

**Evidence for a pitch accent in Saguenay French**  
Jeffrey Lamontagne, Morgan Sonderegger and Heather Goad  
(McGill University)

**Introduction.** French is conventionally described as assigning an obligatory prominence to the final syllable of the *accentual phrase* (e.g. Jun and Fougeron 1995). While previous research on varieties from across the French-speaking world has observed that prominence can ‘shift’ to non-final syllables (e.g. Carton et al. 1983; Goldman and Simon 2007), yielding pitch contours like those in figure 1, the conditions that motivate this phenomenon have not been systematically examined. Many justifications for this observation have been offered: different intonational tunes being targeted (Post 2000), tones’ target locations being missed due to speech rate (Avanzi et al. 2011), or influence from language contact (Sichel-Bazin et al. 2011). In this study, we quantitatively demonstrate that syllable weight and morphological boundaries condition prominence shifts in Saguenay (Quebec) French and therefore that prominence shifts forms part of the grammar.

Saguenay French is a little-studied dialect for prosody with relatively little language contact. This region is ideal for prosodic analysis because there is little language contact and because fortition processes (diphthongisation, lengthening) may reinforce the numerous maintained vowel contrasts, and therefore make prominence shifts more salient. We find that (a) weight does significantly affect prominence cues, (b) stem-final syllables similarly affect prominence cues, and (c) these cues are also associated with marking prosodic domains. Based on our results, we propose not only that prominence shifting is structured, but additionally that Saguenay French is a pitch accent language.

**Methods.** We report on 1368 AP-final words of at least two syllables read by 11 native French Saguenay speakers in the *Phonologie du français contemporain* corpus (Durand et al. 2002, 2009; <http://www.projet-pfc.net/>). We extracted typical cues to prominence (maximum amplitude, pitch range and duration; Jun and Fougeron 1995) for each of the two final syllables’ rhymes and calculated the ratio between those two syllables. We then analysed the ratios using mixed-effects linear regression, including domain types (IP-final vs. only AP-final), whether the penult is stem-final and, for each of the last two syllables, the vowel weight (light vs. heavy) and coda weight (light vs. heavy).

**Results.** Beginning with prosodic domains, we find that IPs are characterised by lower pitch and amplitude in the final syllable than APs, with the IP having slightly longer final-syllable durations and smaller final-syllable pitch ranges than APs. IP-final syllables additionally have significantly lower amplitude than AP-final syllables.

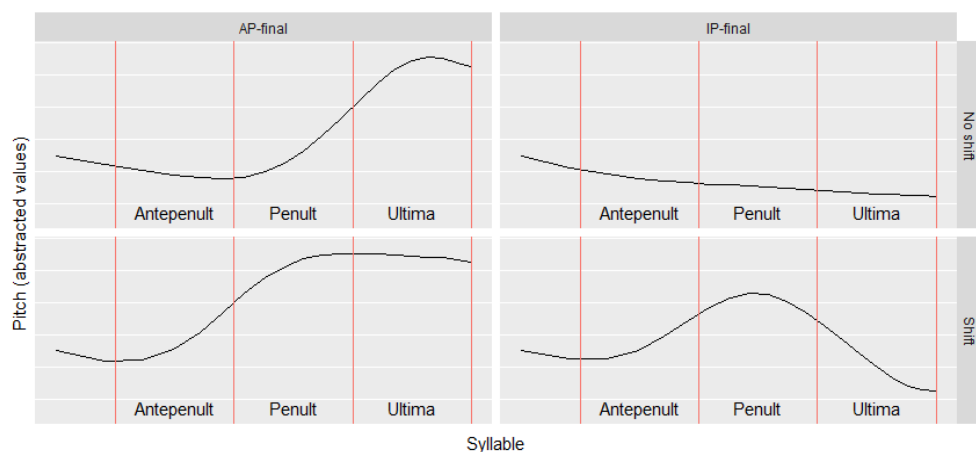
Turning to weight, we find that closed final syllables are associated with smaller penult pitch ranges and longer final rhyme durations, whereas closed penults are associated with higher penult amplitude and duration in addition to a higher penult maximum pitch. Heavy penult vowels are associated with longer penult rhymes, higher penult maximum pitch, higher penult amplitude and smaller final-syllable pitch ranges with lower final-syllable amplitude.

Finally, morphological effects have two types of effects. Firstly, stem-final syllables have significantly longer durations and higher amplitude. Secondly, the weight contrasts are enhanced stem-finally for amplitude, but are lessened stem-finally for duration. The pitch range is then also larger for heavy stem-final syllables than for other stem-final syllables.

**Discussion.** Regarding weight, we observe that heavy syllables are associated with greater prominence (higher amplitude, longer durations, larger pitch ranges) than light ones, and we also find that heavy syllables can be associated with a reduction in prominence in the other

syllable. These results suggest that Saguenay French does exhibit weight sensitivity, as has been suggested for Quebec French more generally (Goad and Prévost 2011).

Assigning a phrasal prominence to a syllable that is strong as a result of lexical properties suggests that this prominence is formally a pitch accent. We additionally observe that the cues do not all fall on the same syllable, but instead can be separated to convey different linguistic information, which may explain why results are often mixed in perception experiments (e.g. Frost 2011).



**Figure 1:** Idealised F0 contours for an AP-final word based on that word is also IP-final (right) or not (left), and whether prominence shift has not (top) or has (bottom) occurred.

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