its specifier (the focused constituent) and the metrical value *weak* to its complement, representing the presupposition of the utterance. In many languages, this strategy is reserved for (narrow) emphatic or contrastive focus, while information focus is often unmarked and can be handled most naturally by an interface condition like (24) in the present account.

If a grammatical system obeys the mapping conditions in (21) and (24) I will call it PF-transparent, since IS-categories are made visible via PF-properties. In modern German, IS-categories are made visible mostly via scope. Focused constituents are spelled-out in scope positions in the I-domain, while given constituents have to scope out of the focus domain and are spelled-out in the C-domain (cf. Hinterhölzl 2014). I assume that OE (like OHG) had a mixed system. While focus is displayed PF-transparently (focused constituents mostly follow the verb), givenness is displayed LF-transparently via scope – pronouns and given DPs move out of the I-domain into the C-domain. A secure sign of LF-transparency is the scrambling of pronouns and given DPs across the subject.

To summarize, prosodic constituents and their metrical values are derived in a phase-based fashion from syntactic structure. Accent assignment is crucially determined both by metrical properties and by IS-structural properties, necessitating a complex mapping between metrical categories and IS-categories. The mapping of prosodic structure from syntactic structure follows from tree-geometrically defined default values, but may in three ways depend on the intrinsic values of prosodic constituents. These cases were called weight-sensitivity (a heavy constituent must occupy a strong branch), strength-sensitivity (a prosodic phrase in composition with a prosodic word receives the value *strong*) and weakness-sensitivity (a given constituent receives the metrical value *weak*), respectively.

3.4 The interpretation of OE word order variation in the interface approach

Let us now see how the data of T&P reported above are to be interpreted in our interface approach. The model makes rather concrete predictions that should be easy to test (to verify or falsify). Just to give one example: since given objects generally

precede the verb, the 9.7% of post-verbal given objects in V Aux clauses should be heavy constituents containing a head and a filled complement. Let us look again at the data of grammatical weight and the striking differences between V Aux clauses and Aux V clauses. For instance, we noted that for one-word objects only 5.3% occur post-verbally in V Aux clauses, but 34.8% of these objects in Aux V clauses. Is there any other explanation for this large difference than the one given by T&P? Yes, there is.

Note first that one-word objects do not count as heavy in our definition. Hence the 5.3% of post-verbal objects in V Aux clauses must be considered to be narrowly focused. The situation is completely different in Aux V clauses, however, in our approach. Note that a constituent containing a verb and its object in its base position counts as necessarily heavy in our approach and hence should appear in a post-verbal position with respect to the pre-auxiliary verb. This explains why the numbers of one-word objects in Aux V clauses are closer to the number of two-word objects in V Aux clauses (25.9%). In other words the higher number of one-word post-verbal objects in Aux V clauses can be due to two factors in this account as well: either the object is narrowly focused or the verb and its (light) object form a broad focus domain and as a unit count as heavy and will thus appear after the auxiliary verb.

Let us now address T&P's claim that first the head parameter of I changes and that the head parameter of V follows suit in the later OE period. This claim is based on the observation that the numbers of Aux V clauses are higher than the numbers of V O clauses across periods and that both numbers are rising towards the end of the OE period.

The higher numbers of Aux V clauses (with respect to V O clauses) simply follows from the factor weight. While only two and more word-objects will give rise to V O orders (besides the effect of the IS value of the object), also one-word focused objects will give rise to Aux V order due to the weight of the [V O] constituent. Then the question arises of where the dynamics reported in T&P comes from.

I will argue below that the rising number of Aux V and V O clauses is due to the grammaticalisation of the definite determiner during the OE period. Discourse-given one-word objects are predominantly realized preverbally in OE. With the increasing use of a demonstrative element that enforces the discourse-given interpretation of the relevant NP, the latter may become interpreted as heavy, leading to a rising number of post-verbally realized given objects. Such a development will have the major effect that the IS-conditioning of word order will be gradually lost, in other words will become more and more intransparent and at the end unlearnable. Secondly, it will lead to the impression, reported by T&P, that basic VO orders are rising because more and more VO orders can be found with given objects next to the expected occurrences of post-verbal new objects. Thirdly, we

expect individual and areal variation in the increasing post-verbal realization of discourse-given objects depending on how the demonstrative element is analysed in the discourse anaphoric DP, already as its head or still as its Specifier, as will be discussed in more detail in the following section.

