

**Non-pitch based focus-marking in English:  
Second occurrence focus and its consequences for theories of intonation.**

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The truth conditional interpretation of focus-sensitive operators, such as ‘only’, depends on the associated material. Consider the example in (1). Depending on with which of the two post-verbal argument phrase ‘only’ associates (indicated in (2a,b) by [ ]<sub>F</sub>), the sentence has different truth conditions. This can be illustrated by the two continuations in (3a,b). The continuation in (3a) is compatible with (2a) but incompatible with (2b). On the other hand, the continuation in (3b) is compatible with (2b) but not with (2a).

- (1) The frozen chicken only hit Mary in the back.
- (2) a. The frozen chicken only hit [Mary]<sub>F</sub> in the back.  
b. The frozen chicken only hit Mary [in the back]<sub>F</sub>.
- (3) a. ... luckily it didn't hit Peter. He doesn't like frozen chicken at all.  
b. ... luckily the chicken didn't hit her on the head.

So called focus-to-accent and accent-to-focus theories (cf. Ladd 1996) are based on the assumption that this association with focus is marked by pitch accents in English (e.g. Bolinger 1958; Kadmon 2001; Erteschik-Shir 1999; Jackendoff 1972; Selkirk 1995; Welby 2002). While this assumption is relatively unproblematic for ordinary cases of focus, such as in (1) (but see Cohan 2000; Hedberg & Sosa 2001; Hedberg 2003), this talk presents new experimental results from the study of second occurrence focus (see below) that challenge current accent-to-focus theories.

The term second occurrence focus, as in (4c) and (5c), refers to repeated focus following a nuclear accent. The examples in (4c) and (5c) are mostly a repetition of (4b) and (5b) but with and early pitch accent on ‘the state prosecutor’ (facilitated by the additional, non-repeated focus-sensitive operator ‘even’). The preceding context in (4a) and (5a) serves to unambiguously clarify the intended association with focus (henceforth focus assignment). To ease readability, focus assignment is also indicated by [ ]<sub>F</sub> for ordinary focus and [ ]<sub>SOF</sub> for second occurrence focus.

- (4) a. Both Sid and his accomplices should have been named in this morning's court session.  
b. But the defendant only named [Sid]<sub>F</sub> in court today.  
c. Even [the state prosecutor]<sub>F</sub> only named [Sid]<sub>SOF</sub> in court today.
- (5) a. Defense and Prosecution had agreed to implicate Sid both in court and on television.  
b. Still, the defense attorney only named Sid [in court]<sub>F</sub> today.  
c. Even [the state prosecutor]<sub>F</sub> only named Sid [in court]<sub>SOF</sub> today.

The prosodic correlates of second occurrence focus discovered so far are very subtle (e.g. very small duration and intensity differences; cf. Beaver et al. 2003). This paper has two purposes. First, I show that second occurrence focus-marking is *perceptible*. Second, I present several studies comparing ordinary (non-repeated/first occurrence) focus-marking to second occurrence focus-marking. The results put second occurrence focus-marking in the context of prosodic marking of focus in general. Most importantly, it is shown that, unlike standard focus-marking, second occurrence focus-marking can but does not have to be realized by a pitch accent. Of the features investigated, duration and energy-marking are the most reliable

predictors of second occurrence focus (as compared to non-focal material). This means that, on the one hand, second occurrence focus is consistently marked by prosody (contrary to Partee 1999) while, on the other hand, this prosodic marking is not pitch-based (contrary to accent-to-focus theories, such as Selkirk 1995).

The possibility of systematic non pitch-based marking (in this case of focus) is in conflict with almost all current models of focus-marking and sentence prosody, which almost exclusively rely on pitch-marking (e.g. Bolinger 1958; Kadmon 2001; Erteschik-Shir 1999; Jackendoff 1972; Selkirk 1995; Welby 2002).

To sum up, second occurrence focus-marking results in a perceivable prominence above the word level (i.e. phrasal stress) in the absence of a pitch accent. Any account that disconnects pitch accent placement from sentence level prominence and has a notion of secondary prominence (e.g. Halliday 1967; Hayes 1995; Ladd 1996; Liberman & Prince 1977; Pierrehumbert 1980; Vanderslice & Ladefoged 1972) is compatible with this result, whereas any theory of intonation that conflates pitch accent placement and prominence (e.g. Erteschik-Shir 1997, 1999; Gussenhoven 1991; Selkirk 1984, 1995; Steedman 2002) is incompatible with the results presented here.

## References

- BEAVER, DAVID, BRADY CLARK, EDWARD FLEMMING, AND MARIA WOLTERS. 2003. *Debunking the argument from Second Occurrence Focus*. Presented at the LSA 2004 Meeting, Atlanta, GA.