

A New Paradigm for Studying the Prosodic Distinction between Contrastive Focus and Discourse-New

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In this paper evidence from patterns of prosodic prominence in English is presented that supports the hypothesis that the theory of grammar makes a representational distinction between contrastive focus and discourse-newness in the syntax and in its interface with phonology/phonetics. The notion that contrastive focus and discourse-newness (or “informational focus”) must be distinguished in the grammar is not widely accepted in theories of focus phonology and focus semantics. 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 phonological/phonetic evidence to be presented here comes from an experimental investigation of English which compares the prosody of productions of all-new sentences with the prosody of sentences that combine putative focus of contrast constituents (FoC) and constituents qualifying only as discourse-new (New), as in (1):

- (1)
- | | |
|----|------------------|
| a. | [.... FoC New] |
| b. | [.... New FoC] |
| c. | [.... New New] |

Earlier phonetic studies of the contrastive-new distinction in English differ from ours in employing contrastive sentences in which the material surrounding the contrastive 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). The sentences compared in this other work have been of the following types:

- (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 New, and would therefore seem to support a FoC-New distinction. Yet, an important shortcoming of the design of these earlier experiments is that fully controlled comparison of the prosody of (putative) FoC and New constituents is not possible, since a (putative) 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. For example, we know that in a sentence of type (2c) in English, the (putative) FoC in medial position would be followed by “deaccented” material, whereas the medial New constituent in (2a) would be followed by accented material; comparable distinctions in surrounding prosodic context appear with the other FoC sentence types. A difference in prosodic context itself could therefore potentially be responsible for differing phonetic properties, rather than a putative difference in (putative) FoC vs. New status (and a consequent (putative) difference in phonological representation). This shortcoming in design is of particular importance in the study of pitch patterns, which are known to be context dependent (van de Berg et al 1992, Ladd 1984, Liberman and Pierrehumbert 1984, Truckenbrodt 2004). So the phonetic differences in pitch and duration between FoC and New in corresponding sentence positions that these earlier studies report can therefore not be taken to support a grammatical difference between FoC and New on the medial constituent. They might be consistent with a common F-marking status for both, as assumed in many theories of focus phonology and semantics.

Another shortcoming of the paradigm of experimental stimulus materials in (2) for English is that it does not allow study of the question whether a FoC constituent has greater phonetic prominence (duration, pitch protrusion, intensity) than other constituents *within the same sentence*. This is because Given constituents may entirely lack pitch accent and presumably also lack phrase stress prominence (Ladd 1980, Féry and Samek-Lodovici 2006), while the New phrases appearing in the paradigm always carry pitch accent (and phrase stress). So, the paradigm in (2) does not allow one to test the hypothesis that a FoC constituent (but not a New one) must carry greater phonological stress (and consequent phonetic prominence) than other material in the same domain (Truckenbrodt 1995).

In the paradigm of English sentences employed in the current experiment, however, the New phrases in both the all-New condition and the conditions combining FoC and New in the same sentence (cf. (1) turn out to carry pitch accent, so that controlled sentence comparison of FoC and New prosody both within sentences and between sentences is possible. The near-minimal triplets of sentences employed in the experiment all contain a pronominal subject followed by a verb phrase containing two complement phrases: they include an all-new sentence, e.g. (3c), and sentences with a preverbal FoC-sensitive particle like *only* which could be associated to either one of the verbal complements, e.g. (3a) and (3b).

- (3)
- a. We only asked [Mánný]_{FoC} to work on the [ánnex]_{New}
 - b. We only asked [Mánný]_{New} to work on the [aánnex]_{FoC}
 - c. We asked [Mánný]_{New} to work on the [ánnex]_{New}

The sentences were elicited as “natural continuations” of a preceding narrative that was auditorily and visually presented and which made clear (a) the discourse-new status of all the constituents in the sentence and (b) suggested which complement would count as the focus of contrast in association with *only*, in the case of the FoC sentence types.

Between-sentence comparison of corresponding FoC and New constituents shows that FoC constituents had 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 downtrend for the New-New case, and least downtrend or none at all with

the New-FoC sequence. Taking the New-New sequence as a baseline, the property of FoC correlates with greater protrusion above the baseline.

This phonetic data does support the notion that the grammar distinguishes between FoC and New. The data 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 phrasal prosodic stress prominence in phonological representation and (ii) a theory of phonetic interpretation that allows for interpretation of greater phonological stress prominence in terms of greater duration and greater pitch protrusion.

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