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Crazy Kids! A Grammar with Laryngeal Allophony but No Laryngeal Features

In phonological theory, allophony indicates that the features in question are active in the grammar, but that their distribution is limited due to positional constraints that must be respected. In this paper, it is argued that certain cases of allophony arise without the features seemingly involved being employed by the grammar. Support for this comes from the surprising distribution of laryngeal allophones in child English, both presence of unexpected allophones in certain contexts and absence of expected allophones in others. It is argued that if a theory of prosodically-determined strong and weak licensers is adopted, coupled with an abstract view of the syllable, an explanation for these unexpected patterns emerges.

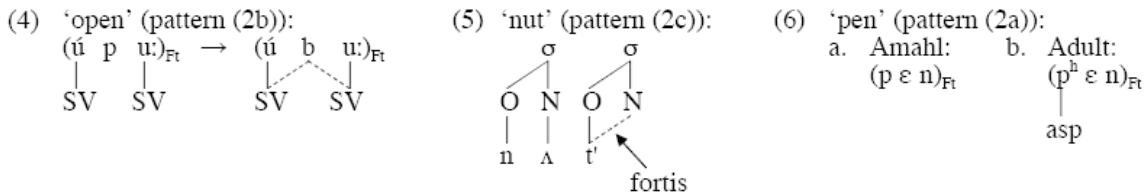
Data come from Amahl (Smith 1973). Smith observes that at age 2;2 (years;months), voicing is neutralized in Amahl's outputs; see (1), along with the representative examples in (3). When prosodic constraints are factored in, (1a-b) can be reformulated as (2a-b). The reformulation of (1c) as (2c), though, is questionable (see further below).

Voiceless unaspirated lenis [p t k]:	(1) a. Initially	(2) a. In foot-edge onset
Voiced lenis [b d g]:	b. Medially	b. In foot-internal onset
Voiceless fortis [p' t' k']:	c. Finally	c. In coda (?)

(3) a. Initial: [pen] 'pen'	b. Medial: [ubu:] 'open'	c. Final: [kʊp'] 'cube'
[tɔ:n] 'turn'	[ki:di:] 'greedy'	[nʌt'] 'nut'
[keip'] 'grape'	[kigi:] 'sticky'	[ɛk'] 'egg'

Two questions arise. Regarding (2a), since foot-edge onsets are *strong* licensers, why does this position display *lenition*? Regarding (2c), since codas are *weak* licensers, why does this position undergo *fortition*?

(2b) is not unexpected, as alternations in Danish reveal (data from Harris 1997): foot-internal weakening involves sonorantization: e.g. *peber* (pé[w]er)Ft 'pepper', cf. *bebude* be([ph]úde)Ft 'to foretell'. Extending this analysis to (2b), if voiced lenis stops are sonorant stops (Rice 1993), their foot-internal restriction follows: these segments do not bear laryngeal voicing features ([voice], [aspirated]). Instead, they acquire sonorant voicing ([SV]) from the adjacent vowels. See (4).



Concerning (2c), why are voiceless fortis allophones found in weak positions? Across languages, coda stops undergo neutralization and prefer to be *unreleased*. The following is proposed: Amahl's word-final consonants are not codas; they are onsets (cf. Kaye 1990). If the onset's features spread into the following empty nucleus, the nucleus can host the fortis release

(Goad 2002, Goad & Brannen 2003); see (5) above. Fortition thus arises from syllabification, not from laryngeal specification.

Concerning (2a), if foot-edge onset is a fortition environment, why do we find voiceless unaspirated lenis stops here? Across adult languages, voiceless unaspirated lenis is the unmarked value of voicing (e.g. it is often the segment type that results from coda neutralization). In underspecification theory, these segments would be underspecified for laryngeal features. In Amahl's grammar, underspecification arises automatically: his grammar lacks laryngeal features. See (6a) above; compare the adult representation in (6b) where foot-initial voiceless stops are aspirated.

Finally, it will be shown that laryngeal development in Amahl's grammar follows. Seemingly odd, laryngeal contrasts first emerge (starting at 2;4) in medial and final position. With the representations posited here, this will be shown to follow straightforwardly. It is only when contrasts later emerge in initial position (starting at 2;6) that laryngeal *features* are actually employed by Amahl's grammar.