4. Word order change in the history of English

The standard explanation for word order variation in OE has been the double base hypothesis, that is, the simultaneous presence of an OV and a VO grammar. A VO-base is necessary to explain the post-verbal occurrences of pronouns, simple adverbs and particles, since light elements resist extraposition in the modern Germanic OV-languages like German and Dutch. An OV-basis is necessary in the standard account since the occurrence of I-final clauses and preverbal particles is not evidenced in modern Germanic VO-languages like English and the Scandinavian languages.

In this paper, I have outlined a different approach in which different word orders are derived from a unique VO-base in terms of leftward (licensing) movement plus variable spell-out determined by prosodic and information-structural conditions. The empirical generalizations, discussed in Section 3 above, are repeated for the sake of convenience in (25). In particular, I assume that the I-domain was weight-sensitive in OE.

- (25) a. Light elements precede the verb (preference for the higher copy)
 b. heavy elements follow the verb (weight condition)
 c. focused constituents follow the verb (F-Transparency)
 d. given constituents scope out of the focus domain (LF-Transparency)

4.1 The effect of the grammaticalization of the definite determiner on word order

Let us first discuss the effects that the grammaticalization of the definite determiner may have in such a weight-sensitive system. In the present approach, it is plausible to assume that the grammaticalization of the definite determiner leads to a major change in the prosodic mapping in the history of English.

It is well-known that definite DPs are first introduced pre-verbally in English. This can be made sense of in terms of their IS-status as well as in terms of their prosodic weight. Since they are discourse-anaphoric in nature, we expect definite DPs to appear pre-verbally in a system like OE (cf. the condition in (25d)).

The original structure that gets grammaticalized involves a demonstrative DP in the specifier of the discourse-anaphoric noun phrase and counts as prosodically light according to the definition in (12) above. Thus discourse-anaphoric DPs can appear in the preverbal domain in a grammatical system in the I-domain of which the weight condition applies.

Note, however, that definite DPs will count as prosodically heavy as soon as the definite determiner is fully grammaticalized and reanalyzed as the head of the DP. At this point a, heavy DP in the middle field must be either realized in a higher weight-insensitive phase or be replaced by a light pronominal DP, if it is discourse anaphoric. If it is not discourse anaphoric, it must be realized post-verbally in accordance with the weight condition. The latter effect will obtain as soon as the demonstrative element is not only used with discourse anaphoric DPs anymore but appears in all DPs with a definite interpretation and can explain the growing numbers of VO orders in the OE period reported in T&P. Furthermore, the effect is predicted to vary from text to text and to obtain full force at the end of the OE period under the assumption that the grammaticalization is not fully completed before then. The correctness of this hypothesis can be tested in the following way: the relative quantity of VO (and henceforth Aux V) orders in a text should correlate with the relative quantity of non-discourse anaphoric DPs realized with the definite determiner.

As we said above, with discourse-anaphoric DPs the speaker will have a choice between further scrambling of the DP into the C-domain or replacement with a pronominal DP. The latter choice, however, may have an effect on the analysis of the prosodic status of pronouns in the grammar, as is illustrated in (26). If in a functional system like (26) clitic pronouns start to be used for weak (unaccented) DPs, it is possible that the former are realized as constituting weak rather than clitic pronouns in the system of Cardinaletti & Starke (1996). In (26) DR stands for discourse referent.

(26)	no given DR	given DR (weak salience)	given DR (maximal salience)
	strong DP	weak DP, weak pronoun	clitic pronoun
	accented	deaccented	deaccented (often reduced)

A precondition for such a re-interpretation seems to be that some distinctions between weak and clitic pronouns get lost, possibly due to the general loss of inflectional endings, possibly due to the influence of Scandinavian-type of pronouns in the West Midland dialect area.

