

Problems of phonetic representation: the case of glottal states

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Abstract

Glottal states include voicing, aspiration, and glottalization. Owing to the limitations of voice production, both aspiration and glottalization weaken voicing. This antagonistic relationship has led to longstanding problems for phonetic representation. In this talk, I highlight two such problems: first, representing voiceless stops as “voiceless” is not detailed enough; aspiration or glottalization must usually be specified for stops to be realized as voiceless. I present work from perception and corpus studies whose findings suggest that voiceless coda /t/ in American English is by default specified for glottalization; the variable occurrence of glottalization described in many previous studies is best explained by a combination of factors: allophony, phonetic reduction, and sound change. The second problem is that phonetic representations of glottal consonants [ʔ h ɦ] are often too detailed: an acoustic analysis of these sounds in over one hundred languages reveals that their voicing is predictable in most contexts, and therefore it can be unspecified. In considering both language-general constraints on articulation and language-specific phonetic rules, a clearer picture emerges of how phonetic representations can be enriched, and how they can be simplified.

Bio

Marc Garellek is a Professor of Linguistics at the University of California, San Diego. Garellek earned his PhD in Linguistics at UCLA in 2013 and joined UC San Diego the same year. His research is in phonetics. He explores how sounds of the world’s languages are produced and perceived, in particular how laryngeal sounds (including glottal consonants, phonation types, and tones) are articulated, how they are characterised acoustically, and how they are perceived as components to phonological systems. His work deals with a range of phenomena in over a dozen languages spoken around the world. Garellek currently serves as Associate Editor of the *Journal of the International Phonetic Association*.