

A Few Remarks on Gisbert Fanselow's Work on Scrambling

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Abstract

This paper discusses some contributions Gisbert Fanselow has made to word order theory in general, and the description of scrambling in particular. The general approach taken here is one where information structure does not influence syntactic structure building directly. Instead, information structural notions (particularly, focus) can influence word order (only) to the degree that they influence prosody. Prosody, in turn, has an impact on word order, especially in the middle field. Since these general assumptions are all taken directly from Gisbert Fanselow's work, as the article will demonstrate, all proposals made in my works on the matter owe an enormous debt of gratitude to his publications.

1. Introduction: Scrambling as a Multi-Faceted Phenomenon

The well-known phenomenon of *scrambling* describes the multitude of word order options observed in the *Mittelfeld* of the German clause, as in:

- (1) a. ??Heute hat Tina einander die Gäste gezeigt.
b. Heute hat Tina die Gäste einander gezeigt.
c. Heute hat die Gäste Tina einander gezeigt.
d. Heute hat die Gäste einander Tina gezeigt.
today has the guests each.other Tina shown
'Today, Tina showed the guests to each other' (reading for b-d)

In the examples shown in (1), word order changes in the middle field can cause a semantic effect: (1-a) is degraded, because the binding of the reciprocal *einander* does not seem licensed – an effect not obtained in the other orderings in (1-b)-(1-d). Facts like these have often been taken to indicate that scrambling must take place in *core syntax*, and cannot be delegated to PF.

However, other instances of scrambling seem to permutate word orders with no apparent semantic effects, as in (2-a). In yet other cases, it seems as though scrambling is only necessary to obtain a certain phonological effect (i.e., with no concomitant semantic effect), e.g. the rise-fall contour in (2-b):

- (2) a. Peter hat den Kindern den Kakao gegeben.
 Peter hat den Kakao den Kindern gegeben.
 Peter has the cocoa to.the children given
 ‘Peter gave the cocoa to the children.’
- b. Q : How many patients does this doctor heal?
 A1: Dieser Arzt wird nicht alle Patienten heilen.
 this doctor will not all patients heal
 A2: Dieser Arzt wird /ALLE Patienten NICHT heilen.
 this doctor will all patients not heal
 ‘This doctor will not heal all patients.’
 (note salient reading *not>all*, for both A1 and A2)

Gisbert Fanselow follows a ‘minority’ approach, as he calls it, to the analysis of scrambling. While a fine-grained discussion of all his work is beyond the scope of this short article, certain common strategies can be identified, which I believe outline an extremely promising way forward:

- I. To avoid feature-driven scrambling movements via *Greed*-driven feature attraction, and
- II. to deny information structure a direct influence on *syntax* (but granting an impact on *word order*, via the effects of information structure on prosody), and
- III. to tie in prosodic properties and semantic properties in the analysis of word orders in general – i.e., to consider the interfaces of syntax as explanatory devices, not ‘passive’ recipients of syntactically preordained outputs.

These general strategies will now be presented in turn – if only in short overviews.

2. Against Feature-Driven Scrambling Movements

In many studies, information structure (henceforth: IS) heads couple with EPP features to implement movements as in:

- (3) [_{TopP} XP_{Top} Top [... YP ... ~~XP~~_{Top}]]

This, Fanselow (2012) calls a 'functionalist view', in that properties of the use of sentences get conflated with the generation of the structure used. This point is not merely a statement of theoretical (dis-) preference for formal approaches to syntax (or against functionalist ones). Rather, Fanselow points out what he considers a fundamental technical flaw of such approaches: On the one hand, they employ formal Chomskyan derivations – but on the other hand, they try to use information structural heads which should not figure in them: IS features violate inclusiveness. For an element to be given or focussed in a context is not a notion that could ever be stored in a lexical entry. Lexemes are, by definition, representations of properties an element has independently of context. Fanselow also rejects any attempts to circumvent the issue by, e.g. introducing IS features via lexical items (*LIs*) that were meant to express information structural notions: No clear (or even only phonologically overt) examples of such elements are found in the world's languages: "I know of no example of a morpheme that fulfills the function of a 'focus marker' only" (2006a: 3). As of the writing of this article, there are still no clear candidates for such *LIs* – and given the current outlook in cross-linguistic works on the matter, there may not be any.

