The FOFC asymmetry: a layered derivation perspective

The Final-over-Final constraint (FOFC, cf. Biberauer/Holmberg/Roberts 2008 [BHR]), stating an asymmetry in the distribution of disharmonic (head-initial/head-final) word orders such that a head-final phrase may not take a head-initial complement, is compelling, but not fully explained. This paper argues that many FOFC-effects fall out from the organization of the grammar if derivations are layered: layered derivations are networks of subderivations, each perfectly regular (i.e. using only merge), and the output of a subderivation passes through the sound/meaning interfaces before being enlisted as an item in the numeration for the next subderivation (cf. Zwart 2007). While structure-to-order conversion is in principle automatic, yielding head-initial order (Kayne 1994, Fortuny 2008), sound/meaning idiosyncrasies may arise at the PF-interface during the transition from one subderivation to the next. A deviating (head-final) order may arise at this point, predicting that head-final orders are inevitably ‘low’ in the final resulting structure. At the same time, the system does not predict FOFC-effects to be absolute, a desired result (cf. the discussions of FOFC-exceptions in BHR and elsewhere).

Empirically, the approach to the FOFC contemplated here predicts an asymmetry in disharmonic word order systems, such that head-final orders are more ‘lexical’ or ‘construction-like’ than head-initial orders. This follows from the circumstance that head-finality is imposed in the transition from one subderivation to the next, i.e. is a property of a chunk of structure which is introduced in the numeration for the next derivation as a single item with idiosyncratic sound/meaning properties. At the same time, these chunks are still transparently structured, as they are created in a regular subderivation, using only merge. Evidence of ‘lexical/constructional’ character must therefore be sought in parallels, not with unstructured words, but with idioms and clearly structured words like compounds. The paper considers such evidence in a mixed-order language, Dutch, which generally obeys the FOFC.

Typologically, the approach to the FOFC contemplated here is supported by a generalization about the distribution of unexpected word orders:

(1) Assuming a scale running from idiosyncratic (‘lexical’) to regular (‘syntactic’) structures:
   a. deviating word order in a head-initial language is of a (more) lexical nature, and
   b. deviating word order in a head-final language is of a (more) syntactic nature

(1a) is illustrated by English, which is generally head-initial, but has head-final compounds. Consistent with (1a), head-final compounds are the rule crosslinguistically (Williams 1981). (1b) is illustrated by Japanese, which is generally head-final, but has head-initial noun phrase coordination (where ‘head-initial’ refers to the pattern \([ A \ [ & B ] \]), assuming binary branching coordination structure as in Kayne 1994). Consistent with (1b) true noun-phrase coordination (i.e. not using alternative strategies involving adpositions or other devices) is universally head-initial in this sense (Zwart 2009).

The FOFC rules out structures like (2a), but allows structures like (2b) (where AP is the complement of B and CP is the complement of A):

(2) a. \([ B P \ [ A P \ A \ CP ] \ B \ ]\)  
    b. \([ B P \ B \ [ A P \ CP \ A ]\]

If head-final order arises at the interface, AP in (2b) must be the output of a separate subderivation, listed in the numeration for the next subderivation, and merged there as a complement to B; this situation is correctly allowed. Likewise in (2a), BP must be the output of a separate subderivation; while nothing excludes this in principle, the order in (2a) will only emerge if linearization at the interface reorders B and its complement AP, while leaving the order
inside AP intact. The approach to the FOFC suggested here predicts this situation to be marked, as seems correct (the distribution of this pattern in Dutch is discussed in the paper).

Linkers such as complementizers and determiners are syntactic devices, and we don’t, on the approach suggested here, expect them to be reordered except in marked circumstances (certainly in head-initial languages; in head-final languages, the harmony mechanism regulating the position of linkers proposed in Maxwell 1984 may yield the desired trigger for adjusting linear order at the interface). This explains the force with which the FOFC applies to CP and DP, excluding head-final C/D taking head-initial complements.

Reanalysis, reordering, opacity, and idiomaticity are the key diagnostic properties of derivation layer outputs, as discussed in more detail in the paper. The relevance of reanalysis in this domain is that reanalysed chunks are now expected to show deviating linear order first, leading to the (bottom-to-top) directionality of word order change found in Biberauer, Newton, and Sheehan (2008).

In Dutch, only VP is undisputedly head-final (we assume that inflected verbs are in V in embedded clauses, and that TP is head-initial as argued in Zwart 1993), but only where the complement of V is a non-specific indefinite noun phrase, a verbal particle, a secondary predicate, or a nonfinite verb (infinitive or participle). (All other material preceding V arguably precedes V as the result of movement.) The paper argues that the combination of V with these types of complements indeed shows the ‘lexical/construction-like’ character predicted on the approach to the FOFC contemplated here. For example, the participle- auxiliary combination (gelezen heeft [read:PART has] ‘has read’) is clearly the result of grammaticalization/reanalysis, suggesting construction in a separate derivation (V2 does not disprove this, assuming V2 itself to be a PF- reordering, cf. Chomsky 2001). The verb-particle combination (op bellen [up ring:INF] ‘phone’) is always highly idiomatic. The combination of a verb and a secondary predicate (rood verven [red paint:INF] ‘paint red’) shows some unexpected opacity effects, blocking VP-fronting of the verb, which might indicate that this combination has the predicted status as well. Finally, a non-specific indefinite noun phrase (boeken lezen [book:PL read:INF] ‘read books’) loses its non-specific reading as soon as it is separated from the verb (by scrambling, passivization, or fronting), suggesting that the verb and the non-specific object form a unit with idiosyncratic meaning properties. There is some reason to believe, then, that the head-final orders of Dutch are a function of the layered character of the derivation, where a deviating word order is imposed in the transition (via the interfaces) from one derivation layer to the next.