CHAPTER 67

STRESS CLASH AND WORD ORDER CHANGES IN THE LEFT PERIPHERY IN OLD ENGLISH AND MIDDLE ENGLISH

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1. INTRODUCTION

Syntactic change can be brought about by both external and internal factors. Leaving aside the fascinating field of external factors, internal factors alone, that is, the reaction of grammatical constraints on seemingly unrelated changes in other parts of the grammar, are a wide area of study. Such interactions can tell us a lot about the interplay of various components of grammar. In this chapter I present an example of the interaction of constraints from different components that at first glance have nothing to do with each other: (1) a phonological constraint (dubbed in the text Clash Avoidance Requirement (CAR)) that is in a sense "dormant" in OE (by which I mean that its effect is unobtrusive, as the grammar is built to conform to this constraint) and becomes "virulent" (by which I mean that it shows an effect on linguistic output) in ME, and (2) the loss of verb second (V2) syntax, a syntactic

change that apparently has nothing to do with phonology. The effect of the CAR is the decline in topicalization in sentences with full noun phrase subject. This overview, which is based on my own work (especially Speyer 2010), is meant to illustrate that syntactic change can be triggered by factors that nobody would suspect in the first place; it would be an interesting research project to find other examples of syntactic change triggered by unexpected grammatical factors, especially as this might allow conclusions as to the architecture of grammar.

2. Non-canonical word order in Modern English

Modern English is a language with a relatively rigorous word order. By this I mean that the serialization of constituents is governed primarily, almost exclusively, by the syntactic function that the constituents have (e.g. subject, object). This is a strictly grammatical factor. Information structure, on the other hand, has little effect on serialization. If a phrase is to be characterized explicitly as, say, a theme or a focus, other devices are used. A common focalizing strategy is, for instance, the use of a cleft-sentence as in (1a) (see e.g. Weinert 1995; Los and Komen, this volume). The theme, on the other hand, is tightly associated with subjecthood—it is very often the case that the theme is represented by the subject—and therefore operations like passivization by which objects are promoted to subject function (and position) count as a way to characterize an expression as theme (1b) (see Mathesius 1964; Los and Dreschler, this volume). Only very few constructions exist in Modern English that involve non-canonical word order (i.e. a serialization that deviates from the canonical Subject-Verb-Object order). Often they are used in special information structural configurations (see Birner and Ward 1998); many are associated with the explicit marking of focus, for example, Comparative Inversion (1c) (see Culicover and Winkler 2008), Focus movement (1d) (see Prince 1981) or the fronting of a contrastive focus in a double-focus construction, which is often referred to as Topicalization.[1] Note, however, that on the whole such phenomena are marginal in Modern English.

(1) a. It is '**Minimalist Program**' that you should read.
    b. Let us talk about Mr. Zonderdahl. **He** was appointed to be chairman last week.
    c. Sandy is much smarter than is the professor. (Culicover and Winkler 2008: 626)
    d. **Pterodactylus** it is called.
    e. **Beans** he **likes**, but **peas** he **hates**.

1 Prince (1986) points out that this term is misleading. I will use t[...] it is quite common.

3. Word order in the history of English

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Older stages of English present a different picture. Here the word order was much less dependent on core grammatical conditions, and therefore could be used for information packaging. In OE movement operations such as scrambling and topicalization (understood in the more general sense of fronting of some nonsubject constituent) were used freely in order to mark constituents as information structurally distinguished (e.g. van Kemenade 2009; Speyer 2010). Topicalization, for instance, could be used to mark an expression explicitly as focus (2a). In example (2a), there is a contrast between the eight men on Noah's Ark, who survive, and the rest of humanity, which drowns. But by topicalization a "theme-rheme structure" could also be established. This can be seen in (2b). The immediately preceding context mentions the monastery *Beardan ea*. This referent is recapitulated by the phrase *Ðæt **mynster*** in the sentence under consideration. It functions as theme of the sentence, that is: what the sentence is about.[2] The rest of the sentence adds new information to that theme, thus functions as rheme.

