Lenition and contrast revisited
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This paper identifies a putative universal involving certain types of lenition and fortition, shows that the universal can only be captured if lenition is formally unified with fortition, and proposes a unified analysis couched in phonetically-driven optimality theory.

I begin by distinguishing between two types of lenition (Segeral & Scheer 1999). One type involves processes like degemination, debuccalization, and deletion; occurs in typically ‘weak’ positions such as codas; and sometimes results in positional neutralization of contrasts. A typical example comes from Slavey (Rice 1989), where coda consonants debuccalize to /h/. This type of lenition is much like any other case of positional neutralization (e.g. major place, voicing) and can be analyzed on a par with those phenomena. A second type, low-pass lenition, involves processes like voicing, spirantization, and flapping, and occurs in intervocalic or non-initial position. A canonical case of low-pass lenition is observed in Spanish, where (simplifying slightly) phrase-initial voiced stops are in complementary distribution with continuants elsewhere. Gurevich (2003) claims that lenition in general is rarely neutralizing; I argue that low-pass lenition in particular never results in positional neutralization, discussing apparent counterexamples including Burmese, Kannada, and American English.

The non-neutralizing character of low-pass lenition is difficult to analyze; recent research in fact misses (Kirchner 2004, Kingston 2008) or denies (Smith 2008, Kaplan 2010) this aspect entirely. The problem in all of these approaches is that one set of constraints drives lenition, while a separate set drives fortition. Any such analysis predicts the unattested positional neutralization pattern as a possible language. Typological data show that low-pass lenition is not independent: it occurs if and only if domain-initial fortition does. Separate constraint sets can’t capture this fact; only a unified analysis can.

Kingston (2008) provides a possible phonetic basis for such an analysis: fortition creates larger changes in the intensity of the acoustic signal at prosodic boundaries; lenition minimizes such disruption domain-externally. The phenomenon is essentially about the perception of contrasts between the presence and absence of a prosodic boundary. I implement this idea with a family of boundary-disruption constraints, which call for disruptions in low-frequency energy to occur at and only at prosodic boundaries. The formalism captures a number of tricky typological properties of lenition phenomena, including the problematic allophonic nature of lenition alternations.