

The issue of “prominence” in prosodic typology: Phonological strength vs. narrow focus

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The term “prominence” can be ambiguous in the prosodic literature (Ladd & Arvaniti 2023). “Prominence” may refer to relative phonological strength in a metrical grid; stressed syllables are prominent at the word level, and in English, the nuclear pitch accent (“sentence stress”) is prominent at the phrase level (e.g., Liberman 1975). “Prominence” may also refer to narrow focus; Jun (2014) refers to Korean and Mongolian as “edge prominence” languages in which focus is cued by a prosodic phrase edge, in contrast with “head-prominence” languages like English in which focus is cued by a pitch accent on a stressed syllable. This typological model, however, conflates potential senses of “prominence”; while phrasing may cue *focus* in Korean, it is unclear if *phonological* prominence is at play. “Edge-prominence” languages typically lack word-level stress, but perhaps there could be metrical strength asymmetries in such languages that “begin” at the level of the phrase.

One metric that might support a phonological status of prominence (Criteria 1) is whether an analog of prominence can be identified in broad focus. In English, nuclear stress is perceived in broad focus as final in the string of pitch accents – i.e., the Nuclear Stress Rule in *SPE* – but in “edge-prominence” languages the question of whether there is such default prominence in broad focus is not often considered. Another metric (Criteria 2) is the scope of acoustic strengthening associated with focus (e.g., greater duration, intensity, etc.). Prominence-related strengthening often displays a wider scope, whereas boundary strengthening may be more restricted to a particular edge (Cho 2016).

Amharic, a South Semitic language of Ethiopia, may shed light on this area. Amharic displays a similar phrasal prosody to “edge-prominence” languages, including a purported lack of word-level stress (Ullendorf 1955, Kellogg & Barnes 2024) and an intonation pattern of H boundary tones at the right edge of a roughly word-sized prosodic constituent, an Accentual Phrase (AP; Kaeck 2022; see Figure 1). In broad focus in Amharic, Alemayehu (1987) and Hayward (1992) describe the last AP-final H tone in a string as being scaled higher, and resembling a nuclear pitch accent; this potentially points to a default position of phonological prominence in an “edge-prominence” language.

To investigate prominence in Amharic, we carried out a production study in Addis Ababa, Ethiopia. 16 Amharic speakers recorded broad focus sentences (800), and narrow focus dialogues (527). Utterances varied in type of verb (“simple” verb or “complex” verb-auxiliary), and order of two preverbal elements (adverb and object). In a mixed-effects regression model, focused words display higher intensity in initial vowels (Figure 2) relative to pre- [$\beta = -0.25, p > 0.05$] and post-focal [$\beta = -0.61, p > 0.001$] words. This may indicate a higher prosodic boundary at the start of focus, with initial strengthening. Focused words may also display the highest pitch peak, especially in utterances with a complex verb (right plot in Figure 3), but this trend is not significant. In broad focus, there is downtrend in acoustic values from the utterance-initial subject, but preverbal objects *resist* this trend, with greater initial intensity compared to preverbal adverbs [$\beta = 0.68, p > 0.01$] (Figure 4); this may indicate a left boundary before a preverbal object, akin to a focused word. Preverbal objects also display a significantly higher pitch peak than adverbs [$\beta = 1.05, p > 0.001$] (Figure 5), and in a subset of eligible utterances (31%) host the highest peak overall (e.g., Figure 1).

In sum, there is a similar acoustic profile in Amharic of words in narrow focus, and preverbal objects in broad focus – higher initial vowel intensity, and a higher final H tone. This could point to default prominence in preverbal objects (i.e., supporting Criteria 1). In utterances without a preverbal object, prominence may be assigned to the utterance-initial subject. The higher peak in such words may constitute a prominence-cueing “nuclear” boundary tone (see Lialiou et al. 2021, Grice 2022); the peak is not always *highest* in the utterance, but the nuclear pitch accent in English is also not always scaled higher (e.g., Ladd 2008). As in English, nuclear stress may be perceived in Amharic even in the absence of acoustic support; this could be confirmed in a perception study. A challenge, however, to a prominence account is that words do not display strengthening at *both* edges; there is only initial strengthening, not final lengthening as well (i.e., not supporting Criteria 2), such that results could be consistent with mere boundary-related strengthening. While the present study thus points to potential analogs of prominence in broad focus in Amharic, more work is needed to confirm whether there is metrical strength at the phrase level in “edge-prominence” languages, and to clarify what is meant by “prominence” in prosodic typology.

