FOFC and the default status of head-finality

Kenyon Branan & Hedde Zeijlstra
(Göttingen University)

I. When it comes to linearization of syntactic structures, there are roughly speaking two approaches. One is that the linear order between the (base) position of the head and its complement is a matter of parametric variation: Heads have a diacritic that linearize them either to the left or to the right of their complement, with variation with respect to that direction across and within languages. The other approach takes the linear order between the head and its complement to be universally fixed. Kayne's (2024) Linear Correspondence Axiom (LCA) takes head-initiality to be universal: heads precede their complements (unless these complements subsequently raise to a position higher than the head). And even though less prominently, the reverse has also been proposed: heads must be always be linearized head-finally (Haider 2013, 2015, Privoznov 2025).

II. One major testing ground for these approaches is the Final-Over-Final Condition (FOFC, Biberauer et al. 2014). FOFC states that within the same extended projection head-final phrases can only dominate head-final phrases, while head-initial phrases can dominate both head-initial and head-final phrases. Biberauer et al. attribute this condition to the LCA, a natural step since head-initiality appears to be unrestricted with respect to the phrases it dominates, while head-finality does not. At the same time, Biberauer et al's approach faces several problems, most notably given the fact that morphologically unbound particles appear to be systematically exempt from FOFC (see also Biberauer 2017). (1) shows a case where a head-final tense particle takes a head-initial phrase in its complement. Such examples appear abundantly, mostly with interrogative, negative or TAM particles.

(1) Ma'e pe Zuze w- enu tazahu ra'e. Tenetehára
what at John 3SG-hear big.pig IPAST
'Where did John just hear the big pig?' (Bonfim Duarte 2012:374)

On these grounds, Zeijlstra (2023) argues that FOFC should be seen as reflection of the fact that inherently there is no grammatical restriction that demands FOFC. Instead, he argues that FOFC is the result of the leftwardness of head movement. Since rightward head movement across dependents is forbidden (see Ackema & Neeleman 2002), it is impossible in a configuration $[_G\ [_H\ H\ XP]\ G]$ for H to end up in a string-adjacent position to G (unless XP moves out). In all other FOFC obeying configurations, this is possible: either H can move into G (when H is head-initial), or H and G are already linearly adjacent (when both are head final). Zeijlstra concludes that this explains why morphologically unbound particles are FOFC-exempt. FOFC configurations only hold for configurations where the two heads at least sometimes need to be spelled out adjacently. That is, when the exponent of G is morphophonologically dependent on H (Though, see for a completely different take Branan (forthcoming)).

III. Zeijlstra's approach naturally captures the FOFC differences between morphologically bound and unbound morphology (but, see Biberauer 2017 for an attempt to capture the behavior of particles in this respect in LCA terms). But at the same time, allusion to head movement opens up a can of worms, as head movement does not receive a natural treatment either in terms of of narrow syntactic movement or in terms of post-syntactic movement. In a recent paper, Branan & Zeijlstra (2025), basing themselves a.o. on Dekany (2018), argue that a movement-based account of head movement effects is problematic on grounds of cyclicity (head movement violates cyclicity both in narrow syntax and at PF), semantic vacuity (head movement does not appear to feed semantics; it cannot bind trace variables), prosodic matching (the syntax-prosody mapping seems to ignore head movement effects) and locality (the head movement constraint (after Travis 1984) does not straightforwardly follow under either narrow syntactic or PF approaches to head movement).

Instead Branan & Zeijlstra (2025) argue that head movement effects are the result of a linearization mechanism where strict adjacency requirements can overrule linear preservation of constituency (i.e. that constituents are linearized as linearly contingent units). Concretely, they propose two linearization mechanisms: One, where certain elements are instructed to precede/follow other elements (for instance, a head has to precede or follow its complement), and one where certain heads have to be strictly linearly adjacent to each other (for instance, where T needs to be strictly adjacent to V). In the former case, a head would be equipped with a head-initial/final diacritic (H<Comp or H>Comp). In the latter case, T would carry a diacritic that says that it be immediately adjacent to V (T<<V or T>>V).

IV. This approach can naturally capture head movement effects. Take French T<V<Adv(erb)<OB(ject) linearizations. Given that French is head-initial across the board, T has a diacritic H<Compl, so all VP-internal material must follow T. For the same reasons, V must precede its object. At the same time, T must be linearly adjacent to V (French requires T<<V), so that the only available linear orders are T<V<Adv<OB and T<V<OB<Adv, which are indeed the available linear orders. By contrast, English lexical verbs only require H<Comp, not T<<V. Under the assumption that consistency be otherwise preserved, the available orders in English are T<Adv<V<OB and T<V<OB<Adv.

As straightforward as such a mechanism looks like, it cannot derive mixed harmonic orders. Take German's canonical C<T<V_1<OB<V_2 main clause orderings. If there is an ordering requirement V>OB (given that German VPs are head-final) and there is an ordering requirement that C<TP and therefore C<VP (given that German CPs are head-initial), then a conflict emerges if C<<T<<V, since C<V_1, $V_{1,2}$>OB and C<<T<<V together form a contradictory set of linearization statements.

V. The solution, already suggested in Branan & Zeijlstra (2025) is that there are no symmetric ordering relations < and >, but rather two asymmetric ordering relations: specified/marked < and underspecified/unmarked •. X<Y means that X should be linearized to the left of Y. X•Y means that means that X should be linearized to the right of Y *unless this contradicts other linearization statements*. For German, this would amount to the following linearization statements: C<T, T•V_1, $V_{1,2}$•OB, C••T••V (where •• indicates strict adjaceny). Now, this can only result in the linear order C<T<V_1<OB<V_2, which is indeed the only available order. Interpreting • as > would lead to a set of contradictory linearization statements.

VI. Now, going back to FOFC, this indeed yields the condition that head-final phrases can only be dominated by head-final phrases. The reason is that the order C<T<V_1<OB<V_2 can be derived, but the mirror image V_1<OB<V_2<T<C, i.e. a language with head-initial VPs and head-final CPs, cannot. The reason is that then there would be the following linearization statements: $V_{1,2}$<OB, C•T, T•V_1 and C••T••V_1. Then, • must be interpreted as <, yielding the order C<T<V_1<V_2<O, where all verbs precede the object, and where C, together with T, is adjacent to the highest verb V_1. Interpreting • as > would yield a contradiction.

VII. Assuming that there are only two asymmetric ordering relations: < and • (where X<Y means that X should be linearized to the left of Y, and X•Y means that means that X should be linearized to the right of Y unless this contradicts other linearization statements) accounts for FOFC in a framework where head movement effects are neither the result of narrow syntactic or postsyntactic movement. But it would also require that unmarked head-final diacritics give rise to linearization statements that can be overruled, but marked head-initial diacritics give rise to linearization statement that cannot be overruled. The consequence is that head-finality should be thought of as some last resort default linearization while head-initiality is a more directly encoded, specific linearization requirement. In other words, head-finality is the default and head-initiality a marked linearization option.