In the following section, I will try to shed some light on the trajectory of this development in the eME period, by interpreting data about the pertinent change reported in the literature. Before, however, I would like to discuss the impact of the loss of case in a system in which givenness of a DP is indicated via scope.

4.2 The effect of the loss of case on word order

As the example of Dutch shows, OV order is not necessarily compromised by the loss of Case. Rather, we can assume that what is lost with case is the possibility of scrambling arguments across each other due to violations of minimality. The idea is that a certain type of case (that unambiguously marks grammatical functions) renders two DP arguments categorically distinct voiding minimality effects, as is the case in German (cf. Hinterhölzl 2004, 2006). If case is lost, arguments may scramble across adjuncts but not across other arguments, as is the case in Dutch.

One way to derive this difference in scrambling is to assume that arguments move out of the vP in a cyclic parallel fashion into case-licensing positions (above the base positions of manner adverbs) (cf. Hinterhölzl 2006 for the details). Once case is assigned arguments can be scrambled (also across the subject) into a higher domain to indicate their discourse-given status. Since this higher domain is reserved for topics in the broad sense in German, we assume that this domain is above TP and, not belonging to the C-domain, is exempted from the weight condition in general. Some evidence for this claim comes from the positioning of discourse-given arguments with respect to sentence adverbs and sentence particles like *ja* ('yes') in German (cf. Hinterhölzl 2006 and literature cited there).

The important point now is that OE has been argued to show the same kind of discourse configurationality, as modern German does. Van Kemenade and Los (2006) and van Kemenade and Milićev (2012) argue at length that the original temporal particles *þa* and *þonne* ('then') had the discourse function of separating given information from the focus domain in both main and embedded clauses in OE.

Let us now take a look at the combined effect of the loss of case and the grammaticalization of the definite determiner at the beginning of the eME period. Definite subjects, counting as prosodically heavy, must be spelled out in the topic domain (independently of their discourse function) (cf. van Kemenade & Westergaard 2012) and definite objects, not being able to scramble across the subject must be spelled-out in the v-domain.

Let us now focus here on the consequences of these changes on object placement. Note first that if weight-sensitivity is preserved, as is arguably the case in the history of English, scope-transparency of given constituents cannot be maintained at all and G-transparency will only be fulfilled if the prosodic mapping becomes weakness-sensitive (cf. (23) above), that is to say, if the language allows for de-accentuation in situ of discourse-given but heavy constituents. This implies that the weight-condition applies in the I-domain in English, but does not apply in the v-domain, as we have been assuming above. Here the concept of a phase is necessary to allow for a locally restricted effect of interface conditions. Independently of this, it seems natural that a condition like the weight condition cannot apply to a

base position, otherwise the language could not allow for any heavy constituents. Furthermore, it is improbable that the weight condition applies in the *v*-domain but not in the *I*-domain, since I know of no language in which heavy constituents may occur only in derived positions. Note on the contrary that there are a lot of languages in which light elements may only appear in derived (i.e. higher) positions in the clause. In the present approach, this asymmetry follows from the fact that there is no condition on light elements per se in the grammar, but only a condition that applies to given constituents. I will have to leave this interesting issue for further research.

Secondly, note that the same effect does not necessarily apply to pronominal objects. The latter, being light, may be spelled out in their case positions in the *I*-domain and can then move across subjects without violating minimality under the assumption that the latter step is a process of head-movement. In the following section, I will discuss to what extent these predictions are fulfilled in the successive period, namely in the texts of eME.