Secondly, Fanselow points out that IS heads are often dubious even if we grant their existence. Mostly, IS-driven movements are optional. This is a vital observation, deserving of a proper representation, as Fanselow points out: "In this respect, the impact of information structure on syntax differs substantially from other domains such as operator movement (*wh*-phrases, quantifiers) or movement to argument positions. In these areas, movement is either obligatory or forbidden, and optionality is the exception – quite in contrast to what we observe with information structure. This fundamental difference must be reflected in a good syntactic theory." (2008: 399).

In many of his works, Fanselow demonstrates that many of the arguments that had been proposed to support movement analyses do not necessarily succeed. Movement analyses, Fanselow shows:

- do not explain the distribution of floating quantifiers (2001: 410),
- do not really work as a license for parasitic gaps (2001: 411)
- predict freezing – which may not occur (2001: 413f.) and
- are not required for ordering of *wh*-in-situ (2001: 414).

In sum, there may not be a need to explain instances of scrambling via triggered movements – so that the inclusion of IS heads in the lexicon and in derivations can be avoided with no loss in empirical predictiveness. This, in turn, means that a direct influence of IS on syntactic derivations can be excluded, as will be discussed next.

3. Denying IS a Direct Influence on Derivations

Many analyses employ IS features to trigger scrambling movements (see Struckmeier 2014 for an overview). Fanselow argues repeatedly that not only was this a technically dubious move (as pointed out above), but also that it did not seem to cover all the observable facts to begin with. For example, scrambling cannot be topic-driven in cases where it applies to parts of idioms:

- (4) Vielleicht hat er die Flinte ja ~~die Flinte~~ zu früh ins Korn
 maybe has he the gun MP too early in-the field
 geworfen
 thrown
 ‘Maybe he gave up too early.’ (Fanselow 2012: 272)

Since parts of idioms are individually meaningless, no notion of topicality can ever extend to these items – and yet they scramble. Their behavior seems to be in line with their syntactic make-up (DPs can generally scramble in German), rather than alleged IS status. IS triggers are thus not necessary for scrambling to occur.

Conversely, as I have tried to show, they are often not sufficient to enforce scrambling, even in paradigm cases (Struckmeier 2014: 60):

- (5) [context] Fritz never even dares to talk to women. However, let me tell you something new about Fritz [designates ‘Fritz’ as topic of upcoming sentence]:
 Heute wird wohl eine reiche Dame den Fritz HEiraten.
 today will MP a rich lady the Fritz marry
 ‘Today, a rich lady will probably marry Fritz.’

We thus have reason to believe that IS heads should not be allowed to figure in core syntactic derivations, and empirical demonstrations that their influence was overstated in any event, as Gisbert Fanselow is amongst the first to point out. In their stead, he argues for the inclusion of semantic and phonological

notions into the description of German middle field word orders, as the next section will show.

4. Linking Syntax to its Interfaces (For Real)

Deriving scrambling by *Greed*-driven feature attraction is currently not the only option for syntactic theory: Since *Merge* is, by definition, a free process (and *internal Merge* just another application of *Merge*) word orders can be derived without trigger features. Elements can, in principle, dislocate – and syntactic and extra-syntactic factors will then determine which applications of (internal) *Merge* are legitimate (or not). Questions of use will determine questions of usability – but crucially not of the availability of structures as such.

Gisbert Fanselow points out that semantic factors could well serve as explanations for some (sub-) types of scrambling. E.g., scrambling avails a dislocated element of binding options in (6), or of a *wh*-interpretation in (7):

- (6) dass jeden_i seine_i Mutter jeden_i liebt
that everyone_{acc} his mother loves
'that everyone is loved by his (own) mother'
- (7) Der Spitzel hat aufgelistet, wann wen wer besuchte
the snout has listed when who who visited
'The snout listed who visited whom when.'

