Prosodic Evidence for Gradience and Abstract Representations in Laurentian French

Jeffrey Lamontagne and Heather Goad (McGill University)

Contrary to the conventional description that only phrase-final syllables can host prominence in French (e.g. Jun and Fougeron 1995), studies from across the French-speaking world demonstrate that the phrase-final prominence is frequently shifted to the penult (e.g. Carton et al. 1983). Earlier work on Laurentian French showed that this pattern of prominence shifting may be motivated in part by weight sensitivity (Lamontagne et al. 2018). However, previous work assumed vowel weight to be binary despite that a gradient pattern (ie. multiple levels on a scale rather than two clear groups) emerges when examining (a) vowels' distributional patterns in the lexicon and (b) vowels' participation in fortition (e.g. diphthongisation) and lenition (e.g. laxing) processes. Furthermore, the phonological status of one vowel – the word-final schwa – as underlying or epenthetic is debated because it is nearly categorically silent in final position in the dialect (Côté 2012).

This study on Laurentian French tests whether prominence shifting weight sensitivity reflects a gradient conception of inherent vowel weight (ie. nasal vowels attract prominence more than tense mid vowels, and tense mid vowels attract prominence more than lax mid vowels, etc.), suggesting the presence of gradient phonological representations of weight (e.g. Ryan 2011), rather than binary categories as is commonly assumed (e.g. Hayes, 1989; Hyman, 1985). Additionally, this study examines whether silent final schwas influence prominence assignment, thereby suggesting that the schwa is still in the underlying representation even though it is absent from typical pronunciations and therefore that final codas and the onsets of final syllables with schwas continue to be represented differently in speakers' synchronic grammars.

Using generalised additive mixed models and mixed-effects linear regression to analyse the pitch, duration and amplitude patterns of over 100 000 tokens of polysyllabic accentual-phrase-final words from the spontaneous speech of eleven Laurentian French speakers (*Phonologie du fran]cais contemporain* corpus; Durand et al. 2002, 2009; http://www.projet-pfc.net/), we examine the phonological conditioning of prominence assignment. Our results demonstrate that – as suggested by the vowels' phonological patterning – vowel weight must be treated as a multi-level factor with phonemes not dividing into only two groups, but instead organising themselves into multiple groups consistent with their participation in phonological processes. Heavier vowels participate in more fortition processes, undergo fewer lenition processes, and attract prominence to their syllable significantly more often. Furthermore, silent final schwas are associated with a significantly lower likelihood of shifting prominence to the penultimate realised syllable. This last finding is true even when controlling for coda shape; singleton codas, for instance, show this same effect such that *animal* [a.ni.mal] 'animal' would be more likely to be pronounced with penultimate prominence than *capitale* [ka.pi.tal] 'capital' due to the latter's underlying final schwa.

These findings demonstrate that final schwas are still represented phonologically despite categorical absence from most speakers' pronunciations, likely due to their continued participation in phonological patterns like prominence shifting through reflecting that codas and the onsets of empty-headed syllables are phonologically distinct. Furthermore, this study adds to the mounting evidence that some languages represent vowel weight as gradient, which suggests that common theoretical representations like the mora (Hayes, 1989; Hyman, 1985) lack the granularity required to capture all languages' weight patterns.

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