

# PARTICLES AND THE FINAL-OVER-FINAL CONSTRAINT

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Phrase-final particles in head-initial languages, like the Sentence-Final Particles found in Chinese varieties or the interrogative particles found in Thai and Estonian, superficially violate the Final-over-Final Constraint/FOFC in (1) (cf. Biberauer, Holmberg & Roberts/BHR 2008 *et seq.*).

## (1) The Final-over-Final Constraint (FOFC)

A head-final phrase  $\alpha$ P cannot dominate a head-initial phrase  $\beta$ P where  $\alpha$  and  $\beta$  are heads in the same Extended Projection.

If FOFC is a genuine hierarchical universal as argued by BHR, these violations must only be apparent: closer study should reveal ways in which these structures do not in fact contravene (1). This matter has already received some attention in the literature (cf. i.a. Cardinaletti 2011, Aldridge 2011, Bailey 2012, Cinque 2013, Chan 2013, Paul 2014, Erlewine 2015). The purpose of this paper is (i) to highlight five theoretically possible ways in which final particle structures in head-initial languages (henceforth: *PART-final structures*) could in fact be FOFC-compliant, (ii) to show on the basis of specific case studies that all of these theoretically predicted structures do in fact exist, and (iii) to offer an acquisition-centred argument as to why these case studies might be expected to be representative of the more general situation as far as PART-final structures are concerned. The key argument will be that the widespread occurrence of PART-final structures in head-initial languages follows directly from the fact that the formulation of FOFC in (1) leads us to expect at least the five distinct scenarios in (2) under which a featural mismatch between the final particle and the Extended Projection to which it adjoins will produce a FOFC-compliant final-over-initial structure; wherever languages have lexical items with the appropriate internal specifications, then, we expect external distribution that superficially violates FOFC.

The ways in which PART-final structures could, despite surface appearances, be FOFC-compliant are given in (2):

- (2) a. the particle is structurally lower than the head-initial structure – e.g. Scandinavian-style VO-Neg, also found in some of the languages discussed in Reesink (2002), Dryer (2009) and Idiatov (2010), and in Estonian-style VO-Q (Bailey 2012).
- b. the particle is categorially distinct from the head-initial structure, featuring a distinct categorial feature – e.g. the clause-final marker in complement and relative clauses in Burmese (Simpson 2008), Chinese (Zhang 1999, Simpson & Wu 2002), Shupamem (Nchare 2012), and Yom (Morgan 2012).
- c. the particle is categorially distinct from the head-initial structure, in lacking a categorial specification. There are two sub-types: (i) those lacking a categorial specification, but encoding formal features [F] alongside semantic ones [S] (cf. Chomsky 1995) – e.g. the *denn*-type particles discussed in Bayer & Obenauer (2011), focus particles and also fully grammaticalised Q-particles deriving from disjunctions (Aldridge 2011, Bailey 2012), and (ii) those encoding exclusively [S]-features, i.e. lacking [F] – e.g. many Chinese SFPs (Biberauer & Hu 2014, Biberauer 2015), Brazilian Portuguese *não* (Biberauer & Cyrino 2009), and the clause-final modal elements found in many East Asian languages (cf. i.a. Duffield 1997, 2013, and Enfield 2003)
- d. the particle is an agreement-realising element that is not present as a Lexical Item in the Numeration, but is only introduced at PF as a reflex of NS-internal Agree operations – e.g. the Afrikaans negative-concord marker (Biberauer 2009), the final negators in

many of the bipartite structures discussed in Bell (2004), Dryer (2009) and de Vos & van der Auwera (2010), and the final elements in “forked modality” structures (Cheng & Sybesma 2003).

The acquisition-oriented account of these facts rests on the independently proposed idea that formal features/[F]s are (mostly) not UG-specified (*contra* Chomsky 2001:10; cf. Zeijlstra 2008, Biberauer 2011 *et seq.*, Wiltschko 2014). As such, Extended Projection-defining “base” categories like V, N, etc. are not expected to be universally given (nor, indeed, atomic). Consequently, the acquirer must “construct” their formal make-up, drawing on:

- (i) the minimal resources specified in UG; crucially here, a template for formal features (e.g. [iF]/[uF]) and, for purposes of exposition, a movement-signalling diacritic  $\wedge$ , which is *inter alia* also responsible for head-final orders (though see Biberauer & Roberts 2015 for a diacritic-less approach); and
- (ii) general learning biases; crucially here, minimising the number of [F]s postulated (Roberts & Roussou’s (2003) Feature Economy) and maximising the use that is made of postulated [F]s (Roberts’ (2007) Input Generalization).

Given the salience in the input of ordering information and the uncontroversial fact that basic word-order properties are fixed early (cf. *inter multa alia* Wexler’s work on Very Early Parameter Setting), it is argued that headedness (finality/initiality) is in fact a category-defining property: in V-final languages,  $\wedge$  is *part of* what it means to “be a (lexical) verb”. By contrast, substantive formal features are category-refining, facilitating sub-divisions within existing categories. On the emergentist approach to formal features advocated in Biberauer (2011 *et seq.*), substantive formal features have to be acquired on the basis of morphological and syntactic cues in the input – e.g. movement, agreement, “silence”, (apparent) multifunctionality (cf. also Wiltschko 2014) – each of which signal systematic departures from Saussurean arbitrariness, and, thus, the need to postulate not just the phonological and semantic features that are “virtually conceptually necessary” for the creation of arbitrary form-meaning pairings, but, additionally, formal features that account for the more systematic, but still arbitrary regularities that define grammatical patterns/grammars. Thus the presence of substantive formal features like [person] and [number]-features may distinguish a category T from the category of lexical verbs in some languages; or T may lack the  $\wedge$  intrinsically associated with lexical verbs in some languages (e.g. Nupe and Vata), but not others (e.g. rigidly head-final languages), with concomitant, and empirically substantiated, differences in the “verbiness” of the higher functional heads. (3) thus schematises a (highly simplified) well-formed verbal extended projection. Since  $\wedge$  can never be category-refining, however, children will never postulate (equally simplified) (4); where they observe final tense-elements in a language with head-initial VPs, they will assume those tense-elements to be non-verbal, as the Extended Projection of V in this case lacks  $\wedge$ . More generally, final elements associated with head-initial Extended Projections will necessarily be analysed in accordance with possibilities like those in (2), thus ensuring the exceptionless nature of (1).

