Highly complex syllable structure: a motivated and stable feature

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I present typological evidence that highly complex syllable structures (HCSSs) are stable structures, despite their rarity and the challenges they pose to phonological theory.

HCSSs — e.g., O'odham *ʔaʧspk* (Hill & Zepeda 1992) — are rare, both cross-linguistically and in type frequency within languages. Overwhelmingly, languages with HCSSs permit long strings of obstruents, often voiceless. These extreme deviations from the idealized CV type are problematic for abstract theoretical treatments of the syllable, being unmotivated in physiological, phonological, and acquisition accounts. This raises questions as to how and why these structures arise and persist in speaker populations.

A common characteristic of large tautosyllabic obstruent clusters is the presence of open transitions between the consonants. The resulting perceptual effect is alternately described as aspiration, a short voiceless vowel, or a brief transitional vocoid. These transitions facilitate both the production of such sequences and their perception, providing the listener with crucial acoustic cues. Comparative, historical, and instrumental evidence suggest that rampant vowel reduction is often responsible for the development of these clusters and their characteristic phonetic properties (cf. Chitoran & Babliyeva 2007 for Lezgian).

Analysis of a diversified sample of 24 languages with HCSSs reveals that the articulatory routines contributing to the emergence of these structures may persist over long periods of time. Roughly half of these languages have active processes of vowel deletion, many of which result in the formation of canonical or non-canonical tautosyllabic clusters of obstruents. By comparison, very few languages have processes of vowel epenthesis or cluster simplification targeting obstruent clusters. For example, where epenthesis occurs in the language sample, it tends to target consonant sequences with sonorants. Consonant cluster simplification processes occur in the sample, but are most frequent and regular in languages where HCSSs are a marginal pattern.

The results here indicate that despite theoretical issues of analysis, HCSSs are neither problematic for speakers nor unstable in speech communities. The phonetic processes responsible for creating these syllable patterns appear to be remarkably persistent, and more prevalent than processes which 'repair' these structures. I suggest that the persistence of these rare structures is at least partly motivated and maintained through the salient phonetic properties of obstruent clusters, which accommodate both the speaker and hearer.

References

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