4.3 Word order variation in eME

The data and facts presented in this section are taken from the corpus study of Kroch & Taylor (2000), henceforth K&T. In their paper, K&T provide a thorough statistical analysis of word order patterns of five ME prose texts from the early 13th century, three from the West Midland area and two from the South-eastern area. K&T are concerned with determining the base order(s) of these texts, scanning them for reliable diagnostics for VO-base order and OV-base order. They find that all texts show reliable evidence for basic VO-order and then correctly observe that superficial OV-orders are not a reliable indicator for basic OV-order, since OV orders can be derived from underlying VO-order plus leftward movement in a grammar that allows for scrambling of pronominal, nominal and negative or quantified objects. Thus they try to estimate the respective frequencies of these three types of scrambling operations, arguing that the remaining number of superficial OV-orders must then be interpreted as due to basic OV order.

Interestingly, they find that there are rather huge differences between the three types of scrambling operations. While scrambling of pronouns ranges between 47% in West Midland texts and 84% in South-eastern texts and 15%–20% of negative and quantified objects in both text-groups undergo scrambling, the number of scrambled referential DPs is surprisingly low in the two groups of texts: only 5% of non-quantificational DPs undergo scrambling. Why should this be so?

First of all, why should there be a difference in scrambling between quantified and non-quantified DPs? Our determiner hypothesis provides a possible answer

to this question. Referential DPs that contain a definite article count as metrically heavy and must be spelled out in the v-domain according to the weight condition, allowing only light DPs to be spelled out in the I-domain and to undergo scrambling. What about negative and quantified objects? If we assume that most quantifiers constitute XPs rather than heads, then quantified noun phrases may freely undergo scrambling according to their scopal properties. I will have to leave this issue for further research.

Even more interesting for our purposes are the large differences in pronoun scrambling between the West Midland and the South-eastern texts. K&T have nothing interesting to say about this difference. They only note that the large difference cannot be ascribed to a different percentage in basic VO-orders between the two groups of texts, but mainly constitutes a real difference in scrambling of pronouns. They conclude that the South-eastern texts are more conservative in that they preserve (to a high degree) the scrambling of pronouns so typical of OE, while the West Midland texts are more innovative in leaving pronouns in their in-situ position. This is rather unsatisfactory.

There is, however, a natural interpretation of these facts in our scenario. We know that due to the continuing erosion of case distinctions and due to the metrical evaluation of definite DPs as heavy in eME, definite DPs will be spelled-out in the v-domain giving rise to de-accentuation in-situ in the English vP. This opens up the possibility for pronouns to be licensed in the v-domain. If the grammatical system has preserved the distinction between weak and clitic pronouns, the latter may cross the subject and undergo scrambling to the C-domain for reasons of scope transparency. This is the state of affairs that we see in the South-eastern texts and it remains to be checked whether the pronominal system provides enough evidence for the clitic status of object pronouns in these texts.

The West Midland texts are indeed more innovative. In the present account, however, we can make precise in which respect these texts are innovative. Note first that the new South-eastern grammar is rather complex: while referential DPs display their IS-status mainly only via PF-transparency (given definite DPs are de-accented and non-given definite DPs are stressed in their in-situ position), pronouns display their IS-status in terms of scope or LF-transparency in that they are moved and spelled-out in the C-domain.

In this respect, the new West Midland grammar is simplified. Given that the new eME grammar allows for de-accentuation in-situ (to accommodate given heavy objects), the IS-status of pronouns can also be displayed in a more economical way via PF-transparency by being spelled out in their de-accented in-situ position in the vP. This step would follow if we assume the presence of the following economy condition in the grammar.

(27) Economy of Spell-out:

A syntactic constituent is spelled-out in the smallest domain in which its PF-conditions are satisfied

Which factor could explain the difference in pronoun placement between the two text groups? One factor that comes to mind immediately is a difference in prosodic status of object pronouns between the two dialect groups. In particular, we can assume that some object pronouns have been reanalysed as weak pronouns in the dialects of the West Midland texts. Furthermore, let us assume that the distinction between weak and clitic pronouns in the analysis of Cardinaletti and Starke (1996) corresponds to the distinction between simple clitics and special clitics in Zwicky (1977). Special clitics are licensed by a specific syntactic head (in Germanic by whatever head in the C-domain corresponds to the famous Wackernagel position), while simple clitics fail to undergo head movement and to form clitic clusters, but are clitics in the sense that they need to form a prosodic constituent (a prosodic word) with a suitable host.

