

Prosody and the punctuated evolution of phonological systems

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This paper claims that the evolution of phonological systems is not gradual and uniform, but is characterised rather by long periods of relative stability, punctuated by short bursts of rapid change. The explanation for this cycle – from stability to change and back again – can be sought in prosodic factors: systems with weak stress and regularly-timed syllables tend to be stable, while those with strong stress and vowel reduction favour rapid change.

One recent theory of phonological representation attempts to encode the prosodic factors underlying the relative strength of stress. In the Onset Prominence framework (Schwartz 2016) a phonotactic mechanism, *submersion*, may place a number of ‘syllables’ into a single hierarchical constituent (see Figure 1). In languages without submersion, shown on the left, ‘syllables’ (represented as C, derived from stop closure) are arranged in a linear string, yielding predictable fixed stress, which, without lexical function, need not be phonetically robust. In systems with submersion, shown on the right, there is no ‘string’ of syllables upon which a stress assignment algorithm could operate. Stress is thus lexical, unpredictable, and phonetically strong.

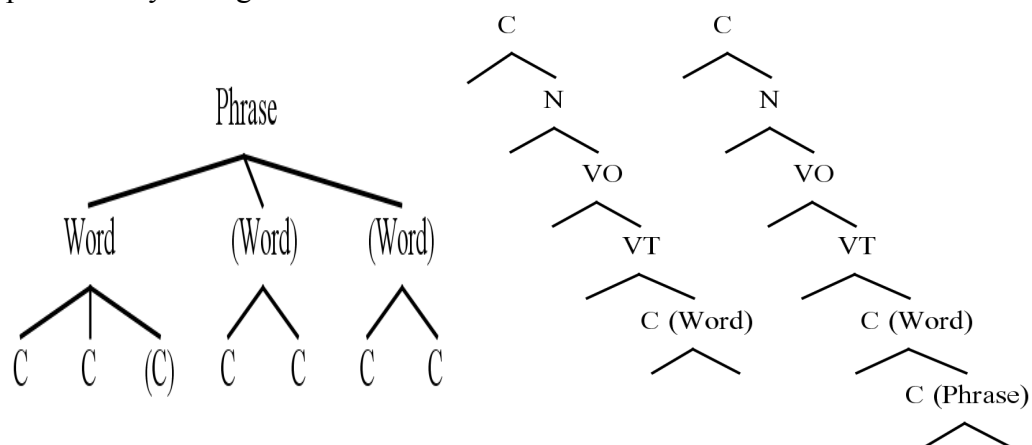


Figure 1: Structures without submersion (left) and with submersion (right).

In languages with submersion, reduction of weak syllables can lead to rapid change, creating long vowels and diphthongs, while extending the inventory and distribution of consonant clusters and closed syllables. It can also act as a vector in the development of secondary localisation (e.g. in the history of Irish: Greene 1973) and induce changes in laryngeal typology (e.g. in Southern Paiute: Sapir 1931). Phonetic variation during the course of vowel loss (Verkhodanova & Kuznetsova 2016 for several Finnic languages) is a good predictor of these variable outcomes.

The eventual loss of weak vowels and consonants in submerged structures may eventually lead back to a system without submersion. This justifies us in claiming a phonological cycle – from relatively stable syllable-timed systems (without submersion) to more volatile stress-timed ones (with submersion) and back again. Phonological system change occurs most rapidly with vowel reduction and loss in languages with submersion. This justifies us in speaking of the punctuated evolution of phonological systems.

References

Greene, D. (1973). The Growth of Palatalization in Irish. *Transactions of the Philological Society* 72.1: 127-36.

Sapir, E. (1931). *The Southern Paiute language*. Boston: American Academy of Arts and Sciences.

Schwartz, G. (2016). On the evolution of prosodic boundaries – Parameter settings for Polish and English. *Lingua* 171: 37-73.

Verkhodanova, V. & Kuznetsova, N. (2016). *Difference in development of consonantal palatalization and labialization: Evidence from the Finnic varieties of Ingria*. Presentation at the 49th Annual Meeting of the Societas Linguistica Europaea, Naples, 31 August – 3 September, 2016.