As Fanselow observes, indefinites scramble in (7), when a semantic cause for such displacements can be pointed out (Fanselow 2012: 277f) – an outcome entirely unexpected if *topicality* was involved.

Fanselow also champions prosody as a scrambling factor – which indirectly links information structure to word order: “Distinctions of information structure are linked to prosodic properties in many languages. This opens the possibility that information structure is expressed only indirectly in the syntax of these languages: word order may have to be changed in the interest of making a sentence compatible with the rules of prosodic structure [...] while the prosodic properties leading to such word order changes may then express distinctions of information structure” (2012: 269). Note that there is another aspect to this passage: Information structural notions that cannot be argued to influence prosody (as, e.g., topicality, for German prosody) are not predicted to affect word order even only indirectly. Focus, on the other hand – which is

intimately tied to main accent placement in German – is, in fact, predicted to potentially have an effect.

In the following, I will try to demonstrate the analysis I devised for scrambling – and the obvious influences which Gisbert Fanselow’s works have had on it.

5. Trying to Follow I-III

My scrambling analysis is borne out of admiration for Fanselow’s strategies I-III – and follows all these strategies as best as it can.

Firstly, recall that semantic effects can obtain for some scrambling movements. This rules out, given standard assumptions, that scrambling is a ‘surfacey’ phenomenon – e.g., some reordering process on PF. Since German can display binding, scopal, and wh-interpretation properties of scrambled elements via word order, it must be assumed that syntax is, in fact, involved in the derivation of such scrambling cases. However, given the copy theory of movement, some words need to be said on how word order changes map onto semantic effects (or not). Observe, e.g., the following structure:

- (8) *dass mindestens einer_i fast jeden_j t_i t_j mag
 that at-least one nearly everyone likes
 ‘that at least one likes nearly everyone’

In this example, the all-quantified phrase *fast jeden* first scrambles over the existential *mindestens einer*. Given standard assumptions, this would avail the sentence of a reading with wide scope for the all-quantified phrase. However, assuming that *mindestens einer* then goes on to scramble past *fast jeden* again, we obtain the base order of elements – which now, crucially, would still have the inverted reading (if only as one option, i.e., as one reading of an ambiguous structure). However, this ambiguity does not arise (for the most part) for base orders. What, therefore, rules out the derivation just sketched out – and renders German *scope transparent*? As Gisbert Fanselow points out, free word order languages such as German need to involve certain ordering statements that explain which orders can be mapped onto which semantic interpretations. The mapping to PF, Fanselow assumes, could encompass statements such as: “[if a and b merge within the same phase], either the scope statement [a takes scope over b], or the statement [b scopes over a] is created. [...] If scope corresponds

to argument structure, nothing needs to happen; if it does not, an ordering statement $a > b$ or $b > a$ must be added, too, when a is merged" (2012: 84).

Let us see how such a statement could rule out the second (semantically superfluous) internal Merge of *mindestens einer*: Firstly, both arguments externally merge in vP (8-a). Then, an application of internal Merge takes the phrase *fast jeden* across *mindestens einer*, yielding a semantic effect (8-b):

- (8) a. $[_{VP} \text{ mindestens einer}[_{VP} \text{ fast jeden mag}]]$
 $\exists\forall$ reading only
 b. [... *fast jeden*... $[_{VP} \text{ mindestens einer}[_{VP} \text{ fast jeden mag}]]$
 $\forall\exists$ reading added

At this point, word order serves to express the scopal effect obtained by internal Merge. Hence, given Fanselow's assumption, an ordering statement must be made to the effect that *fast jeden* precede *mindestens einer*:

- (9) $\text{dass [fast jeden [mindestens einer ~~fast jeden~~ mag]]}$
 $\forall\exists$ reading added, hence QP_{\forall} must precede QP_{\exists}

