

**Coda” neutralization: Why we need to have it both ways**

Does syllable structure ever provide the conditioning environment for phonological processes? If it does, then it must be incorporated into the phonological grammar (Schane 1968, Kahn 1976). One classic test case for this question is the role of the syllable coda as a site for phonological neutralization. Unfortunately, the evidence appears to be contradictory: Case studies that support neutralization in coda position and those that support neutralization based on linear segmental context are both attested.

This paper argues that there is no real contradiction here, because both patterns should exist. Processes that are sensitive to prosodic position and those that are sensitive to linear context have different formal properties and lead to distinct typological predictions overall. However, in the particular case of consonants in coda position and consonants in a pre-C context, a significant amount of overlap is predicted—leading to the proliferation of case studies both for and against the coda in phonology.

**Contradictory(?) evidence re: “coda” neutralization.** Some phonological processes traditionally analyzed as neutralization in coda position are more accurately characterized in terms of linear segmental context, for which syllable structure is irrelevant (Steriade 1999, 2001, Blevins 2003). For example, Steriade (1999) shows that a voicing neutralization (devoicing or assimilation) process in Lithuanian affects, not coda consonants, but rather consonants that do not precede sonorants (1). The crucial case is

\[ sk\circ f.b.nj\circ is \] ‘table’ (1a). Steriade argues that the [b] is a coda, because Lithuanian VCCV is always syllabified VC.CV, and in any case [bn] is an impossible initial cluster. That this coda [b] is not devoiced shows that coda status is irrelevant for voicing neutralization.

However, other neutralization processes do crucially affect codas and cannot be characterized without reference to syllable structure (Gerfen 2001; Howe & Pulleyblank 2001) or higher-level prosodic structure (Wagner 2002). One example is the “aspiration” process in Eastern Andalusian Spanish (Gerfen 2001), which is, broadly, the loss of place and stricture contrasts in consonants. Crucially, what determines where aspiration applies is not a consonant’s linear position, but whether or not it is syllabified as a coda. The same linear context “/ __ [l]” (2) shows aspiration for /t/ and /s/, but not /k/; this is precisely because [kl] is a possible onset cluster in the language (2a), but *[tl] and *[sl] are not (2b).

**Proposal: Positional vs. contextual constraints.** The grammar includes both positional and contextual markedness constraints. The two constraint types have distinct formal properties and distinct behavior.

- **Positional constraints** formally relativize an independently attested constraint to a prosodically defined position. For example, **NoGlottalization/coda** combines a general constraint against glottalization, needed to account for the total absence of glottalized consonants in many languages (Maddieson 1984), with the prosodic position **coda.** Crucially, a positional constraint can be phonologically abstract; that is, it can link any typologically marked property and any position that has the phonological status “weak position”—the property and position in question need not be phonetically incompatible (as seen for glottalization in sonorant codas, banned in Nuu-chah-nulth; Howe & Pulleyblank 2001). Positional constraints are essential in accounting for true cases of neutralization in coda position, as in Eastern Andalusian “aspiration” (2), as well as neutralization in other weak positions.

- **Contextual constraints** involve an intrinsic phonetic relationship between the context and the constraint’s requirement. For example, a constraint calling for obstruents to be voiced between vowels is intrinsically contextual, because there is no independently attested constraint requiring all obstruents to be voiced—on the contrary, voiced obstruents, in the absence of a facilitating context, are marked. Now, the linear contexts “/ __ [–son]” and “/ __ #” phonetically disfavor the preservation of a voicing contrast in obstruents, so the existence of intrinsically contextual constraints leads us to expect cases of voicing neutralization like that in Lithuanian (1) that crucially depend on linear segmental context.

In conclusion, the independently required distinction between positional and contextual constraints automatically predicts conflicting evidence for the role of the coda in phonological processes. The model also makes typological predictions: (a) phonologically abstract neutralization applies to positions, not linear contexts; and (b) true coda neutralization (positional) results in typologically unmarked properties, but pre-C neutralization (contextual) is not restricted to results that are unmarked in a context-free sense.
Examples

(1) Obstruent voicing neutralization in Lithuanian (Steriade 1999)
   (a) no neutralization / __ [+son] sko[b.n]is /bn/ ‘table’ vs. sil[p.n]as /pn/ ‘weak’
   (b) neutralization (assimilation) / __ [–son] dir[p.t]i /bt/ ‘work-INF’ vs. a[d.g]al /tg/ ‘back’
   (c) final neutralization (devoicing) daũ[k] /g/ ‘much’

(2) “Aspiration” in Eastern Andalusian Spanish (Gerfen 2001)
   (a) no neutralization in onset position /aklara/ → [a. kla. ra] ‘clear.up-3SG’
   (b) neutralization in coda position /eslabo/ → [eβl. la. βo] ‘Slavic’
   /atleta/ → [aβl. le. ta] ‘athlete’

References


Howe, Darin, and Douglas Pulleyblank. 2001. Patterns and timing of glottalisation. Phonology 18: 45-80.


