Phonetic evidence for a distinction between Focus and discourse-new in English and its implications for grammatical theory

In this paper evidence from patterns of phonetic prominence in English is presented that supports the hypothesis that the theory of grammar makes a representational distinction between contrastive/alternatives focus and discourse-newness (or “informational focus”) in the syntax and in its interface with phonology/phonetics. Many treatments of the focus-phonology interface adhere to the position that there is no such distinction (e.g. Selkirk 1995, Ladd 1996, 2008; Gussenhoven 2004). And current formal theories of the semantics of focus conflate the two, taking either contrastiveness or discourse newness/givenness (but not both) as the basis for focus meaning (Jackendoff 1972, Rooth 1992, Schwarzschild 1999, Büring 2007).

The evidence comes from an experimental investigation of English comparing productions of all-new sentences with sentences that combine contrastive/alternatives focus (FOC) and constituents qualifying only as discourse-new, as in (1):

(1) a. …. FOC New : e.g. We only asked [Mánny] FOC to work on the [ánnex]
b. …. New FOC : e.g. We only asked [Mánny] to work on the [ánnex] FOC
c. …. New New : e.g. We asked [Mánny] to work on the [ánnex]

Earlier phonetic studies of the (contrastive/alternatives) focus vs. new distinction employed a paradigm where the material surrounding the Focus is discourse-given, as in responses to alternative questions (Cooper et al 1985), in correction statements (Breen 2007) and responses to wh-questions (Eady and Cooper 1986, Xu and Xu 2005, Breen 2007).

(2) I II III
   a. New New New
   b. FOC Given Given
   c. Given FOC Given
   d. Given Given FOC

These studies report greater duration and higher pitch for FOC constituents as compared to discourse-new in between-sentence comparisons, and would therefore seem to support a FOC-new distinction. Yet, this findings may not hold up in the end. A design flaw of these earlier experiments is that fully controlled comparison of the prosody of FOC and new constituents is not possible, since the FOC constituent in the contrastive sentence types and its corresponding new constituent in the all-new sentence type do not appear in phonologically identical environments within the sentence. Our experiment doesn’t share this flaw, and moreover allows within-sentence comparison of contrastive focus and new.

Between-sentence comparison of the data from FOC and new constituents in the current experimental paradigm shows that FOC constituents have significantly greater duration than new constituents in both positions compared. Within-sentence comparison of degree of pitch protrusion in the three sentence conditions shows a significant three-way contrast, with the steepest downtrend for the FOC-new sequence, a lesser downturn for the new-new case, and least downturn or none at all with the new-FOC sequence. So the data supports a grammatical distinction between FOCUs and discourse-new. It can be accounted for through the combined effects of (i) a syntax-phonology interface theory that calls for a FOC-marked constituent in the syntax to bear maximal local prosodic prominence in phonological representation (e.g. Truckenbrodt 1995) and (ii) a theory of phonetic interpretation that allows for interpretation of greater prosodic prominence in terms of greater duration and greater pitch protrusion.
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