If a pronoun in a West Midland dialect is reanalysed as a weak pronoun (or as a simple clitic), by failing to undergo head movement, it will not be able anymore to move across the subject and will thus have to be spelled out in the I-domain or in the v-domain.

If we assume that the Spell-out condition in (27) can be specified for simple clitics in the way given in (28), then the observation that these pronouns continue to undergo object shift as long as the finite verb undergoes movement to T in the successive periods (cf. Wallenberg 2008) can be made to follow: If the verb undergoes movement to T the pronoun can be spelled out in the I-domain, otherwise the pronoun will be spelled-out in the v-domain.

(28) A simple clitic (weak pronoun) is spelled-out in the smallest domain that contains its phonological host

To conclude this argument, the grammar of the West Midland texts is simpler since the IS-status of all referential objects (of both DPs and pronouns) is displayed via PF-transparency. The grammar of the South-eastern dialects, in contradistinction, displays a more complex mixed system: the IS-status of pronouns is displayed via LF-transparency (as in OE), while the IS-status of definite DPs is necessarily only displayed via PF-transparency. The simplification involves a reanalysis of pronouns from special clitics to simple clitics in the system of Zwicky (1977).

To summarize, the unification of the placement of referential objects constitutes the first step in the development towards a pure VO word order in the history of English. At the beginning of the eME period pronouns start to be realized

post-verbally. Quantified and negative objects follow suit much later. I have nothing to say about this step other than that it must be described as another process of unification or simplification in the present approach. A mixed system, in which non-quantificational objects are PF-transparent and quantified objects are scope-transparent is simplified in that quantified objects lose their scope features. This means that sentences with quantifiers become ambiguous in English, while scope in German is read off of the spell-out position of quantifiers (scope transparency). When quantified expressions lose their scope features, they will – like non-quantified objects – be spelled-out in the v-domain due to the principle in (27). Note that this last step is not a necessary step, since a mixed system in which quantified and negated objects are scope-transparent, but referential objects are PF-transparent, is preserved in Modern Icelandic.

5. Conclusions

In this paper, I have outlined an interface account of the word-order properties and the pertinent changes reported in T&P for OE and in K&T for eME. The scenario presented closely matches the empirical findings reported in these studies, without, however, taking recourse to grammar competition and an independent change in the head complement parameter, as in T&P, that is hard to motivate. Instead, I have individuated two independent changes, namely the grammaticalisation of the definite determiner in the OE period and the loss of case morphology in the eME period and argued that while the loss of case morphology cannot be taken to explain the pertinent changes by itself, the two factors combined lead to a major overhaul of the system in the eME period by preventing DP objects from being spelled out in the I-domain. Furthermore, I have argued that the grammaticalisation of the definite determiner in the OE period via the introduction of heavy DPs leads to an increasing number of VO and consequently of Aux V orders with both discourse given and non-discourse given definite DPs. The latter effect is predicted to obtain as soon as the definite determiner can be taken to be fully grammaticalized and will thus vary from text to text.

In conclusion, I hope to have shown that we cannot kroch the nut with sophisticated quantitative studies alone, but that we might crack it, if the latter are combined with detailed qualitative studies that take into the account the complex interaction between syntax, information structure and prosody.

