Distributed Lexical-Functional Grammar

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In this paper we propose a synthesis of *Distributed Morphology* (DM; Halle & Marantz 1993) and *Lexical-Functional Grammar* (LFG; Kaplan & Bresnan 1982): *Distributed Lexical-Functional Grammar* (DLFG). We argue that this yields a synthesis that maintains complementary strengths of the two frameworks and mitigates some of their weaknesses. DLFG enables a syntactocentric explanation for *morpheme ordering*, such as the Mirror Principle (Baker 1985) — a strength of DM but a potential weakness of any strictly word-based realizational version of LFG (e.g., Dalrymple 2015) — while also offering an account of *stem allomorphy* — a strength of LFG but a potential weakness of DM.

Distributed Morphology was conceived with investigation of morphology and its interaction with syntax very much foremost, whereas research into the morphological component of the grammar in LFG has only recently been reinvigorated, after a period of relative stagnation. As a result, LFG has not kept pace with developments in morphological theory. LFG by default assumes an incremental model of the lexicon (see Stump 2001). However, morphology for some time has been experiencing a shift away from incremental approaches to realizational ones. This reinvigoration brought with it an agenda to develop a realizational morphology-syntax interface (see Dalrymple 2015, for example). While most of the work in this domain assumes a realizational-inferential (word-based) approach as exemplified by PFM (*Paradigm Function Morphology*, Stump 2001, in press), realizational approaches are divided between this approach and the realizational-lexical (morpheme-based) approach, which is dominated by DM.

We propose simple changes to LFG's c-structure that enable a realizational model. We also propose simple constraints on exponence that specifically enable a realizational-lexical (DM-like) interface. We first propose that c-structure rules do not generate a structure with words as its terminal nodes, but rather that c-structure terminates in sets of unexpressable functional material that map to f-structure (such as (↑ SUBJ PERS = 3^{RD})), paired with arbitrary lexical identifiers. This allows us to loosen the relationship between c-structural occurrence and realization in a principled way.

While this formulation enables an interface with a PFM-style morphology, the ability to realize non-terminal nodes also enables a DM-style morphology, but one that addresses a significant weakness of traditional DM: stem allomorphy (which more generally forms the chief criticism against morpheme-based models). This model poses significant advantages over traditional DM. First, since the f-structure mappings are inherited by mother nodes and realization is monotonic, certain constraints like inflectional class matching or agreement marking can be done on the overall structure and complex nodes can be realized without ad hoc mechanisms such as covert movement or *fusion*. This also allows for an explanation of stem allomorphy without resorting to powerful ad hoc readjustment rules (Haugen & Siddiqi 2013, Bermudez-Otero 2013).

Our proposal also allows for a morpheme-based morphology within LFG as an alternative to the word-based PFM. Such an alternative enables syntactocentric explanation for morpheme ordering, which the incremental model of LFG already excelled at (Baker 1985) but a realizational word-based model loses. Lastly, from a morphosyntactic perspective, a c-structure-based theory of exponence enables stronger locality conditions than an alternative f-structure based theory of exponence built on a more traditional view of LFG. F-structures by design flatten c-structure distinctions, because all the information in a ↑ = ↓ path maps to the same f-structure. However, stem allomorphy is considerably more local than this predicts, since it would allow stem allomorphy conditioned by the entire clause.

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