Representing phonological evolution
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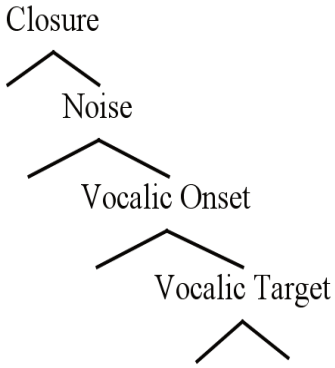
The metaphor of evolution is often invoked in phonological theory, particularly with regard to the notion of markedness – sound change is widely assumed to affect 'marked' structures, which are somehow disadvantaged from an evolutionary perspective. However, following in the footsteps of Ohala (1981) and Lindblom (1990), Evolutionary Phonology (EP; Blevins 2004) denies markedness, attributing sound change along with the grammatical wrinkles it can induce to diverse parses of perceptual ambiguity inherent in the acoustic signal. In essence, this is a listener-oriented approach in which listeners must correctly parse co-articulation and acoustic variability. When perception fails, sound change may occur.

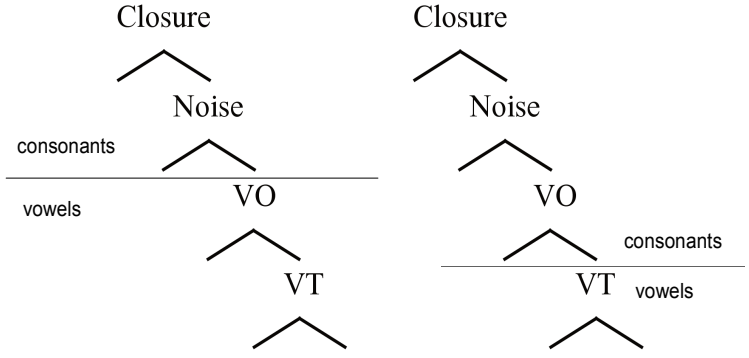
In order for a model such as EP to be implemented, the perceptual ambiguities that drive sound changes must be encoded in the synchronic phonological system. This talk will present an overview of the Onset Prominence representational environment (OP; Schwartz 2013, 2016), a model of phonological representation that encodes a number of perceptual ambiguities in the synchronic grammar, determining paths along which phonological evolution may proceed.

Ambiguity in the OP framework derives from the derivative, rather than primitive, origins of phonological 'segments'. There is no 'skeleton' that arranges segments into a linear string. Rather, segments are derived from a structural hierarchy of phonetic events associated with a stop-vowel CV sequence (1), the most common 'syllable' type across languages. The most important ambiguity may be found in the status of the Vocalic Onset (VO) node of structure, which encodes CV transitions that are acoustically vocalic, but contain perceptual cues to the identity of the preceding consonant. Individual phonological systems must parse the affiliation of the VO node to derive the consonant-vowel distinction, envisioned as distinct cutoffs in the OP hierarchy (2). These cutoffs create phonological parameters that drive typological splits in a number of diverse phonetic and phonological features, ranging from sub-'segmental' phonetic properties to rhythmic organization (cf. Donegan & Stampe 1983).

(1) The OP hierarchy



(2) C-V cutoffs in the OP model



VO parameters in the OP model encode a classic issue in speech perception, the linearity problem (e.g. Wright et al. 1999), by which certain portions of the speech signal contain acoustic information about multiple 'segments', and acoustic effects of individual 'segments' may spread across multiple acoustic events. Representing such perceptual ambiguities renders a more insightful view of phonological evolution than is possible in models based on a segmental string.

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