

Phonetic cues to semantic focus in Estonian: Is there any interaction between word and phrase-level prosody?

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The three quantity degrees in Estonian do not involve only durational characteristics but also certain tonal movements on the primary stressed foot containing a stressed and an unstressed syllable (see e.g., Lehiste, 1960, 1997; Lippus et al., 2013). A speech production experiment was carried out to test whether this tonal cue that functions at the lexical level interferes with deaccentuation at the sentence level. In a number of languages, sentence focus does not cause complete deaccentuation of post-focal components but rather compression of pitch to some degree (see e.g., Cruttenden, 2006; Xu, 2011). Also, Gårding (1981) observed F₀ excursions that were at smaller range than the excursion on the focal word on the post-focal words in Swedish. Since they were clearly psycho-acoustically present, she argued that these were word accents preserved for retaining the morpho-lexical meanings of words. Analogously, this study asks for Estonian, whether quantity-determined pitch movements need to be preserved in the post-focal words to some degree.

10 speakers (5 males and 5 females) with an average age of 28 years took part in a speech elicitation experiment with a task to prepare and read out aloud sentences displayed on a computer screen. Three types of sentences were constructed to elicit (1) broad focus on the whole sentence, (2) narrow focus on the adverbial ‘today’ followed by the object noun phrase, (3) and narrow focus on the object noun phrase. 17 different words (5 for first quantity degree (Q1), 6 for second quantity degree (Q2) and 6 for third quantity degree (Q3)) served as target words in the position of object noun phrase. The pitch range was defined as the difference between pitch maxima of the stressed and the unstressed syllable of target word.

The range of pitch fall was significantly smaller for short quantity (Q1) than for long quantities (Q2, Q3), probably while there is less time for pitch to fall during the short quantity degree. This difference between short and long quantities, however, disappeared in post-focal position. Therefore, the tonal cue of quantity did not interfere with deaccentuation. This result is also consistent with an earlier study of Estonian spontaneous speech (Lippus et al., 2013). In line with Asu and Nolan (1999, 2007), the current study demonstrated that the tonal cue of Estonian quantity is a secondary cue next to the duration and need not to be retained in the phrasal context. Importantly, sentence intonation interacts mainly with information structure in Estonian.

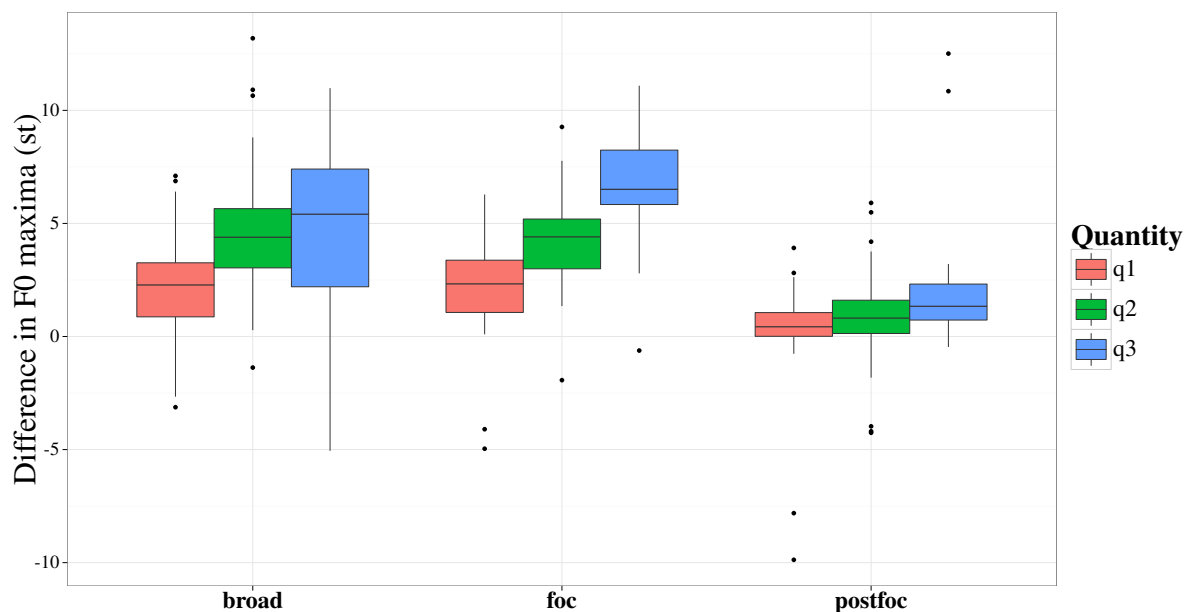


Figure 1: The size of F0 excursion as a function of quantity and focus structure of the target word. In the target word, the maximum F0 was measured in the stressed as well as in the unstressed vowel. The difference between those maxima was defined as a range of excursion estimating the degree of deaccentuation.

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