

Functional pressure from the lexicon shapes phoneme inventory evolution
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The sound system of a language must be able to support perceptual contrast between different morphemes in order to signal communicatively relevant meaning distinctions. In this talk, I will present work supporting the hypothesis that lexical competition induces synchronic, phonetically specific hyperarticulation of individual words, and that this effect in turn influences long-term change in the system of phonemic contrasts.

Starting at the level of long-term language change, we find that the number of minimal lexical pairs that a phoneme contrast distinguishes strongly predicts whether a change to that phoneme contrast preserves or eliminates lexical distinctions. Specifically, phoneme contrasts that distinguish few minimal pairs are more likely to merge (a change that eliminates lexical distinctions), while those that distinguish many minimal pairs are more likely to participate in chain-shifts or phoneme splits (changes that preserve lexical distinctions).

In one proposed mechanism for this effect, hyperarticulation of phonetic cues distinguishing words creates within-category, 'cryptic' variation in phoneme categories, which in turn shapes future patterns of sound change. At the level of usage, this model predicts that we should find hyperarticulation of phonetic cues that provide more information distinguishing their host word from a competitor. In support of this prediction, I show evidence that in a corpus of natural English speech, two distinct types of phonetic cues, voice-onset-time, and vowel-vowel Euclidean distance, are hyperarticulated when they distinguish their host word from a minimal pair competitor (e.g., pat ~ bat). Taken together, these results provide strong converging evidence that hyperarticulation of phonetic cues to lexical meaning in usage indirectly promotes maintenance of a communicatively efficient system of phoneme contrasts over time.