Integrating syntactic, semantic, and phonological factors for 'free' word order phenomena

Scrambling in German has been used almost ad nauseam to discuss the causes and effects of 'free word order phenomena'. Countless works propose that information structure projections such as [TopicP] attract DP arguments to their specifiers (Meinunger 2000, to name but one). However, the current implementation of movement as internal merge robs these proposals of their explanatory force. Furthermore, phonological factors influence scrambling - but cannot be implemented without look-ahead to PF in spec-driven approaches. In our proposal, syntactic processes yield spell-out options for scrambled elements without resorting to notions like [topic]. PF then determines final spell-out positions, on the basis of phonological factors. Potential parameters of typological variation follow.

Internal merge, according to the duality of semantics, yields scope and binding effects, and/or implements information structural properties (Chomsky 2005, 2006). If none of these effects is achieved or if the effects can be achieved without movement, no internal movement occurs (Chomsky 1999). However, almost ironically, elements in German that have a (marked) focus reading stay put in vP, while [-Focus] elements may leave vP (cf. Lenerz 1977, Meinunger 2000):

\[(1) \text{[CP ... topics ... Vfin ... [TP ... DPs-Foc ...[ (NegP) (AdvP) [vP ... DPs±Foc ...] Vnonfin]}\]

Likewise, in-situ DPs can be interpreted as topics (Lenerz 2002), so [topic] should not trigger movement. Scrambling also does not always yield binding effects (cf. Müller & Sternefeld 1993, 1994):

\[(2) \text{weil [[seine /SCHUHe], [PETER]\_1 \text{getessen}]] hatte} \]

\[\text{because his shoes Peter forgotten had} \]

\[\text{(scrambled binder) does not bind R-expression}\]

Last but not least, scope effects are famously absent in at least some cases, where a 'reversed' scope seems to be attained by a contrastive focus marking (cf. Krifka 1998):

\[(3) \text{weil ein einzelner Arzt [[/ALLen Patienten], ja NICHT [tj]} \text{wird helfen können.} \]

\[\text{because a single doctor all patients PART not will help can} \]

\[\text{(only reading: ~∀!)}\]

Scrambling thus straightforwardly fails to conform to the requirements imposed on optional movement operations. Could scrambling be an obligatory movement - contrary to appearances?

Biberauer & Richards (2006) propose that SpecTP does not always host a subject DP (as in English), but can host the whole pied-piped vP (e.g. in German). The movement, according to standard assumptions, is obligatory, driven by the universal EPP of T. In our analysis, some elements leave vP for a semantic effect (e.g. QP2 in (4)). Precisely those elements that had no reason to leave vP are 'shuttled along' when vP obligatorily moves to SpecTP. Thus, for all elements still in vP at the phase level, two copies remain in the derivation, and a decision for their spell-out position has to be made at PF. PF rules (in German and other languages) require that information foci (e.g., ObjFoc in (4)) be pronounced in their rightmost occurrence. Thus, the spell-out position of focussed elements is invariably in their in-situ position. For non-foci (e.g., QP1 in (4)), other purely phonological requirements of German determine the spell out position - without any look-ahead involved. These appear to 'move optionally' - but only in the sense that no semantic effect is observed (or, indeed, expected):

- Phonologically 'heavy' material preferably occurs in the lower copy (i.e., the Gesetz der wachsenden Glieder, cf. already Behaghel 1909).
- Contrastive foci, and their associated intonational rise, must maintain some distance to the F^0 fall associated with the rightmost focus (cf., e.g., Fery 1993 for German). Thus, short contrastive topics tend to occur in the higher vP copy, to keep some distance to the focus fall (in the lower vP copy). Alternatively, PF implements a low spell-out using other prosodic devices, e.g. pauses.

Note that both orders can straight-forwardly be achieved at PF, e.g. for QP1 in (4):

\[(4) \text{a) PF: [TP [vP QP1 v QP2 ObjFoc V] (AdvP) [QP2 [vP QP1 v QP2 ObjFoc V] V]} \]

\[\text{b) PF: [TP [vP QP1 v QP2 ObjFoc V] (AdvP) [QP2 [vP QP1 v QP2 ObjFoc V] V]} \]
This analysis does not require any additional stipulations as far as the required core syntactic and PF operations are concerned: vP movement is required by word order properties (cf., again, Biberauer & Richards 2006). Distributed Deletion of phrases is independently motivated for German, too: Fanselow & Cavar convincingly demonstrate that well-attested 'split movements' in German warrant this PF operation, when a single phrase has to fulfil spell-out requirements of two positions simultaneously (2002). Thus, if an argument inside vP is focussed, but vP itself is attracted by the EPP of T, vP is expected to split. Thus, syntactic, semantic and phonological factors can be integrated architecturally:

- vP arguments that move for a semantic effect on outcome can move freely to the edge of vP. LF licenses these optional movements — but arguments that have no LF reason to move remain in-situ.
- vP moves to SpecTP for syntactic reasons. Arguments contained in vP are too deeply embedded inside vP structurally to bind or scope from 'their' new position — there is no LF effect on outcome.
- PF determines spell-out positions, where Distributed Deletion allows phonological factors to do so.

Implicit in this analysis is a set of variables that define potential typological variation: German moves adverb phrases, argument DPs (in its middle field), and vP (to SpecTP), and furthermore allows them to spell out distributively. Dutch, on the other hand, only allows variable adverb placement to implement its 'pull-type' scrambling (Neeleman & Reinhart 1998), but allows neither vP movement nor Distributed Deletion. English uses none of these options. Languages that would move categories larger than individual arguments, but would not spell them out distributively might appear to move, e.g., both the object and the verb together — or else move neither. Obviously, a lot more will have to be said in order to account for different types of scrambling, and similar phenomena — say, object shift in the Scandinavian languages. However, the current proposal outlines an architectural framework that integrates phonological, semantic and syntactic factors without look-ahead to the interfaces. The analysis thus hopefully sketches out a new vista for word order research. One question it solves already, we submit, is the interdependence of syntactic, PF and LF properties of scrambling operations in German.

References


Chomsky, Noam 2005: "On Phases". ms., MIT.

Chomsky, Noam 2006: "Approaching UG from Below", ms., MIT.


Fery, Caroline 1993: German Intonational Patterns. Tübingen: Niemeyer.

Krifka, Manfred 1998: "Scope inversion under the Rise-Fall Contour in German". LI 29, pp. 75-112