References

- Behaghel, Otto. 1932. *Deutsche Syntax, Band 4*. Heidelberg: Carl Winters Universitätsbuchhandlung.
- Cardinaletti, Anna & Starke, Michal. 1996. Deficient pronouns: A view from Germanic. A study in the unified description of Germanic and Romance. In *Studies in Comparative Germanic Syntax*, Vol. II [Studies in Natural Language and Linguistic Theory 38], Höskulder Thráinsson, Samuel David Epstein and Steve Peter (eds), 21–65. Dordrecht, Boston and London: Kluwer Academic Publishers.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.
- Chomsky, Noam. 2001. Derivation by Phase. In *Ken Hale: A Life in Language*, Michael Kenstowicz (ed.), 1–52. Cambridge MA: The MIT Press.
- Cinque, Guglielmo. 1999. *Adverbs and Functional Heads. A Crosslinguistic Perspective*. Oxford: OUP.
- Emonds, Joseph E. 1976. *A Transformational Approach to English Syntax*. New York NY: Academic Press.
- Fuß, Eric. 1998. *Zur Diachronie von Verbzweit: Die Entwicklung von Verbstellungsvarianten im Deutschen und im Englischen*. Phd-thesis. University of Frankfurt.
- Fuß, Eric & Trips, Carola. 2002. Wortstellungsvariation in den älteren germanischen Sprachen. Ms., Universität Frankfurt.
- Gussenhoven, Carlos. 1983. *A semantic analysis of the nuclear tones of English*. Indiana University Linguistics Club. Bloomington, Indiana.
- Halle, Morris & Vergnaud, Jean-Roger. 1987. *An Essay on Stress*. Cambridge MA: The MIT Press.
- Hinterhölzl, Roland. 2004. Scrambling, Optionality and Non-lexical Triggers. In *Triggers* [Studies in Generative Grammar 75], Anne Breitbarth and Henk van Riemsdijk (eds), 173–204. Berlin: Mouton de Gruyter.
- Hinterhölzl, Roland. 2006. *Scrambling, Remnant Movement and Restructuring*. Oxford: OUP. doi: 10.1093/acprof:oso/9780195308211.001.0001
- Hinterhölzl, Roland. 2009. A Phase-based comparative approach to modification and word order in Germanic. *Syntax* 12(3): 242–284. doi: 10.1111/j.1467-9612.2009.00129.x
- Hinterhölzl, Roland. 2010. Information structure and basic word order in older Germanic. In *Information Structure from Different Perspectives*, Caroline Fery & Malte Zimmermann (eds), 282–304. Oxford: OUP.
- Hinterhölzl, Roland. 2012. Studies in Basic Word Order, Word Order Variation and Change. *Venice Working Papers in Linguistics* 12: 1–116.
- Hinterhölzl, Roland. 2014. On the interaction between syntax, prosody and information structure: an interface approach to word order developments in Germanic. In *Information Structure and Syntactic Change in Germanic and Romance Languages* [Linguistik Aktuell/ Linguistics 213], Kristin Bech & Kristine Gunn Eide (eds), 341–376. Amsterdam: John Benjamins. doi: 10.1075/la.213.13hin
- Hróarsdóttir, Þorbjörg. 2000. *Word Order Change in Icelandic: From OV to VO* [Linguistik Aktuell/Linguistics Today 31]. Amsterdam: John Benjamins.
- Kayne, Richard. 1994. *The Antisymmetry of Syntax* [Linguistic Inquiry Monograph 25]. Cambridge MA: The MIT Press.
- van Kemenade, Ans. 1987. *Syntactic case and Morphological Case in the History of English*. Dordrecht: Foris. doi: 10.1515/9783110882308

