

The phonetics and phonology of Polish calling contours

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The vocative chant, used in Polish to call a person for a routine reason (cf. Ladd, 2008), is compared to the calling contour used to scold or express displeasure at the addressee's actions (henceforth the "scolding" contour). The vocative chant is also compared to the same melody in other languages (Varga, 2008, on Hungarian and English; Gussenhoven, 1993, on Dutch).

The materials were names one to four syllables long (cf. *Piotr* vs. *Magdalena*); all polysyllabic names were stressed on the penult. Three repetitions were elicited from twelve native speakers of Polish (6 male) using a Discourse Completion Task: the speakers were asked to imagine calling a child (i) to dinner, (ii) to receive a present, or (iii) because she had broken a vase. Contexts (i) and (ii) elicited the vocative chant; context (iii) elicited the "scolding" contour.

The data showed that the vocative chant is realized on the last foot, with low F0 before the stressed syllable, rising F0 on the stressed penult and a reduced rise on the ultima (Figure 1). F0 measurements confirmed that Polish does not use a mid-level plateau at the end of the vocative chant like Dutch, English and Hungarian do (Gussenhoven, 1993, Ladd, 2008, Varga, 2008, respectively); rather, Polish uses a final rise of reduced range (10-20 Hz) in the middle of the speaker's frequency span. The "scolding" contour, on the other hand, is a (shallow) rise-fall with the peak aligned with the stressed syllable and the fall reaching the bottom of the speaker's range. The two contours also differ in the duration and amplitude of the stressed vowel: the vocative chant exhibits longer duration and lower amplitude than the "scolding" contour.

Based on the results and comparisons with the melodies of declaratives, polar and wh-questions, the proposed autosegmental representations are LH* !H-H% for the vocative chant and H* L-L% for the "scolding" contour. The difference in pitch accent reflects the fact that in the vocative chant F0 stays low until the beginning of the stressed syllable, while in the "scolding" contour F0 rises almost from the start of the utterance. This difference can be accounted for by positing that Polish melodies start with low F0 in the absence of tonal specification: F0 remains low in the vocative chant because the accent is LH*; F0 rises quickly for the H* of the scolding contour. The explicit representation of downstep in the vocative chant (!H-) reflects the fact that L tones are not upstepped between Hs in Polish even in extreme tonal crowding (Figure 2). Thus, the dip in the vocative chant cannot be attributed to an upstepped L tone.

In sum, the results add to increasing evidence that intonation affects acoustic parameters additional to F0. Further, phonetic details of the vocative chant lead to an autosegmental representation that differs from that used for other languages. In turn this suggests that a uniform representation of the vocative chant cross-linguistically is not possible. The implications of this conclusion for the representation of intonation will be discussed.

References

- Gussenhoven, C. 1993. The Dutch foot and the chanted call. *Journal of Linguistics* 29: 37-63.
Ladd, D. R. 2008. *Intonational Phonology*. Cambridge: Cambridge University Press.
Varga, L. 2008. The calling contour in Hungarian and English. *Phonology* 25(3): 469-497.

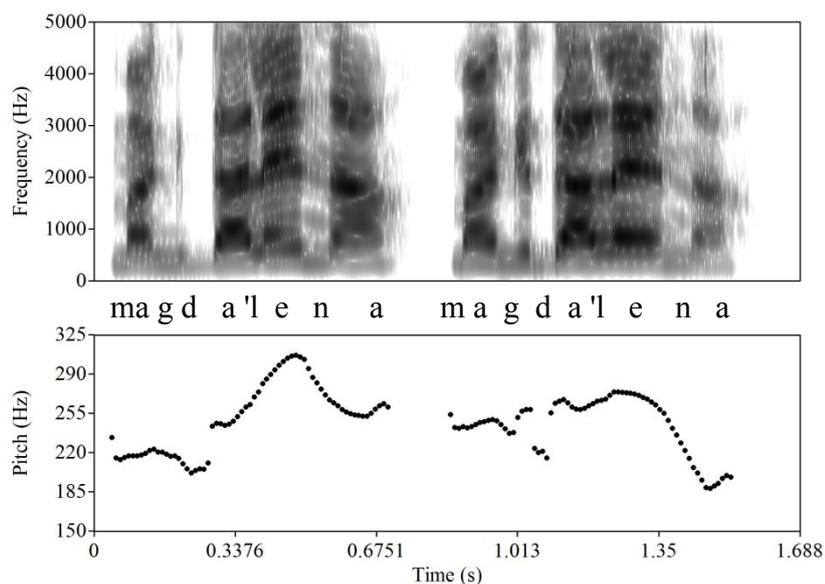


Figure 1: Spectrograms and F0 contours of *Magdalena* using the vocative chant (left) and the “scolding” contour (right).

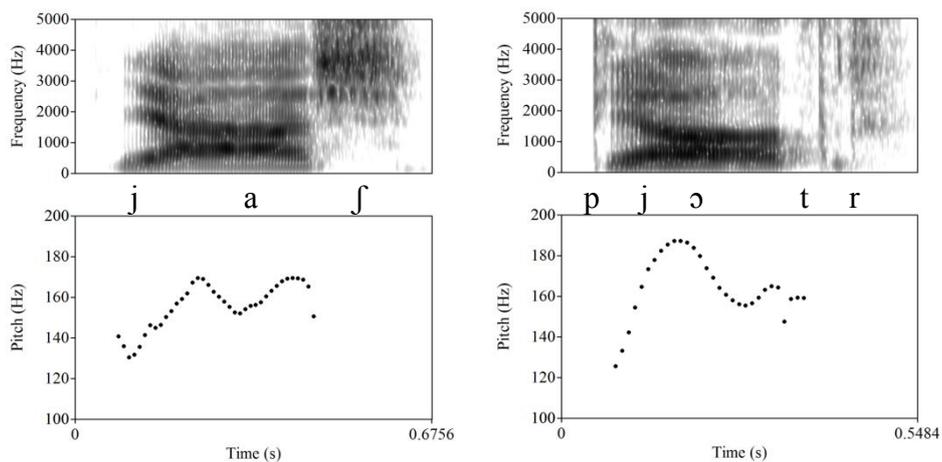


Figure 2: Spectrograms and F0 contours of *Jas* (left) and *Piotr* (right) using the vocative chant and illustrating the lack of undershoot or truncation of the final F0 rise.