Anchored down in Anchorage: Syllable structure, rate, and segmental anchoring in French
Pauline Welby & Hélène Loevenbruck

We examined tonal alignment and scaling patterns of the start and end points of the French late intonational rise in two read speech corpora. Our goals were twofold. First, we examined several competing hypotheses for characterizing the late rise: 1. an autosegmental-metrical account in which the rise is a bitonal pitch accent composed of a H* pitch accent preceded by a leading L tone, 2. a segmental anchoring account where both the L and the H are temporarily anchored with respect to points in segmental structure and maintain an invariant F0 excursion size, and 3. a holistic contour account in which the speaker seeks to achieve a specific slope. A rate manipulation paradigm was used, following Ladd et al. (1999).

We argue that the late rise is a LH* pitch accent, although the L does not behave like a traditional leading tone to the following associated tone: there was no invariant rise time for any of our speakers. We also found no convincing evidence that speakers sought to achieve a constant slope, although we did notice speaker-specific tendencies for generally steeper or shallower rises. We were unable to identify a plausible segmental anchor for the low starting point of the late rise. In addition, we observed rate effects on F0 excursion sizes for three speakers across the two corpora. This finding, combined with earlier findings for French, calls into question the segmental anchoring assumption of an invariable F0 excursion size. These results thus challenge the generalizability of segmental anchoring to all spoken languages.

Our second goal was to more precisely define the alignment of the peak of the late rise, which earlier work had shown to be realized near the end of the last syllable of the accentual phrase (AP). Work on some languages had shown variability in tonal alignment according to syllable structure, while work on at least one language had shown stability of alignment across syllables structures. For French CV and CVCobstruent syllables, the peak was consistently found at the end of the vowel. For CVConsonant syllables, however, the position of the peak varied from the end of the vowel to the end of the sonorant coda. Thus, there was a fair amount of variability in the position of this peak, within and across speakers, in contrast to the very stable “segmental anchors” found for other languages. To account for this variable, yet rule-governed behavior, we propose the notion of an ‘anchorage’, that is, a region within which a tone can anchor. For the peak of the French late rise, the left boundary of this anchorage is near the end of the vowel of the last full syllable of the AP and the right boundary is the end of the AP.

Bibliographical References

BECKMAN Mary E. & Julia HIRSCHBERG 1994. The ToBI annotation conventions. The Ohio State University & AT&T Bell Telephone Laboratories, Ms.


(http://www.michelleshocked.com/chordsanchorage.htm).


Xu Yi & Fang Liu 2006. Tonal alignment, syllable structure and coarticulation: Toward an integrated model. This volume.