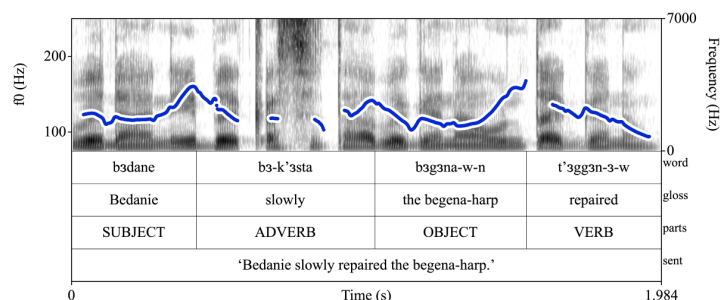


Figure 1. F0 track in broad focus with AP-final H boundary tones; highest peak on preverbal object.

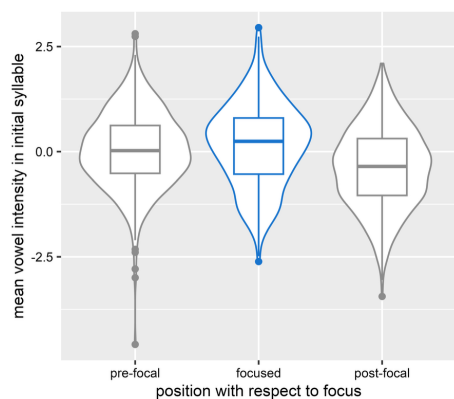


Figure 2. Initial strengthening in focused words; higher mean vowel intensity.

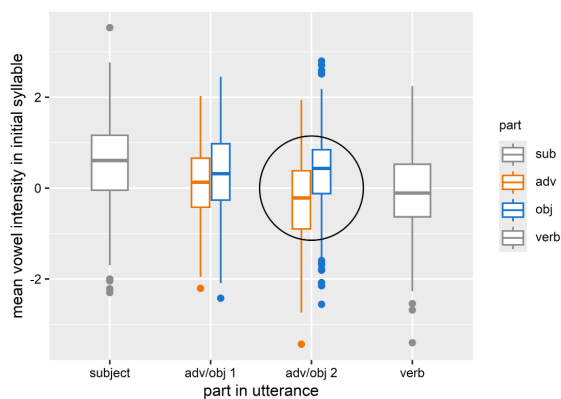


Figure 3. Initial strengthening in preverbal object in broad focus; higher mean vowel intensity.

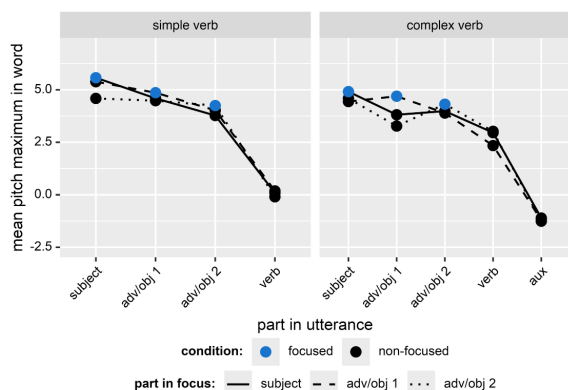


Figure 4. Higher pitch in some focused words (blue dots); not statistically significant.

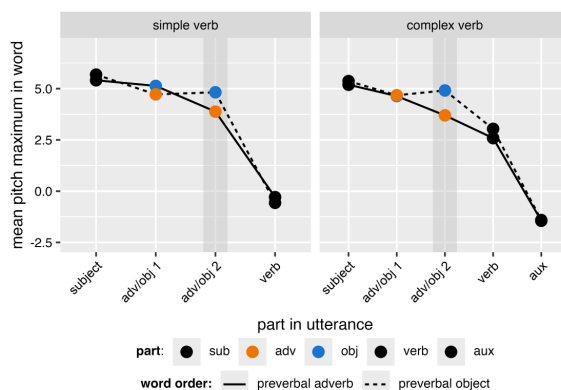


Figure 5. Higher pitch in preverbal objects (blue dots) in broad focus.

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