Following Fanselow (2012: 280f), assume that the PF mapping (for German) disallows the spellout of copies that obscure the semantic effects of such internal Merge applications in such cases. Since re-merging *mindestens einer* cannot yield a new reading (the $\exists\forall$ reading having been supplied by the base order already), no new ordering option can be obtained. We therefore arrive at a solution where the following outcome is impossible, given the interplay of syntactic, semantic, and (crucially) PF-mapping factors:

- (10) a. $*[QP_2 \dots [QP_1 \dots QP_2]]$
 (Internally merging QP_2 yields new scope reading, hence ordering statement must be $QP_2 \gg QP_1$.)
 b. $[QP_1[QP_2 \dots [QP_1 \dots QP_2]]]$
 (Re-merging QP_1 yields no new scopal ordering, thus $QP_2 \gg QP_1$ will still stand.)

Often, scrambling causes no semantic changes, since the scrambled elements are simply not of the right type that bring about such changes. Consider the DPs in:

- (11) Q: Who did you give the money to?
 a. A1: Ich habe dem KELLner das Geld gegeben.
 b. A2: Ich habe das Geld dem KELLner gegeben.
 I have the money to.the waiter given
 ‘I gave the money to the waiter’ (for both orders)

The DPs in (11) cannot yield new scope or binding options when they scramble. Yet, both orders are entirely acceptable. What the movement seems to achieve is a purely phonological effect: The focussed phrase *dem Kellner* is closer to the right sentence edge in the scrambled order (A2) than it is in the base order (A1). If prosodic preferences make A2 the preferred outcome, it would seem that scrambling here operates altruistically – to allow the stressed indirect object to ‘end up on the right’. However, how could this re-ordering be explained without *look-ahead*?

In other cases, scrambling even fails to bring about *expected* semantic effects:

- (12) weil dieser Arzt /ALLE Patienten NICHT ~~alle Patienten~~ heilt.
 because this doctor all patients not heals
 ‘because this doctor does not heal all patients’ (salient reading $\neg\forall$)

Despite the word order change, we do not obtain an inverted scope reading. Thus, we see that semantic transparency comes down to a *single-sided* implication:

- If an element obtains a semantic effect (wider scope, new binding option, etc.) via scrambling, then word order statements will prevent the element from spelling out ‘too low’, lest spell out obscure the semantic effect.
- However, if an element spells out “far enough on the left” to *prima facie* obtain a semantic effect – then it does *not* follow that any semantic effect will arise.

It is for this reason that I have proposed a second way to obtain word order changes (Struckmeier 2014): In addition to merging individual argument and adjunct phrases, we can assume that scrambling also occurs when vP merges internally to a higher position. Note that this application of Merge also provides copies of all elements contained in vP in a position “on the left”, in:

- (13) [dieser Arzt alle Patienten]_{vP} wohl [dieser Arzt alle Patienten]_{vP} heilt

Given that Merge is a free process, we will not discuss here why such a movement should take place (but see Struckmeier 2014 for some discussion). Instead, we will focus here on the potential word order effects that such an internal Merger of vP would make available – crucially, without semantic effects.

German, following Fanselow and Cavar (2002), is a language that allows for phrases to spell out distributively. If vP were spelled out distributively, we would (minimally, respecting DP integrity as in the cases for semantically driven scrambling described above) obtain the following orders as a consequence of having two vP copies:

- (14) [_{vP} Peter [~~das Brot~~ isst]] [...] [_{vP} Peter [das Brot ~~isst~~]] isst
[_{vP} Peter [das Brot isst]] [...] [_{vP} Peter [~~das Brot~~ isst]] isst
[_{vP} Peter [das Brot isst]] [...] [_{vP} Peter [~~das Brot~~ isst]] isst
[_{vP} Peter [~~das Brot~~ isst]] [...] [_{vP} Peter [das Brot ~~isst~~]] isst

Note, now, that the movement of vP will not cause any of its internal constituents to obtain new scopal readings, or binding options, or any other semantic effect we know: With regard to every imaginable semantic effect, we expect that phrases contained inside vP are embedded too deeply to take new scopes, or find new binding targets, out of their vP-internal positions. Assume that this would mean that no ordering statements are generated by the vP movement for the phrases inside vP. This, in turn, would mean that semantic transparency would just not apply to vP-internal constituents, and hence their ordering could not be influenced by the semantic system. This would open the possibility that other systems decide word order independently of semantics, at least in some cases.