(2) a. (Witodlice da **eahta menn þe se arc on his bosme abær** wurdon
          ahredde wið þam ydigendum flode.)
          and ealle **OÐRE** eordlice gesceafta þæt brade wæter **adydde**;
          and all other earthly creatures that broad water destroyed
          '(Truly, the eight men that the Ark carried in its bosom were rescued
          by the greedy flood), and all other creatures on earth were killed by the
          broad water.' (cocathom2,ÆCHom_II,_4:33.122.750)[3]
     b. (Is æðele mynster in Lindesse; is nemned Beardan ea.)
          Ðæt **mynster** seo ilce cwen mid hire were Æþelrede **swiðe** lufade
          that monastery the same queen with her man Ethelred very loved
          '(There is a noble monastery in Lindesse, which is called Beardan river)
          The aforementioned queen with her husband Ethelred loved the mon-
          astery very much.' (cobede,Bede_3:9.182.15.1814)

So apparently, leftward movement per se was not associated with a specific information structural notion. Rather, by leftward movement phrases could be marked as information structurally distinguished in a wider sense, whereas the exact nature of the information structural dimension that was at play in a given situation had to be taken from the context. In oral communication it was certainly marked by prosodic means—a point that will prove to be crucial for the progress of this chapter. This is similar to the stage of affairs in modern German

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2 This definition of theme follows Reinhart's (1981) definition of "aboutness-topic". Instead of the term-pair "topic-comment", I use the term-pair "theme-rheme" here with almost identical meaning to avoid confusion with the term "topicalization".
3 The Old English examples are taken from the York-Toronto-Helsinki Parsed Corpus of Old English (YCOE) and cited according to their system of reference.

(see e.g. Speyer 2008) and also to other Medieval Germanic languages (see e.g. Petrova, this volume).

I will concentrate here on a particular information structural configuration, namely sentences containing two narrow foci. In Modern English topicalization is still possible with such sentences (1e, repeated as 3a), but there are certain restrictions: Whereas sentences like (3a) occur quite freely in natural discourse, sentences like (3b) are rare.

(3) a. **Beans** he **likes**, but **peas** he **hates**
     b. **Beans John** likes, but **peas Mary** likes.
     c. **John** likes **beans**, but **Mary** likes **peas**.

The obvious difference is that in (3a) the foci are on the topicalized object and the verb, respectively, whereas in (3b) they are on the topicalized object and the subject. Sentences in which both the subject and the object are in focus tend to be realized in canonical word order, such as (3c). Note that in older stages of English focalized objects were topicalized much more often. So the rate of topicalization declines during the history of English.

4. A PROSODIC ACCOUNT FOR THE DECLINE OF TOPICALIZATION

The reason for the avoidance of sentences like (3b) and thus the avoidance of topicalization in such cases is, as has been demonstrated at length in Speyer (2010), that topicalization of a focused object (in fact, any focused constituent) produces a prosodically ill-formed sentence if there is a second focus on the subject. The problem is that in this case two equally high prominent phrases come to stand adjacent to each other (4a). By "phrase" I mean a Prosodic Phrase (PhP; on prosodic constituency, see e.g. Nespor and Vogel 1986), a constituent which is in some nontrivial ways related to the syntactic phrase. The PhP consists of smaller units, Prosodic Words, which are further subdivided in Feet and, finally, Syllables. From example (4a), it is not obvious on which level the clash happens, as here the PhPs consist of one monosyllabic word each. Experimental evidence showed that the relevant clash really is on the PhP-level, as the same effects connected with the clash (like insertion of a pause, see below) show up regardless whether the two elements in clash are monosyllables as in (4a) or more complex structures as in (4b). If the effect would be a clash, say, on the syllable-level, there should be no clash effects in structures like (4b), as here enough unstressed syllables intervene between the two stressed syllables.

The adjacency of two foci violates a prosodic well-formedness constraint, which was dubbed Clash Avoidance Requirement (CAR) in Speyer (2010) and

which basically says that no two elements of equal prominence should stand adjacent to each other. They need to be separated by an element of lesser prominence.[4] Note that sentences like (3a), in which the second focus is not on the subject, conform to the CAR (4c).

