Intonational Cues and the Perception of Focal Context in Castilian Spanish

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Within the Autosegmental-Metrical theory of intonational phonology, the temporal alignment of tonal events – such as the location of an F0 valley or an F0 rise with respect to the edges of a stressed syllable – is commonly considered to be of phonological importance. In the case of the intonational marking of narrow focus in Spanish, for example, it has been shown for some varieties that in declarative utterances the fundamental frequency (F0) rises through the stressed syllables, but with different temporal alignment in different focal contexts. In Castilian Spanish, the F0 valley is aligned at or near the onset of the stressed syllable in words in broad focus and in words in narrow focus, but the alignment of the F0 peak distinguishes these focal contexts, with an F0 peak within the stressed syllable marking narrow focus while an F0 peak following the stressed syllable indicates broad focus (e.g. Nibert 2000, de la Mota 1995, 1997, Face 2001, 2002a, 2002b). In a recent study of speech perception, Face (2007) found that in spite of the claims regarding early F0 peaks communicating narrow focus, peak height was a much stronger cue to focal context than was peak alignment for Castilian Spanish listeners. This raises the question of what other aspects of the intonational contour may be overshadowed by peak alignment in existing research but play a key role in communicating focal context. The present study sets out to answer this question.

In addition to differences in peak height and peak alignment, other intonational characteristics that have been observed to differ between broad focus and narrow focus declaratives in Castilian Spanish are the position of the following F0 valley (end of word or beginning of next stressed syllable), the depth of the following F0 valley, and the scaling of following F0 peaks (full peaks, reduced peaks, or no peaks). For the present study perceptual stimuli were created through F0 resynthesis; a naturally produced broad focus declarative spoken by a native speaker of Castilian Spanish was taken as the starting point, and the F0 was resynthesized creating combinations of the five aforementioned intonational differences between broad focus and narrow focus declaratives. Native speakers of Castilian Spanish then participated in a perception test in which they were presented with these resynthesized stimuli and were asked to choose in which of two contexts each stimulus best fit (where the context was a question requiring an answer in broad focus or with narrow focus on the subject) and also to rate on a four-point scale how certain they were of their answer. By having listeners respond to stimuli with mixed cues it is possible to tease apart the communicative strength of each intonational cue to focal context, all of which work together in naturally occurring speech, precluding a determination of the communicative importance of each.

Preliminary results point to the height (and absence) of following F0 peaks as a primary cue to focal context. In addition, as in Face (2007), peak height appears to be a stronger perceptual cue to focal context than is peak alignment. Full results will provide insight into the relative importance of each of the five intonational cues to focal context in Castilian Spanish declaratives, providing a much more complete understanding of the intonational system. In addition, certain of the results have implications for a phonological analysis of intonation and these will be addressed in the conclusion.
de la Mota, Carme. 1995. La representación gramatical de la información nueva en el discurso. Doctoral dissertation, Universitat Autònoma de Barcelona.