Ultimately, which other linguistic systems get to influence semantically intransparent word order changes is a complex (and probably not well-understood) question. Still, it is already well-known that prosody will have to be among these systems. In what follows, I will discuss a number of candidates for such prosodic influences on word order (and the reader is again referred to Struckmeier 2014 for a much more detailed picture, for reasons of space). Recall example (11), repeated her for convenience:

- (11) Ich habe das Geld... dem KELLner ~~das Geld~~ gegeben.
 I have the money to-the waiter given

In this example, we can assume that the definite accusative DP *das Geld* had no particular incentive to scramble across the dative DP *dem Kellner*. However, there will be a copy of *das Geld* in a vP copy that merges internally, as in the following structure (with much irrelevant structural detail omitted here for clarity):

- (11) Ich habe [_{VP} ~~ich~~ dem KELLner das Geld gegeben] ... [_{VP} ~~ich~~ dem KELLner das Geld gegeben]...

Assume now that PF is free to choose which argument copies to spell out where. Assume that the nominative *ich* is spelled out preceding the verb (to obtain V2 word order, given that the clause is a V2 declarative). Assume also that the verb spells out in the right sentence bracket (even though it does not have to in other scenarios, again cf. Struckmeier 2014). The question remains, then, which of the four remaining spell-outs the PF mapping (!) would choose for the two DP object phrases – left to its own devices:

- (11) a. Ich habe [_{VP} ~~ich~~ dem KELLner das Geld ...] ... [_{VP} ~~ich~~ ~~dem Kellner~~ ~~das Geld~~ gegeben]...
 b. Ich habe [_{VP} ~~ich~~ dem KELLner ~~das Geld~~ ...] ... [_{VP} ~~ich~~ ~~dem Kellner~~ das Geld gegeben]...
 c. Ich habe [_{VP} ~~ich~~ ~~dem Kellner~~ ~~das Geld~~ ...] ... [_{VP} ~~ich~~ dem KELLner das Geld gegeben]...
 d. Ich habe [_{VP} ~~ich~~ ~~dem Kellner~~ das Geld ...] ... [_{VP} ~~ich~~ dem KELLner ~~das Geld~~ gegeben]...

If, as indicated, the dative NP *dem Kellner* is the focus exponent – which order should PF choose? Given that focus exponence determines stress placement, we would want the system to reflect via scrambling which word order(s) PF regards as the optimal choice with regard to prosodic implementations. The choice is now clear: In (a-c) above, the stressed dative DP is positioned some distance away from the right sentence edge – a phonologically dispreferred outcome. Hence, the spellout indicated in (d) is clearly the best choice: Here, only the participle verb follows the stressed focus exponence – and the best possible stress placement is derived as a consequence. Therefore, this

embedded too deeply inside vP to obtain scope over negation, only the base order scope (with negation scoping over the all-quantified phrase) is ever derived. Since no scope inversion takes place, no ordering statement is issued with regards to the contents of vP. Again, then, the mapping to PF decides the word order – and returns a rather clear-cut decision in this case: Since rise-fall contours are staple contours in German, but fall-rise contours are not (or at least not in the declarative sentence type we analyse here), the mapping to PF will spell out the rise-marked phrase in the only position which allows for the hat contour to arise.