(4) a.   *   *   .
     beans   john   likes
   b. *   *   .
     abernathy   the trainer   likes
   c. *   .   *
     beans   he   likes
   d. *   .   * .
     beans   _   john   likes
   e. *   .   *
     béana   lufeð   john

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Why are these phrases equally prominent at all? One would expect that the metrical grid is construed in such a way that the alternation of strong and weak marks comes for free. The problem here is that the grid cannot be constructed freely, because the two elements *beans* and *john* (or *abernathy* and *the trainer*) are in focus. Focus is assigned for information-structural reasons and is represented by a focus feature on the (syntactic) phrase bearing it. This focus feature is associated with extra prominence, once the sentence reaches "spell out", that is, when the syntactic structure is transformed into a phonological structure. Because the focus feature is present before the grid construction mechanism starts its work, the grid construction has to take the foci into consideration as prefabricated stresses, so to speak. In a situation like in (4a, b), where the two phrases bearing the focus feature are adjacent to each other, the grid construction mechanism simply has no choice other than keeping both prominences intact. De-stressing one of the foci is impossible, as this obscures the information structure. The same goes for shifting one of the high prominences to some other phrase bearing no focus feature. Either way, the focus feature would not be represented in speech. So the grid has to be adapted to the prefabricated prominences somehow.

There is the possibility to remedy the clash by insertion of a pause (4d), but this is not a preferred option. So speakers of Modern English basically have no other choice than to forgo topicalization in such cases and either stick to the canonical word order or use a completely different focalizing strategy, such as a pseudo-cleft sentence (*What John likes is beans*).

If speakers can dispense with topicalization in double-focus constructions so easily, the question is why topicalization came up at all in such contexts, and why it

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4 In essence, the CAR is an application of the well-known Rhythm Rule (see Liberman and Prince 1977) to the phrasal level, more precisely to the topmost level of stress assignment. See Schlüter (2005) on the impact of rhythmic wellformedness on syntactic usage.

is still used freely when the subject is not in focus. From an information structural viewpoint, topicalization is useful, because it marks the topicalized phrase as the "sorting key", which means that it indicates clearly which of the two evoked sets has scope over the other set (see Kuno 1982; Prince 1986).[5] So there is a competition between two conflicting requirements here: The information structural requirement to mark the sorting key obviously is eclipsed by the prosodic requirement to have no two adjacent foci.

In OE, on the other hand, these two requirements did not need to come in conflict with each other, even in cases in which both the topicalized object and the subject were in focus. There was another possibility to reconcile both requirements: By using V2 syntax, speakers could topicalize the sorting key without violating the CAR, as the focus-bearing subject was separated by the verb from the also focus-bearing topicalized object (4e).

This is in fact what they did. Table 1 (from Speyer 2010: 225) shows that the proportion of V2 clauses was extremely high—roughly 90 percent—in sentences in which both the topicalized object and the subject bore focus, such as in example (5). This is significantly higher than the rate of V2 (69.4 percent) that Haeberli (2002b), using the same corpus, determines for noncoordinated main clauses with pronominal subject.

(5) **oþer** heold **Daniel**, **oþer Aldhelm**;
    other held Daniel other Aldhelm
    'Daniel held the one, Aldhelm (held) the other.' (cochronA-1,ChronA_[Plummer]:709.1.428)

The chance that a topicalized object is in focus is relatively high, given that topicalization is one of the main strategies to mark an expression as focus. If a second focus occurs within the sentence, the chance that it is on the subject is quite high as well—given that the subject is a full noun phrase. If a person writing a text produces a sentence with a focalized phrase, he or she will in most cases use a full noun phrase simply to make the reference clear. This is necessary because visual deictic means such as pointing and so on that supplement a pronominal reference can used in face-to-face-interaction (*THEY* [speaker pointing to the left] *played well, but THEY* [speaker pointing to the right] *played an awful game*), but are not available in the written medium. Whenever a pronominal subject occurs in writing it is most probably not in focus. Sentences with object topicalization and

5 To illustrate the notion of sorting key, let us look at the following example. A school class consisting of, say, 20 pupils gets grades in, say, 10 subjects. We have a complex relation between each pupil (that is, each member of the set "pupils"), each possible grade and each subject. Suppose you ask now: "Who got an A in what subjects?" The answer would be: "Alf got an A in biology and history, Beth got an A in mathematics, reading and biology, etc." By giving this answer, one of the sets (the sets of pupils in this case) is used to organize the information: members of the set are used one by one as anchors to which the relation to some other set (the set of subjects) is added.

Table 1. Proportion of V2 among sentences with focus on topicalized constituent and subject

All sentences with focus on both the topicalized element and the subject (= OSV and OVS)	41
Number of V2 sentences of the 1st group (= only OVS)	37
% (V2)	90.2

a pronominal subject are thus not in danger of violating the CAR. So one would expect the rate of verb second to be lower with pronominal subjects.

