

## Neither rhyme nor reason? Probing rhythmic variation in Laurentian French

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**Introduction.** Studies on rhythm typically target typological classification (e.g. Abercrombie 1967; Auer 1991; but, for critique, see Roach 1982; Nespor et al. 2011) or language contact (e.g. Williams & Poiré 2007; Kaminskaïa 2015). We adapt two leading measures of rhythm to not only probe surface variation, but to also better understand the linguistic conditioning of rhythm in Laurentian French. Given the dialect's conservation of seemingly historical prosodic features (e.g. penult duration and weight sensitivity, see Lamontagne & Goad 2022) and ongoing change affecting European baselines (cf. Léon & Jackson 1971; Fónagy 1980; Boula de Mareuil et al. 2008; Martin 2011), this dialect offers an ideal test case to (a) elucidate underlying motivations for rhythmic variation, and (b) compare methodologies that could yield deeper analyses in future.

**Methods.** Using mixed-effects linear regression, we analyse duration measurements from 531 000 syllables of spoken Laurentian French (*Phonologie du français contemporain* corpus; Durand, Laks & Lyche 2002). Syllable position (parity; initial, penult, final), vowel weight (light, heavy, nasal), and syllable shape (open, closed) were coded. As measures of rhythm, we selected VarcoV (vowels' standard deviations in duration) and nPVI-V (vowel duration relative to the following vowel) because of their relative phonological stability and discriminatory capacity (White & Mattys 2007; Prieto et al. 2012). These measures were additionally adapted to compare rhyme durations and progressive (left-to-right counterpart to nPVI-V) baselines, based on results in the literature suggesting weight sensitivity and therefore moraic contributions.

**Results and discussion.** More formal contexts (reading, guided interviews) correlate with reduced variability in syllable durations overall, suggesting formal contexts exhibit reduced regional distinctiveness (e.g. from European varieties of French). Word-initial lengthening is relatively robust, a marker of secondary prominence (e.g. Welby 2006). Both vowel weight and coda weight contribute to duration, and closed final syllables are typically associated with the compression of non-final syllables' durations, suggestive of weight effects on prominence. While final open syllables pattern as short regardless of vowel quality with the possible exception of word-final nasal vowels (e.g. Walker 1984; Redacted 2023), we do observe that most regions surveyed exhibited differences between light, heavy and nasal vowels in this context.

Weight sensitivity is robust in the penult with only subtle regional differences and supplement the retention of historical penult length. Open penults (i.e. shorter rhymes without codas) are often rhythmically adjusted through vowel lengthening, yielding more consistent rhyme durations than vowel durations in non-final syllables.

Final syllables display particularly important effects of syllable shape relative to other syllables, consistent with past analyses of French whereby final codas are at least sometimes best represented as onsets phonologically (e.g. Dell 1995). Overall, however, there is relative stability in duration, with phonological properties of the syllable seemingly driving alternations in duration and the final syllable being prosodically enhanced when closed.

This work can inform analyses of proposed contact effects from English through testing whether apparent convergence or retention of prosodic patterns is marked by shared conditioning (weight, syllable position). Further, the (uneven, but attested) importance of both left-to-right and right-to-left directionality in rhythm supports that past analyses of phonological phenomena differentiated between right-to-left foot computation and left-to-right rhythmic patterns (Redacted 2023).

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