Beyond N, V, and Adj: Frame Semantics and the Closed-class Lexicon

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Although the most familiar examples of Fillmore's Frame Semantics (Fillmore 1982) are event frames evoked by verbs, the FrameNet Project at ICSI has always asserted that frames can represent not only events, but also relations, states, and entities and that they can be evoked by words of various parts of speech. For example, the frame Evading contains the lexical units (LUs) *elude.v, evade.v, evasion.n* and *get away.a.* This is a clear contrast to another major lexical resource, WordNet (Fellbaum1998), which has separate hierarchies for nouns, verbs, adjectives and adverbs, with some cross-links between derivationally related words. In recent years, the FrameNet team has gradually added more LUs of other parts of speech; the FN database currently contains 252 LUs with POS adverb, 154 preposition LUs, and 14 subordinating conjunction LUs. Most of the adverb LUs are uncontroversial, appearing in conventional frames, e.g. the Coincidence frame contains the LUS *accident.n, chance.a, chance.n, chance.v, coincidence.n, random.a*, and *randomly.adv*. We plan to use the WordNet derivational links to suggest additional words of different POS for existing frames, and looking into whether distributional representations of word meaning can help in this process (cf. Pennacchiotti *et al.* 2008).

Recent annotation of new types of text, such as TED talks and research into covering more of the high-frequency English words has also highlighted the need for better coverage of prepositions, conjunctions, pronouns, interjections, etc. However, distinguishing their different uses is difficult: sometimes they evoke frames independently, other times they to serve only as "markers" of particular FEs, some occur in only constructions or multi-word expressions which then evoke frames. FrameNet currently covers static locative and temporal prepositions fairly well, but going further will be quite challenging; e.g., defining the full range of uses of *for.prep* (currently in the frames Duration and Taking_sides) and *with* (currently in Accompaniment and Have_associated). The personal pronouns will require at least one new frame representing the communication context, which might also be the basis of a treatment of deictics like *this* and *those.* (*Here* and *there* are already in the frames Locative_relation and Spatial_collocation.) As usual, the development of new frames and frame relations will be guided in part by previous work on these topics by Fillmore (e.g. Fillmore 1971) and other cognitive linguists such as George Lakoff, Len Talmy, and Ron Langacker.

Some frames, including those containing LUs outside the N, V, and A parts of speech, also raise questions as to when the semantics is better represented as arising from a single frame-evoking expression versus one or more constructions (which might include lexical units as part of their definitions). For example, the subordinate conjunction *but.c* is annotated in the Concessive frame, but *and* is not yet listed in FrameNet, on the grounds that coordination is primarily a construction rather than a frame. Similarly, the Negation frame contains the LUs *not.adv, no.art*, and *without.prep,* but the scope of the negation depends in part on the constructions in which they are used. The new texts also contain many MWEs whose meaning is primarily pragmatic and conversational, such as *How are you*, *Thank you,* and *in fact* and constructions such tag questions. We will discuss the progress made and challenges faced in this research and the implications of these questions for the development of Frame Semantics in English and other languages

References
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