This expectation is borne out. It is well-known that pronominal subjects usually show verb third (V3) syntax in OE (e.g. van Kemenade 1987; Pintzuk 1999). The V2/V3 alternation has repeatedly been analyzed as the reflex of two distinct subject positions, one "lower" (that is: to the right of the final landing site of the verb) for full noun phrase subjects, leading to V2 syntax, and one "higher" (that is: to the left of the final landing site of the verb) for pronouns, leading to V3 syntax (Kroch and Taylor 1997; Haeberli 2002a). The association of pronominal subjects with V3 syntax and of full noun phrase subjects with V2 syntax is too simplified, however, as there is a considerable amount of V3 with full noun phrase subjects also (Haeberli 2002b; Speyer 2010). A closer look at these cases reveals that most subjects in V2 sentences bear focus, whereas a relatively small ratio of subjects in V3 sentences is focalized (Table 2, from Speyer 2010: 220). This shows that the lower subject position is in fact a position that is predominantly targeted by focused subjects, whereas the higher position is targeted by non-focused subjects. The reason for this might be connected with the CAR. In double focus constructions with the second focus on the subject, language users applied V2 syntax almost exclusively. Language learners could therefore generalize that any focused subject leads to V2 syntax.

This works only as long as V2 is a viable option in the language. As is well-known, the use of V2 syntax dwindled in the ME period and was practically gone by

Table 2. Proportion of focalized subjects in sentences with topicalization; V2 and V3 main clauses

	V2	V3
All sentences in sample	197	182
Whereof subject +foc	122	56
% (+foc)	61.9	30.8

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Table 3.

Rate of topicalization, full NP and pronoun subjects separated	OE1/2	OE3/4	ME1	ME2	ME3	ME4	EME1	EME2	EME3
Full NP subj.									
Number of sentences with DO	2,017	4,165	2,855	1,582	4,925	2,271	3,229	3,584	2,544
Whereof topicalized	277	330	219	92	167	66	67	82	28
% topicalized	13.7	7.9	7.6	5.8	3.4	2.9	2.1	2.3	1.1
Pers. pron. subj.									
Number of sentences with DO	4,167	5,837	2,474	2,061	4,683	3,312	4,490	6,519	4,513
Whereof topicalized	459	750	351	136	391	191	309	346	219
% topicalized	11.0	12.8	14.2	6.6	8.3	5.8	6.9	5.3	4.9

the EModE period, with the exception of residues such as questions that, however, have a different structure to begin with (see e.g. Haeberli 2002b; van Kemenade, this volume). With the loss of V2, topicalizing a focused phrase necessarily leads to a clash if there is a second focus on the subject. So language users refrained from applying topicalization in such cases, whereas in noncritical cases such as when the subject was pronominal they continued using topicalization. Table 3 and Fig. 1 (from Speyer 2010: 52) show the gradual decline in the usage of topicalization.
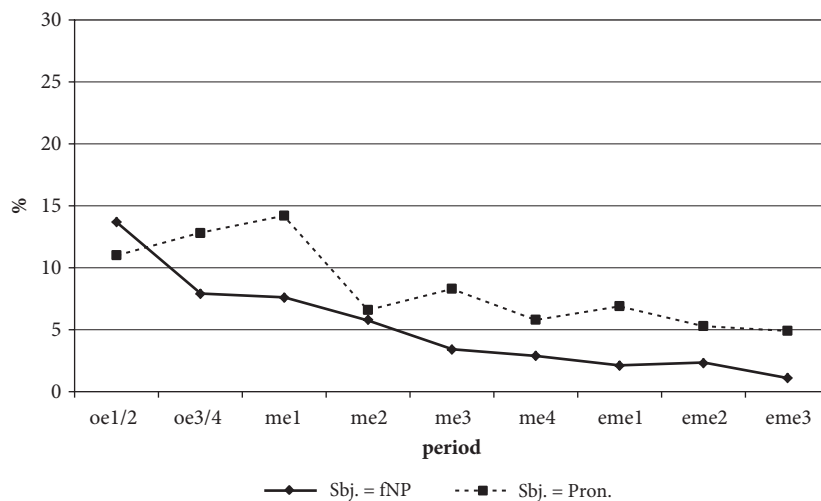

Figure 1. Rate of topicalization, full NP and pronoun subjects separated

Table 4.

