

Laurentian French laxing harmony and the Activity Principle

The Activity Principle Theories of contrastive specification in phonology, to the extent that they make empirical predictions, adopt some version of what Dresher (2015, 2016) calls the Activity Principle: features identified as contrastive are those that “are relevant to the phonological computation.” In its strongest interpretation, the Activity Principle predicts that *only* contrastive features should be visible to phonological operations; redundant features, though implemented phonetically, are unable to spread, to block spreading, or to condition the application of phonological processes.

Lax high vowels in Laurentian French Laxing harmony in Laurentian French, described in detail by Walker (1984) and Poliquin (2006), presents an apparent challenge to the strongest version of the Activity Principle. The high vowels /i y u/ are predictably lax [ɪ ʏ ʊ] in final syllables closed by any consonant other than the voiced fricatives /v z ʒ ʁ/. Although this laxing is predictable, a lax high vowel in the final syllable triggers harmonic laxing of other high vowels earlier in the word, as in (1). In addition to harmony, Poliquin (2006: 97) describes optional dissimilatory laxing in disyllabic words with two underlyingly identical high vowels in open syllables: e.g., *midi* is optionally [mi.dzi] instead of [mi.dzi].

- (1) Laxing harmony (Poliquin 2006: 7)
- a. *minute* [mi.nyɛt] ‘minute’
 - b. *pourrite* [pɔ.ʁit] ‘rotten’ (f.)
 - c. *stupide* [stsy.pɛd] ‘stupid’ (f.)

Reconciling the two As there is no underlying contrast between tense and lax high vowels, the phonological propagation of laxness from one high vowel to another seems to defy the Activity Principle. Nor can the Activity Principle be appeased by positing that closed-syllable laxing and laxing harmony involve the spreading of some contrastive feature from the final coda consonant to the vowel of the final syllable, and thence to other high vowels: dissimilatory laxing shows that the relevant feature is phonologically active even when high vowels are the only segments involved.

The answer, I propose, lies in the contrastive scope of the feature [\pm tense]. Although high /i y u/ do not contrast with minimally different underlying lax counterparts, the tense–lax distinction is contrastive in the French vowel system more generally: mid /e ø o/ contrast (albeit marginally) with /e œ ɔ/, and Jakobson & Lotz (1949) take the contrast between /a/ and /ɑ/ to involve the same feature. If [\pm tense] has wider scope than [\pm high] in the contrastive hierarchy, as in Fig. 1, then it will be contrastively specified on /i y u/ as the feature that distinguishes them (and /a e ø o/) from /a ε œ ɔ/. Because [+high] is also specified on /i y u/ (distinguishing them from /e ø o/), laxing does not make /i y u/ featurally identical to any underlying lax vowel; rather, it produces a combination of contrastive feature values [+high, –tense] not present in the underlying inventory. [–tense] can then propagate from a high vowel in a final closed syllable to other high vowels as per Poliquin.

Binarity and coalescence Fig. 1 builds on proposals by Jakobson & Lotz (1949), Burstynsky (1968), and St-Amand (2012), and finds independent support in their analyses of other phenomena. St-Amand gives wide scope to the tense–lax contrast as part of an account of coalescence in hiatus resolution. However, Fig. 1 uses binary features, while St-Amand uses privative ones. The laxing facts imply binary [\pm tense]: if the relevant feature were privative TENSE, then closed-syllable laxing would delink TENSE, and harmony would have to copy the *absence* of a feature. If the marked value were LAX, it would be absent on high vowels underlyingly, which would make it hard to motivate dissimilatory laxing as an OCP effect, and harmony would have to spread an inserted feature. St-Amand’s case for privative features rests on the assumption that there is no tense–lax contrast in the low vowels. She argues that under either hierarchical ordering of [\pm ATR] and [\pm low], coalescence of /ae/ to [ɛ] would introduce a feature not present on either of the input vowels: either [–ATR] would be unspecified on /a/ (Fig. 2a), or [–low] would be unspecified on /e/ (Fig. 2b). Analyzing the /a/–/ɑ/ contrast as one of tenseness (Jakobson & Lotz 1949) removes this problem (/a/ is [–tense] in Fig. 1), and accounts for parallels in the distributional patterns of /a/–/ɑ/ and /e ε œ ɔ/–/e ø o/.

Figure 1: Proposed contrastive feature hierarchy for French vowels

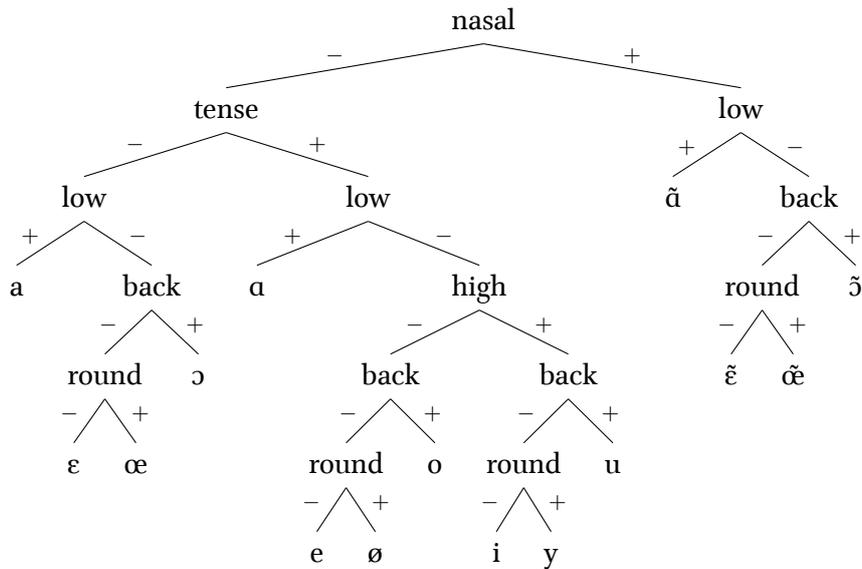
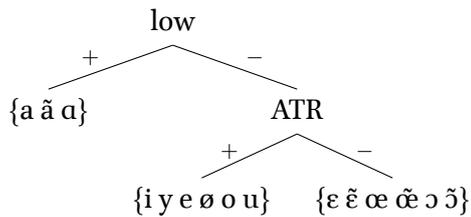


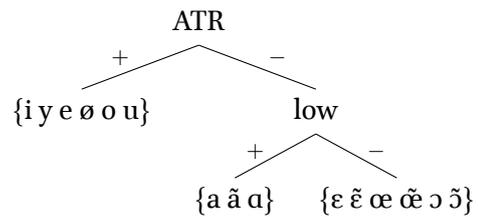
Figure 2: Ordering binary $[\pm\text{low}]$ and $[\pm\text{ATR}]$ (St-Amand 2012: 69)

a. $[\pm\text{low}] \gg [\pm\text{ATR}]$



	low	ATR
/a/	+	-
/e/	-	+
/ε/	-	-

b. $[\pm\text{ATR}] \gg [\pm\text{low}]$



	low	ATR
/a/	+	-
/e/	-	+
/ε/	-	-

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