The reader of these pages may now wonder whether the system presented here makes predictions that are appreciably different from the predictions of a syntacto-centric, *Greed*-driven model. I believe that the last example presented is instructive in this regard: Note that, from the point of view of functional grammar, an inverted word order without concomitant scopal effects could be considered an imperfection. In the model presented here, the phenomenon is the direct consequence of an architecture that takes the interfaces seriously: Since LF issues no ordering statements for vP-internal constituents, the mapping to PF is completely free to decide word orders on the basis of prosodic requirements alone. Since the PF branch is not concerned with semantic constellations (or their expression), the apparent ‘disregard’ for (complete) semantic transparency in these cases is expected – in fact: required by a model that grants PF its own decisions.

The opposite scenario can also be found: Assume that an element must spell out ‘on the left’, given that the element has merged in a structurally high position for semantic reasons. Assume furthermore that this element is the (sole) focus exponent of the structure in question. The semantic component (which is not concerned with preferred prosodic outcomes) will issue an ordering statement that ignores prosody – because the semantic interface, too, has its own rules and regulations: The focus exponent will wind up ‘too far on the left’ for a preferred prosodic outcome to arise – because the semantics is oblivious of such purely phonological preferences.

Note, now, that any analysis that matches PF and LF via syntactic heads that implement both word order effects and semantic outcomes will have a hard time replicating the *mismatches* between PF and LF requirements we have just seen.

Also, recall that delegating some word order decisions to the PF (mapping) makes the prediction that word order judgements by speakers of the language

may be far from categorical: Given word-level phonological differences, we do not expect for there to be a specific 'cutoff point' that would turn focus-last preferences into categorical rules, either. Consider the last example:

- (13) Ich werde...
I will
... das Geld dem KELLner / FINANZminister /
the money to-the waiter / treasury secretary /
FINANZministeriumsvorsitzenden geben
treasure president geben.
'I will give the money to the waiter/ treasury secretary/ treasure president.'

As we see, preferences to the effect that the focus exponent spells out 'late' cannot and should be made categorical: There is no fixed number of syllables that may (or may not) follow the main accent of the clause. Given differences in word length, any number of syllables (underlined here) may acceptably follow the main accented syllable – as long as the 'best' spellout (with the fewest possible syllables in the post-focus stretch) will win out. Again, replication in the syntactic domain may be hard, since no syntactic positions (and not even truly syntactic relations) are involved in such cases.

Last, but not least, consider the relational nature of the analysis presented here: The ordering restrictions we have used often state some element X should come to precede an element Y (e.g., if X avails itself of a semantic effect obtained in a structurally high position – or if Y should be positioned closer to the sentence's right edge, and so on). The predictions that such statements make are, by definition, less deterministic than are those found in cartographic approaches to word order: In cartographic works, a total ordering of all functional heads in a clause is predicted – and deterministic processes of syntactic attraction will then determine syntactic structure completely. These approaches warrant a description as 'functionalist', as Fanselow points out, when aspects of language use are encoded as syntactic features in functional heads. The proposal presented here avoids the deterministic predictions in the first place. It (precisely, and fully intentionally) describes German word order as a process that is, on the one hand, relatively 'free' (unlike, say, word orders in English). It also states that German word order involves, on the other hand, both rigid word order restrictions and preferred word orders, and shows

how each be implemented. Crucially, however, no deterministic ordering is predicted to arise anywhere - a subtle, but fundamental difference, I think: German behaves in this way, in clear contrast to deterministic, feature-based approaches.

6. Conclusion

In his work on word order, Gisbert Fanselow presents great observations and influential analyses. Even more impressively, however, I think, are the general strategies that he lays out for other analyses to follow – and the questions that he tries to raise. The ‘minority views’ expressed in his articles not only keep discussions fresh in a general way – rather, they pinpoint specifically where analyses may differ from purely syntacto-centric alternatives. Given the prevalence of these analyses in the field to this day, Gisbert Fanselow has shown enormous originality and insight, to even only come up with a true alternative to the omnipresent status quo. In fact, more than that: He shows us exactly what whole *classes* of alternatives to the status quo in scrambling research (and word order research in general) might look like – and what discussions the field should have, to address the profound criticism the ‘minority view’ levels against the status quo.

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