Loss of verb second

Loss of verb second	ME1	ME2	ME3	ME4	EME1	EME2	EME3
Number of topicalized PPs	659	250	2,116	639	1,168	1,113	684
Whereof PP-V-S	416	150	674	158	289	131	63
% PP-V-S	63.1	60	31.9	24.7	24.7	11.8	9.2

That the decline of topicalization was connected to the loss of V2 is apparent from the fact that both changes occurred at the same time (Tables 4, 5; Figure 2; from Speyer 2010: 65–66). Figure 2 superimposes the rate of the loss of verb second (as apparent from texts from the South and the West Midlands) with the rate of the decline of topicalization. It appears that both processes occur in parallel.

5. CONCLUSION

This case study demonstrates that non-syntactical factors such as prosody can play a crucial role in syntactic change. The hypothesis is that loss of topicalization was an epiphenomenon of the loss of V2, but the link between these two processes is prosodic well-formedness. Because the loss of V2 led to situations in which topicalization would lead to CAR-violations in cases where both the topicalized phrase and the subject bear focus, language users ceased to apply topicalization in these critical environments. By overgeneralization, they ceased to apply it also if the subject was non-pronominal in general, regardless of whether it bore focus or not. Under this view, the property of topicalization that it led to prosodically ill-formed outputs was responsible for the subsequent decline in usage.

Obviously, the research presented here is only a sort of overture. There is still much to be done. A very important point is the interaction between stresses on different levels of the prosodic hierarchy. Do clashes on lower levels somehow

Table 5.

Decline of topicalization in Southern and West Midland texts

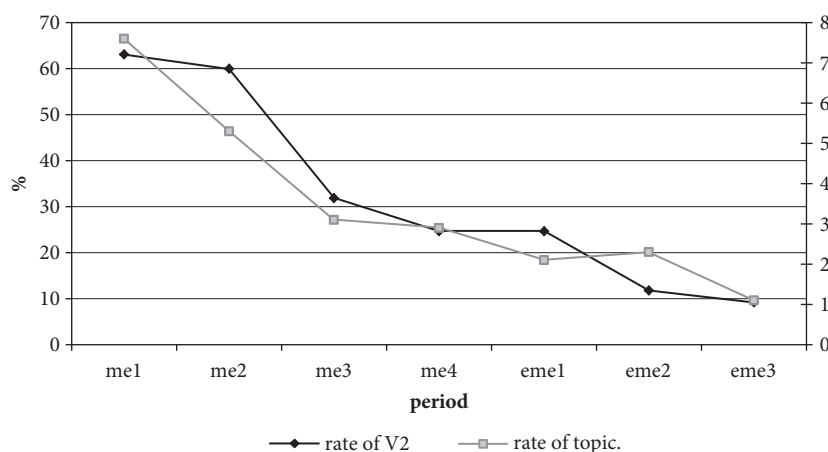| Decline of topicalization in Southern and West Midland texts	ME1	ME2	ME3	ME4	EME1	EME2	EME3
Number of sentences with DOs	2,855	1,300	4,615	2,271	3,229	3,584	2,544
Whereof topicalized	219	69	145	66	67	82	28
% topicalized	7.6	5.3	3.1	2.9	2.1	2.3	1.1

Figure 2. Decline of topicalization and the use of V2 in Southern
and West Midland texts

influence the clash resolution of the PhP level? Related to this is the question in
what ways the internal structure of the words in clash is relevant. This might shed
some light on the prosodic status of morphological constituents. These questions
should be investigated in Modern English, but the results could be used for a more
fine-grained study of the historical record, in which for instance the internal struc-
ture of the phrases in clash and the words in them are distinguished. Another line
of research could lead into whether the observations made here are a property of
pitch languages in general, whether there are similar phenomena in non-pitch lan-
guages, and so on. Finally, further studies that concentrate on the influence of pho-
nological factors on syntax could help us understand better the interface between
syntax and phonology. Some interesting research in that direction has been done
by Schlüter (2005). It is possible that it will turn out that it is not simply a process of
handing some output from one black box (syntax) to the next one (phonology), but
that the interaction is much more complex, whether in the form that syntax gener-
ates several outputs that are evaluated by prosody (quasi optimality theory), or in
the form that there are loops between syntax and phonology, or any other form.

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