- van Kemenade, Ans & Los, Bettelou. 2006. Discourse adverbs and clausal syntax. In *The Handbook of the History of English*, Ans van Kemenade & Bettelou Los (eds), 224–248. Oxford: Blackwell. doi:10.1002/9780470757048.ch10
- van Kemenade, Ans & Milićev, Tanja. 2012. Syntax and discourse in Old and Middle English word order. In *Grammatical Change: Origins, Nature, Outcomes*, Dianne Jonas, John Whitman & Andrew Garrett (eds), 239–255. Oxford: OUP.
- van Kemenade, Ans & Westergaard, Marit. 2012. Syntax and information structure: Verb second variation in Middle English. In *Information Structure and Syntactic Change in the History of English* [Oxford Studies in the History of English 2], Anneli Meurman-Solin, Maria-José López-Couso & Bettelou Los (eds), 87–118. Oxford: OUP.
doi:10.1093/acprof:oso/9780199860210.003.0005
- Krifka, Manfred. 1984. Fokus, Topik, Syntaktische Struktur und Semantische Interpretation. Ms, Universität Tübingen.
- Krifka, Manfred. 2008. Basic notions of information structure. *Acta Linguistica Hungarica* 55: 243–276. doi:10.1556/ALing.55.2008.3-4.2
- Kroch, Anthony & Taylor, Ann. 2000. Verb-complement order in ME. In *Diachronic Syntax: Models and Mechanisms*, Susan Pintzuk, George Tsoulas & Anthony Warner (eds), 132–163. Oxford: OUP.
- Ladd, Robert D. 1986. Intonational phrasing: The case for recursive prosodic structure. *Phonology* 3: 311–340. doi:10.1017/S0952675700000671
- Ladd, Robert. 1996. *Intonational Phonology*. New York: CUP.
- Lightfoot, David. 1991. *How to Set Parameters: Arguments from Language Change*. Cambridge MA: The MIT Press.
- Lightfoot, David. 1999. *The Development of Language: Acquisition, Change and Evolution*. Oxford: Blackwell.
- Nespor, Marina & Vogel, Irene. 1986. *Prosodic Phonology*. Dordrecht: Foris.
- Nunes, Jairo. 2004. *Linearization of Chains and Sideward Movement* [Linguistic Inquiry Monographs 43]. Cambridge, MA: MIT Press.
- Peperkamp, Sharon. 1997. *Prosodic Words* [HIL Dissertation 34]. The Hague: HAG.
- Pintzuk, Susan. 1991. *Phrase Structure in Competition: Variation and Change in Old English word order*. PhD-thesis. University of Pennsylvania.
- Pintzuk, Susan. 1999. *Phrase Structures in Competition: Variation and Change in Old English Word Order*. New York NY: Garland.
- Pintzuk, Susan & Taylor, Ann. 2006. The loss of OV-order in the history of English. In *The Handbook of the History of English*, Ans van Kemenade and Bettelou Los (eds), 249–278. Oxford: Blackwell.
- Roberts, Ian. 1997. Directionality and word order change in the history of English. In *Parameters of Morphosyntactic Change*, Ans van Kemenade & Nigel Vincent (eds), 397–426. Cambridge: CUP.
- Rooth, Mats. 1992. A theory of focus interpretation. *Natural Language Semantics* 1: 75–116.
doi:10.1007/BF02342617
- Selkirk, Elizabeth. 1984. *Phonology and Syntax: The Relation between Sound and Structure*. Cambridge MA: The MIT Press.
- Selkirk, Elisabeth. 1995. Sentence prosody: Intonation, stress and phrasing. In *The Handbook of Phonological Theory*, John Goldsmith (ed.), 550–569. London: Blackwell.
- Taylor, Ann & Pintzuk, Susan. 2010. Investigating information structure in Old English. Paper presented at the LSA annual meeting, Baltimore, 9 January 2010.

- Taylor, Ann & Pintzuk, Susan. 2012. Verb order, object position and information status in Old English. *York Papers in Linguistics Series 2*: 29–52.
- Truckenbrodt, Hubert. 1999. On the relation between syntactic phrases and phonological phrases. *Linguistic Inquiry* 30: 219–255. doi:10.1162/002438999554048
- Wagner, Michael. 2005. Asymmetries in prosodic domain formation. In *Perspectives on Phases* [MITWPL 49], Norvin Richards & Martha McGinnis (eds), 329–367. Cambridge MA: MIT.
- Wallenberg, Joel. 2008. English weak pronouns and object shift. In *Proceedings of WCCFL 26*, Charles B. Chang & Hannah J. Haynie (eds), 489–497. Somerville MA: Cascadilla Proceedings Project.
- Weerman, Fred. 1993. The diachronic consequences of first and second language acquisition: The change from OV to VO. *Linguistics* 31(5): 903–931. doi:10.1515/ling.1993.31.5.903
- Williams, Edwin. 1982. Another argument that passive is transformational. *Linguistic Inquiry* 13: 203–238.
- Zwicky, Arnold. 1977. *On Clitics*. Bloomington IN: Indiana University Linguistics Club.