

Allomorph selection and phonology are ordered: evidence from a new universal

Background: In phonologically-conditioned suppletive allomorphy, the distribution of multiple listed allomorphs of a morpheme is determined by phonological context. In Korean, for example, the allomorph of the nominative case suffix is /-i/ after consonant-final stems but /-ka/ after vowel-final stems. There are three main hypotheses about the interaction between allomorph selection (AS) and phonology: • **H1:** AS and phonology are distinct modules; selection is ordered before phonology in every cycle and the modules are interleaved (e.g., Paster 2006, Embick 2010); • **H2:** AS and phonology are computed in parallel in the same module; AS optimizes surface phonological constraints otherwise active in the language (e.g., Mester 1994, Kager 1996, Mascaró 2007); • **H3:** AS can be computed either before phonology (as in H1) or in parallel with phonology (as in H2) (e.g., Booij 1998, Nevins 2011, Smith 2015).

Main contribution: We identify a new universal predicted by H1 (which precludes surface-optimizing AS) but not by H2 or H3 (which do not). We report the preliminary results of a typological survey that support the universal, and thus support H1 over H2 and H3.

The universal: In cyclic architectures that follow H1, a final cycle of phrasal phonology applies once after words have been combined. If AS is ordered before phonology in every cycle, one prediction is that it can never see the output of the final phonological cycle. In other words:

(1) Universal: AS is blind to phrasal phonological processes

An example of a hypothetical pattern excluded by (1) combines syllable-counting allomorphy (as in a similar case in Shipibo; Elías-Ulloa 2004) and phrasal epenthesis (as in some Arabic dialects; e.g., Kiparsky 2000). The repetitive suffix is [ribi] before stems with an odd number of syllables (2), [rabi] elsewhere (3); [i] is epenthesized into C_CC, including across word boundaries (4). Crucially, epenthesis affects the stem's syllable count and feeds AS (5).

(2) /REP-juft#/ → [ribi-juft#]

(4) /juft#marato/ → [fufit#marato]

(3) /REP-kaʃaft#/ → [rabi-kaʃaft#]

(5) /REP-juft#marato/ → [rabi-fufit#marato]

In contrast to H1, this pattern can be easily generated by H2 and H3, since AS can be computed in parallel with phrasal phonology and can see its output.

Typological survey. Our survey is based on Paster's 2006 survey of phonologically-conditioned allomorphy and patterns reported in Mascaró 2007, Nevins 2011, Henderson 2012, and Smith 2015, a total of ~150 patterns. There were no counterexamples to (1). Instead, there were three classes of minimally different patterns: • **Class I:** AS is fed by a non-phrasal phonological process. E.g., in Catalan (Mascaró 2007), [ə]-epenthesis before word-initial [sC] clusters feeds *en/l* article allomorphy (*en* before C, *l* before V), e.g., [l əstíβəns] (see Lloret & Pons-Moll 2016 for evidence for epenthesis). Epenthesis applies even when the preceding word is V-final and would resyllabify the cluster (i.e., epenthesis applies pre-phrasally). • **Class II:** AS is blind to a phrasal phonological process. E.g., in Kimatuumbi (Odden 1996, Paster 2006), the perfective allomorph is *-iile* after glides (/j/ and /w/). AS ignores the deletion of /j/ before /i/, as in /naa-egelj-PFV/ → [naa-egel-iile], and deletion is phrasal (it is ordered after other phrasal processes). • **Class III:** AS is sensitive to phrasal prosodic boundaries. This is consistent with (1) assuming that prosodic domains are constructed early enough, prior to phonological processes (e.g., Nespor & Vogel 1986). E.g., in K'ichee' (Henderson 2012), certain clitics surface with a CVC allomorph (taʃ, k'ut) phrase-finally but with a CV allomorph (ta, k'u) elsewhere. In an analysis of the data under H1, AS is sensitive to the boundary of the intonational phrase.

Conclusion. Theories that allow for surface-optimizing AS overgenerate allomorphy patterns in which AS is sensitive to the output of phrasal phonology. A preliminary typological survey suggests that such patterns are not attested (even though minimally different patterns are) and supports non-optimizing theories such as H1.